



Annual Report 2019

Delta Electronics (Thailand) Public Company Limited



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“Investors will be able to learn more about the company from Form 56-1 on the company’s website <https://www.deltathailand.com/en/form-56-1>”

Mission

To provide innovative, clean and energy-efficient solutions for a better tomorrow.



Corporate Culture

Strive for change, and pursue sustainability.

Innovation

Create new ideas and take them to success effectively

Quality

Consistently deliver superior performance and pursue improvement all the time

Agility

Identify emerging trends and act quickly to capture new opportunities

Teamwork

Fully leverage global value networks and collaborate to achieve mutual goals

Customer Satisfaction

Anticipate customer needs and exceed expectations





Best Sustainability Excellence Award at the SET Awards 2019



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Delta Electronics (Thailand) Public Company Limited



Thailand's Top Corporate Brands Hall of Fame 2019



Delta Overview



Delta Electronics (Thailand) Public Company Limited was inaugurated on June 16, 1988 with THB 40 million in initial capital. The company was converted to a public limited company on September 23, 1994 and listed on the Stock Exchange of Thailand on July 24, 1995 under the symbol of (DELTA). As of December 31, 2017 the company has THB 1,259,000,000 in registered capital with THB 1,247,381,614 in paid-up capital at THB 1 par value per share.

Delta Thailand is a manufacturer and exporter of power supplies and electronics equipment and parts, the company is one of the world's leading producers of power supplies and electronic components that include cooling fans, EMI filters and solenoids. Our businesses are now mainly involved in power management solutions. Our current power management product line covers various types of power supplies including power systems for information technology, telecommunications, industrial applications, office automation and medical industries; and power supplies for servers, networking and DC-DC converters and adapters. Presently, we are extending our businesses to cover renewable energies such as solar power, wind power, electric vehicle and hybrid-electric vehicles.

Confidence in “DELTA”

- SET50 Index
- SET High Dividend 30 Index (SETHD)
- SETTHSI Index
- Thailand's Sustainability Investment listed for the 5th consecutive year (2015 – 2019)
- ESG 100 for the 5th consecutive year (2015 – 2019)
- “Excellent” grade on the Corporate Governance Rating (CGR) for the 4th consecutive year (2016 – 2019)
- Silver Award in the S&P Global's Sustainability Yearbook 2020 in ITC industry
- Thailand's Top Corporate Brand Hall of Fame 2019 Award in Electronics Components sector
- FTSE4Good Emerging Index for the 3rd consecutive year (2017 - 2019)

Corporate Objectives

1. Strive for sustainable growth in company revenue and profit
2. Grow the company's regional market share and brand recognition
3. Provide comprehensive customer service and excellent product quality to achieve total customer satisfaction
4. Operate a transparent business with integrity and accountability
5. Increase the morale of employees through training and by uplifting their quality of life
6. Reduce the company's carbon footprint by developing environment-friendly and energy saving products and solutions



Message from the Board

2019 was a major transition year for our company. Slow market sentiment opened an opportunity for ourselves and Delta Group to expand and improve our production capacity and efficiency to meet the demands of the new era of 5Gs and Internet of Things business.

In Thailand, we constructed a new plant which we will inaugurate in the second quarter of 2020. This plant will increase not only our Fan business capacity but will serve as an auxiliary space for new products especially for EV and Medical Power Supplies which will come soon. In addition, we converted a warehouse into a factory for Delta Networking Products, such as routers and switches, from China to diversify risk for Delta group and its customers.

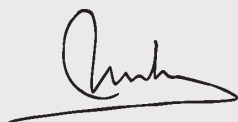
In 2020, new factories in our new India locations will start producing more capacity and a wider range of products. For our existing factories, change of machinery and implementation of Delta Smart Manufacturing (DSM) is the most important task for both the short and long term. DSM will create better yield with higher quality and aims at improving both the optimal and minimal use of the world's limited resources to protect the environment.

Because climate change from global warming is a critical and urgent issue, Delta Group and management take on obligations and responsibilities in many aspects to support innovation for a greener and better lifestyle with hefty investment in Research & Development. In Germany, we added several headcounts to our EV car power supplies team, which aims to capture European car makers. In India, we continue to develop our R&D solution team aiming for breakthrough smart city and smart green life solutions.

The trade war between the US and China is not new to us. Naturally, business disruptions occasionally happen, i.e. shortage of material or Thai Baht vs US dollar exchange rate fluctuations. Although the US-China trade war may seem to have a direct impact on Delta Group by slowing down global demand, it actually is also a catalyst for the group to create and accelerate a higher level of synergy to support existing and new customers in the age of digital disruption.

In 2019, the change in major shareholders shows the deliberate progress of Delta Group in leveraging the wide range of products of Delta Electronics, Inc. to enter the Internet of Things business. Delta management capabilities in many countries are paving the way for success in consolidating the localization process for these new IoT businesses.

Finally, we would like to express our appreciation to Delta management and our staff for their contributions and sacrifice. We are sincerely grateful to our shareholders and all parties for their trust and long-term support for us for during the past 30 years. Our management and directors adhere to ethics and corporate governance to conduct business for steady growth both now and for the future.



Ng Kong Meng
Chairman of the Board



Hsieh Shen-yen
President





Financial Highlights 2017-2019

Unit : Million Baht	Consolidated			The Company Only		
	2019	2018	2017	2019	2018	2017
Total Assets	45,958	48,201	46,018	42,491	43,607	40,766
Total Liabilities	12,952	14,260	13,544	9,558	10,184	9,138
Paid-Up Capital	1,247	1,247	1,247	1,247	1,247	1,247
Total Shareholders' Equity	33,006	33,941	32,474	32,933	33,423	31,628
Sales Revenues	51,172	53,067	49,224	40,122	40,124	35,885
Total Revenues	51,872	53,885	50,285	40,643	40,767	36,721
Cost of Sales	40,697	40,944	36,677	31,604	30,386	26,329
Gross Profit	10,474	12,123	12,547	8,518	9,738	9,556
Selling & Admin expense	8,180	7,378	6,976	6,488	5,561	4,988
Operating Profit	2,294	4,744	5,571	2,030	4,176	4,568
Net Profit	2,952	5,126	4,929	2,419	4,539	3,464
Unit : (%)						
Gross Profit Margin	20.47%	22.84%	25.49%	21.23%	24.27%	26.63%
Operating Profit Margin	4.48%	8.94%	11.32%	5.06%	10.41%	12.73%
Net Profit Per total Revenues	5.69%	9.51%	9.80%	5.95%	11.13%	9.43%
Return On Equity	8.82%	15.44%	15.32%	7.29%	13.96%	10.90%
Return On Assets	6.27%	10.88%	10.68%	5.62%	10.76%	8.50%
Unit : Baht						
Earning Per Share	2.37	4.12	3.95	1.94	3.64	2.78
Dividend Per Share	1.80	2.30	2.20	1.80	2.30	2.20
Book Value Per Share	26.47	27.22	26.04	26.41	26.80	25.36

* Pending approval from shareholders' meeting



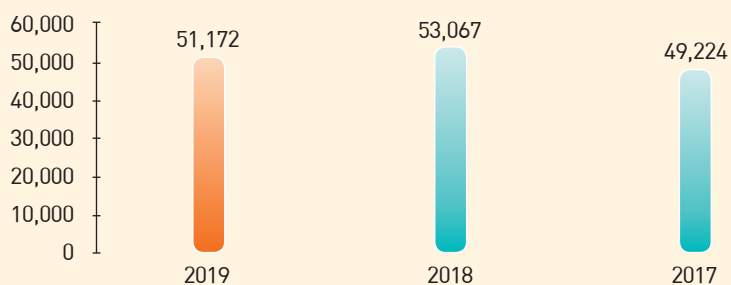
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Delta Electronics (Thailand) Public Company Limited

Sales Revenues



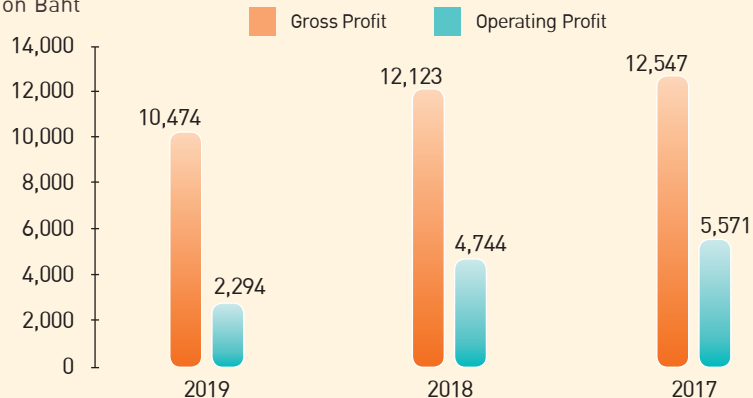
Million Baht



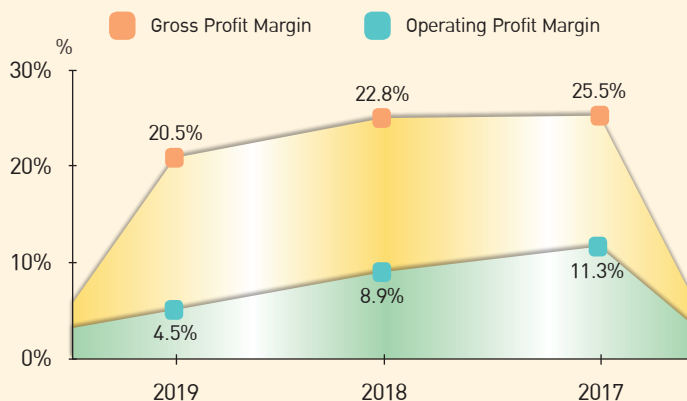
Gross Profit vs Operating Profit



Million Baht



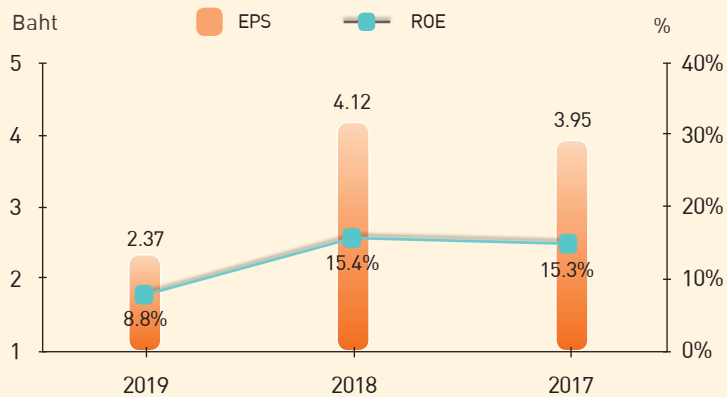
Gross Profit Margin vs Operating Profit Margin



EPS vs ROE



Baht

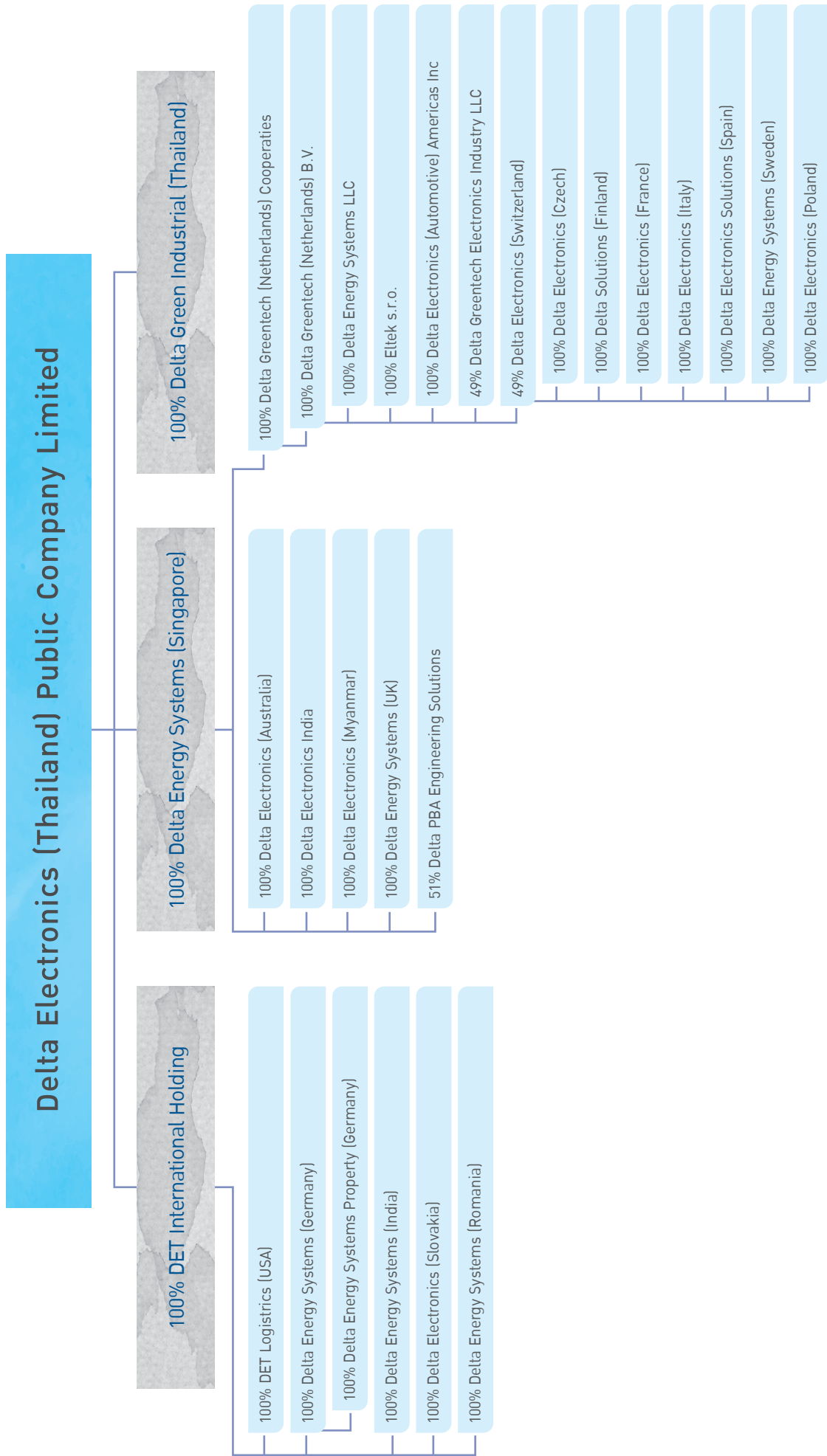




Investment Structure (as of December 31, 2019)

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Delta Electronics (Thailand) Public Company Limited



COMPANY	LOCATION	TYPE OF BUSINESS	TYPE OF PRODUCT	TYPE OF STOCK	REGISTERED CAPITAL	PAID UP CAPITAL	% HOLDING
1. DET International Holding Ltd.	P.O. Box 31119 Grand Pavilion, Hibiscus Way, 802 West Bay Road, Grand Cayman, KY1 - 1205 Cayman Islands	Business Investment	-	Common Stock	USD 300,000,000	USD 264,357,329	100
1.1 DET Logistics (USA) Corporation	46101 Fremont Blvd., Fremont, CA 94538 USA Tel: +1 510 668 5143 Fax: +1 510 668 0680	Logistic Service in USA	-	Common Stock	USD 1,000,000	USD 500,000	100
1.2 Delta Energy Systems (Germany) GmbH	Coesterweg 45, D-59494 Soest, Germany Tel: +49 2921 987 0 Fax: +49 2921 987 601	- Marketing & Sales - R&D	- Power System - Power Supply - Other Electronics Products	Common Stock	EUR 18,301,000	EUR 18,301,000	100
1.2.1 Delta Energy Systems Property (Germany) GmbH	Coesterweg 45, D-59494 Soest, Germany Tel: +49 2921 987 0 Fax: +49 2921 987 601	Property	-	Common Stock	EUR 25,000	EUR 25,000	100
1.3 Delta Energy Systems (India) Private Limited	Plot No. 43, Sector-35, Industrial Estate, Gurgaon, Haryana, India 122001 Tel: 91 124 4874900 Fax: 91 124 4874945	Marketing & Sales	Electronics Products	Common Stock	INR 494,500,000	INR 490,476,020	100
1.4 Delta Electronics (Slovakia), s.r.o	Priemyselna ulica 4600/1, SK – 018 41 Dubnica nad Vahom, Slovakia Tel: 421 42 466 1111 Fax: 421 42 466 1130	Manufacturing & Sales	- Power Supply - Power Systems - OEM Power Systems	Common Stock	EUR 47,120,947	EUR 47,120,947	100
1.5 Delta Energy Systems (Romania) SRL	Intrarea Nestorei No. 1, Building B, 9 th Floor, District 4, 040037, Bucharest, Romania Tel: +40 21 305 1770 Fax: +40 21 305 1789	R&D	-	Common Stock	RON 395,200	RON 395,200	100





COMPANY	LOCATION	TYPE OF BUSINESS	TYPE OF PRODUCT	TYPE OF STOCK	REGISTERED CAPITAL	PAID UP CAPITAL	% HOLDING
2. Delta Energy Systems (Singapore) Pte.Ltd.	4 Kaki Bukit Avenue 1 #05-04 Singapore 417939 Tel: +65 6747 5155 Fax: +65 6744 9228	- Business Investment - Management and Consultancy Service - Trading	-	Common Stock	USD 173,263,590	USD 173,263,590	100
2.1 Delta Electronics (Australia) Pty Ltd	Unit 20-21 , 45 Normanby Road, Notting Hill VIC 3168, Australia Tel: +61 9543 3720 Fax: +61 9544 0606	Marketing & Sales	Renewable Energy Products	Common Stock	AUD 3,329,000	AUD 3,329,000	100
2.2 Delta Electronics India Private Limited	1 st Floor, ASV Chamiers Square, New Door No. 87, Old No. 48, Chamiers Road, Raja Annamalaipuram, Chennai, Tamil Nadu, India, 600028 Tel: +91 124 4874900 Fax: +91 124 4874945	- Marketing & Sales - Manufacturing	Non-Telecom Power System & UPS Products	Common Stock	INR 36,498,000,000	INR 8,280,887,780	100
2.3 Delta Electronics (Myanmar) Company Limited	Plot No.91 and 92, Myay Taing Quarter No.25, Shwe Lin Ban Industrial Zone. Hlaing Thar Yar Township, Yangon, Myanmar	Manufacturing	- Mechanical - Electronics Products under CMP system (Cutting, Making and Packaging)	Common Stock	USD 2,350,000	USD 2,350,000	100
2.4 Delta Energy Systems (UK) Limited	1 Redwood Court, Peel Park, East Kilbride, G74 5PF, Scotland, United Kingdom	R&D	Power Electronics	Common Stock	GBP 700,000	GBP 700,000	100
2.5 Delta PBA Engineering Solutions Company Limited	714 Moo 4, Tambol Praksa, Amphur Muang Samutprakarn, Samutprakarn 10280, Thailand Tel: +66 2 709 2800 Fax: +66 2 709 2827	Provider of industrial automation solutions	Industrial Automation	Common Stock	THB 35,000,000	THB 35,000,000	51
2.6 Delta Greentech (Netherlands) Cooperatie U.A.	Zandsteen 15, 2132 MZ Hoofddorp, The Netherlands Tel.: +31 20 655 0900 Fax: +31 20 655 0999	Business Investment	Focusing on Telecom Power Systems Products	Common Stock	No registered	EUR 26,997,188	100

COMPANY	LOCATION	TYPE OF BUSINESS	TYPE OF PRODUCT	TYPE OF STOCK	REGISTERED CAPITAL	PAID UP CAPITAL	% HOLDING
2.6.1 Delta Greentech (Netherlands) B.V.	Zandsteen 15, 2132 MZ Hoofddorp, The Netherlands Tel.: +31 20 655 0900 Fax: +31 20 655 0999	Business Investment	Focusing on Telecom Power Systems Products	Common Stock	EUR 22,289,690	EUR 22,289,690	100
2.6.1.1 Delta Energy Systems LLC	Office 401, Vereyskaya Plaza II, Vereyskaya Street 17, 121357, Moscow, Russia Tel: +7 495 644 3240 Fax: +7 495 644 3241	Marketing & Sales	Power Systems	Common Stock	RUB 30,000	RUB 30,000	100
2.6.1.2 Eltek s.r.o.	Pálenica 53/79, Liptovský Hrádok 033 17, Slovakia	Manufacturing	Telecom Power Systems	Common Stock	EUR 3,319,392	EUR 3,319,392	100
2.6.1.3 Delta Electronics (Automotive) Americas Inc.	39209 Six Mile Road, Suite 105, Livonia, Michigan 48152, USA.	R&D	Automotive Power and Traction Inverter	Common Stock	USD 10,000,000	USD 2,500,000	100
2.6.1.4 Delta Greentech Electronics Industry LLC	Serifali Mevkii Soylesi Sok No:19/1, 34775, Yukaridudullu/Istanbul, Turkey	Marketing and distribution	Electronics Products	Common Stock	TRY 23,517,175	TRY 23,517,175	49
2.6.1.5 Delta Electronics (Switzerland) AG	Freiburgstrasse 251, CH-3018, Bern-Bümpliz, Switzerland Tel: +41 31 998 5388 Fax: +41 31 998 5485	- Marketing & Sales - R&D	Power System	Common Stock	CHF 10,000,000	CHF 10,000,000	49
2.6.1.5.1 Delta Electronics (Czech Republic), spol. s r.o.	Perucka 2482/7, 120 00 Praha 2, Czech Republic Tel: 420 2 7175 18 00 Fax: 420 271 751 799	Marketing & Sales	Power Systems	Common Stock	CZK 8,000,000	CZK 8,000,000	49
2.6.1.5.2 Delta Solutions (Finland) Oy	Juvan Teollisuuskatu 15, PL63, FI-02921 Espoo, Finland Tel: +358 9 8496 60 Fax: +358 9 8496 6100	- Marketing & Sales - Assembler	Power Systems	Common Stock	EUR 269,100.68	EUR 134,550.34	49
2.6.1.5.3 Delta Electronics (France)	ZI du Bois Chaland2 - 15 rue des Pyrénées, LISSES, 91056 EVRY CEDEX, France Tel: 33 1 69 77 82 60 Fax: 33 1 64 97 05 77	Marketing & Sales	Power Systems	Common Stock	EUR 1,000,000	EUR 1,000,000	49





COMPANY	LOCATION	TYPE OF BUSINESS	TYPE OF PRODUCT	TYPE OF STOCK	REGISTERED CAPITAL	PAID UP CAPITAL	% HOLDING
2.6.1.5.4 Delta Electronics (Italy) s.r.l	Piazza Grazioli 18 , 00186 Roma, Italy Tel: +39 06 69941209 Fax: +39 06 69942293	- Marketing & Sales - Assembler	Power Systems	Common Stock	EUR 100,000	EUR 100,000	49
2.6.1.5.5 Delta Electronics Solutions (Spain) SL	Ctra. De Villaverde a Vallecas, 265 1º Dcha, Ed. Hormigueras – P.I. de Vallecas 28031 Madrid, Spain Tel: +420 2 7175 18 00 Fax: +420 2 7175 17 99	Marketing & Sales	Power Systems	Common Stock	EUR 200,000	EUR 200,000	49
2.6.1.5.6 Delta Energy Systems (Sweden) AB	Annavägen 3, P.O.Box 3096, S-350 33 Växjö, Sweden Tel: +46 470 70 68 00 Fax: +46 470 70 68 90	Marketing & Sales	Power Systems	Common Stock	SEK 2,010,000	SEK 2,010,000	49
2.6.1.5.7 Delta Electronics (Poland) Sp.z o.o	Poleczki 23, Street 02-822 Warsaw, Poland Tel: +48 22 335 2600 Fax: +48 22 335 2601	Marketing & Sales	Power Systems	Common Stock	PLN 2,500,000	PLN 2,500,000	49
3. Delta Green Industrial (Thailand) Co.,Ltd.	111 Moo 9, Bangwua, Bangpakong, Chachoengsao, Thailand Tel: +66 38 522455 Fax: +66 38 522460	Integration, Sales/Trading, Installation and Service	- UPS - Solar Inverter - EV Charger - Data Center	Common Stock	THB 206,000,000	THB 206,000,000	100

Nature of Business

Delta and our subsidiaries are manufacturers and distributors of power supplies and electronic equipment and parts. At present, the company has 2 main plants in Thailand, our headquarters in Bangpoo Industrial Estate, Samutprakarn and another plant in Wellgrow Industrial Estate, Chachoengsao. Our overseas plants are in India (Rudrapur and Krishnagiri), Slovakia (Dubnica nad Váhom and Liptovsky Hradok) and Myanmar (Yangon). Delta divides its products into 3 main business groups as follows;

1. Power Electronics Group
 - 1.1 Power and Systems (PSBG) Product Group which can be further divided down into 4 subgroups as follows;
 - DC Power
 - Computer & Networking Power, i.e. power supply for storage, server and networking.
 - Custom Design Power, which offers high-end custom-designed power supplies for information technology, telecommunications and industrial applications.
 - Industrial Tools, includes power supplies for industrial and consumer electronics tools.
 - 1.2 Fan & Thermal Management (FMBG) Product Group includes Cooling Fan, EMI filter and Solenoid product categories.
 - 1.3 Electronics Vehicle Solutions (EVSBG) Product Group includes power supplies and electronics for automotive product categories.
2. Automation Group supplies automatic equipment for the industrial sector and smart factory including smart sensors and automatic systems for building, lighting and surveillance.
3. Infrastructure Group
 - 3.1 ICT Infrastructure (ICTBG) Product Group which can be further divided down into 3 subgroups as follows;
 - Telecom Power Solutions (TPS)
 - Uninterruptible Power Supplies (UPS)
 - Network Solutions (DNI)
 - 3.2 Energy Infrastructure Solutions (EISBG) Product Group including industrial power, renewable energy product and electric vehicle charging solutions

(Please find further product details in the Product Profiles section)

Revenue Structure of Delta and Subsidiaries

Unit: Million Baht

Product Group	2019		2018		2017	
	revenue	%	revenue	%	revenue	%
Power Electronics Group	32,296	63.1%	34,404	64.8%	31,051	63.1%
Automation Group	2,120	4.2%	1,826	3.5%	1,809	3.7%
Infrastructure Group	16,587	32.4%	16,394	30.9%	16,153	32.8%
Others	168	0.3%	443	0.8%	211	0.4%
Total Sales Revenues	51,172	100.0%	53,067	100.0%	49,224	100.0%



Product Profile



Business Categories



Power Electronics

- Power & Systems
- Fans & Thermal Management
- Electronics Vehicle Solutions



Automation

- Industrial Automation
- Building Automation



Infrastructure

- ICT Infrastructure
- Energy Infrastructure

To Provide
the most efficient
and reliable
energy saving
solutions for
customers



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Delta Electronics (Thailand) Public Company Limited

Power Electronics

Delta is a leading supplier and provider of switching power supplies and DC brushless fans. We offer a diversified selection of power supplies and thermal management products for use in an extensive range of portable devices, cloud computing equipment, home appliances and medical-device applications. Our design customization services are also the first choice of leading OEMs / ODMs. We provide tailor-made components, devices and related services to help our customers advance their competitiveness in the field power electricity. This following are our three power electronics business group.

Power and Systems (PSBG)

As a result of major technological advances, Delta has steadily increased the efficiency of its power supply products and has introduced products with energy-saving features. Power supply of this group are now mainly divided into four subgroups as follows.

DC-DC Power



Our DC-DC Converter's main application is to supply stable voltage to microprocessor that generally generates unstable load (dynamic load) during operation. Delta offers high voltage DC-DC converters up to 2650W, that provide high power density, a low profile and high efficiency.

Computer & Networking Power



This subgroup mainly comprises of power supplies for PCs, servers, networking, workstations, storage and other high voltage power supplies that provide power, ranging up to 7200W per power module, with efficiency over 90% and power density up to 25W/inch³.





Power Electronics



Power and Systems (PSBG)

Custom Design Power

Our custom design provides fully customized innovative solutions/products for the computing (server, networking), office automation, medical, telecommunications, automotive and industrial applications. As a technology leader, our customized solution/products are packed with innovative technologies.



Industrial Tools

The Industrial Tools Group includes power supplies for industrial, consumer electronics tools and adaptor. We are one of the world's largest producers of AC/DC adapters for portable computers and other external power source applications. The use of ASIC, hybrid circuits, and thin film technology allow us to produce adapters with industry-leading power density and a broad range of standard power supplies for industrial and medical applications.





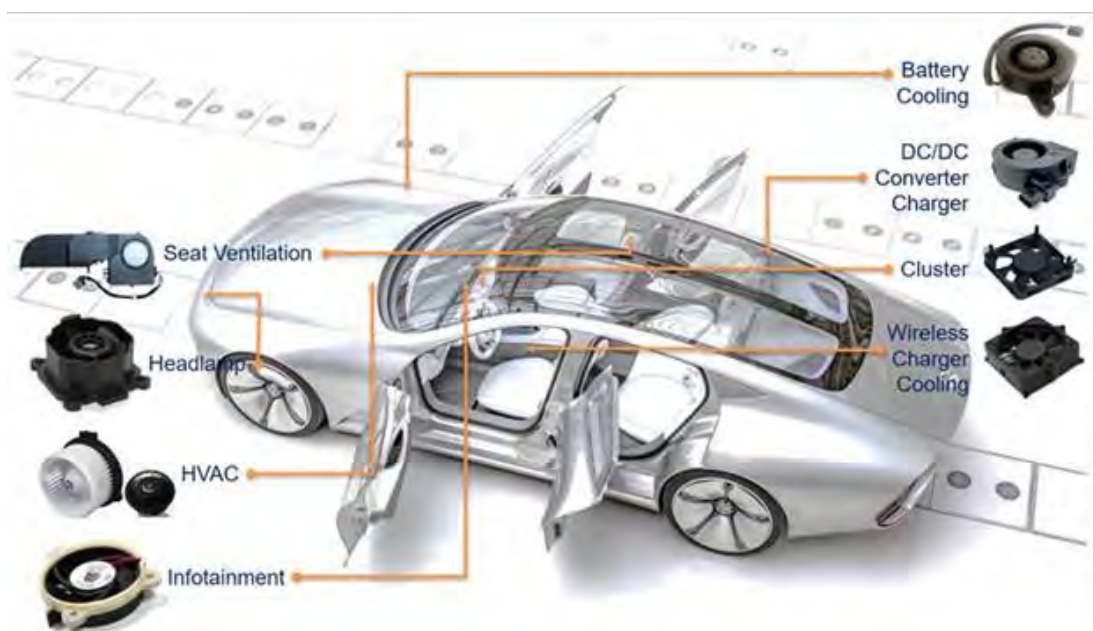
Power Electronics



Fan & Thermal Management

Electronics Fan

Delta DC fans are custom-designed and produced with cooling, ventilating and circulating functions to be used in many areas for our world-renowned customers' automotive, telecom, IT, household and industrial applications.



EMI Filter

Electromagnetic Interference (EMI) Filters, with their function for noise & interference reduction, are widely used in home appliances, IT, Telecom to Industrial applications.



Solenoid

Home appliance and automotive Solenoid are available for our customers' unique requirements, such as applications in the Automotive, Home Appliance and Safety Locks.



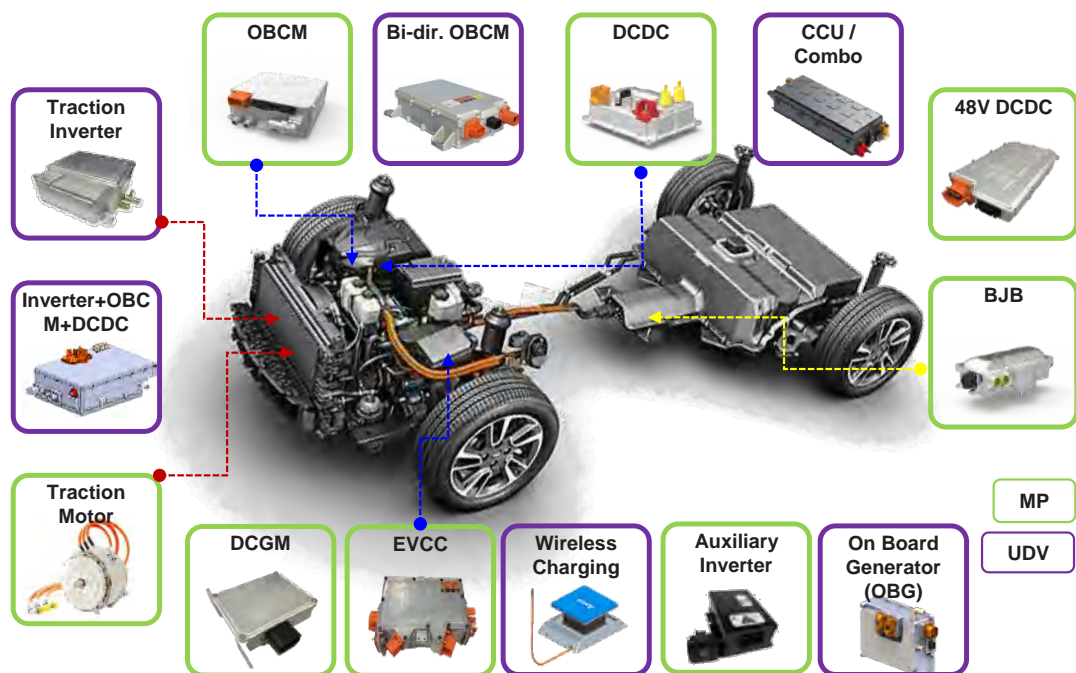


Power Electronics



Electric Vehicle Solutions

Delta's automotive business provides reliable and efficient EV/HEV powertrain solutions and power electronics components which focused on high-power upgrade technology including OBCM of up to 22.0KW, DC/DC converters, with an industry-leading 96% energy efficiency, of to 3.0KW. The subgroup also developed new traction inverter related products to support the technology requirements of HEV models on the road today and present the future for the automotive business.



Automation



Industrial Automation

Delta offers high-performance, reliable automation products and solutions including drives, motion control systems, industrial control and communication, power quality improvement, human machine interfaces, sensors, meters, and robot solutions. We also provide information monitoring and management systems such as SCADA system and Industrial EMS for complete, smart manufacturing solutions.



Infrastructure

ICT Infrastructure

Delta is a world-leading developer and supplier of telecom power systems, uninterruptible power supplies, medium-voltage drives, solar power and wind-energy solutions. We are the number one provider of telecom power solutions in India and a leading supplier in Europe, Americas and the Asia-Pacific regions.

At Delta, we offer an extensive range of energy management products and regularly apply our advanced engineering capabilities to the design and/or customization of systems and solutions for application in datacenters, renewable energy, electronic vehicles, eco-friendly transportation infrastructure and green buildings.

Telecom Power Solutions

Delta is a pioneer in providing energy saving solutions for Telecom network requirements. Every 2nd telecom site in India is powered by Delta's Power solutions. We leverage our broad product portfolio to serves telecom operators, telecom equipment manufacturers & infrastructure companies. With a market share of over 50%, the company provides customized solutions for indoor & outdoor applications. Delta provides solutions for all network layers starting from MSC (Bulk Power), BSC (Medium Power), BTS/Cell Site (Power Sharing-Multi Operator) & Last Mile Connectivity Solutions for 4G/LTE/Wi-Fi application with both DC & AC output. Additionally Delta is actively participating in non-telecom applications like Railways, PGCIL, Smart City Applications & Surveillance Solutions.

Our infrastructure product range includes all capacities of Power Conversion Products (like Rectifiers, Inverters & DC-DC Converters), Power Management Solutions (IPMS – Integrated Power Management Solutions, PIU-Power Interface Units), Energy Storage Solutions (VRLA & Li-Ion Batteries), Hybrid Solutions (DG Battery Hybrid, Solar Hybrid), Cooling Solutions (Fan based, HEX based, DC-Aircon based), DG Cranking solution (battery-less) GBM solutions.



Infrastructure



Datacenter Infrastructure Solutions

Enterprise growth and IT equipment have become so closely linked that planning and building a high performance data room is one of the most critical issues for IT managers today. The expert teams at Delta MCIS have developed a new generation of data center infrastructure solutions: InfraSuite. The goal of the InfraSuite business is to provide optimal data centers solutions that help companies reduce Total Cost of Ownership (TCO) and outperform the competition.

We support our customers in building customised, reliable, flexible and energy efficient data centres with power usage effectiveness. Delta's InfraSuite Data Center Infrastructure Solutions products include: power systems, racks and accessories, precision cooling and environment management systems.

Critical Infrastructure Solutions

The Critical Infrastructure Solutions (CIS) business of Delta Electronics Inc. positions itself as: "The power behind competitiveness". CIS plays an important role in making our customers' businesses more competitive. We fulfil this role by providing highly reliable and efficient power management products and datacentre infrastructure solutions to ensure the continuity of our customers' mission critical operations while reducing their Total Cost of Ownership (TCO). Delta CIS is a powerful and trustworthy partner to our customers.



Infrastructure

The Delta CIS portfolio covers products from UPS (uninterruptible power supplies) to Data Centre Infrastructure Solutions – InfraSuite – with a comprehensive range of services.

UPS Solutions

The Delta UPS business has more than a decade in designing, manufacturing and marketing UPSs globally. Delta is committed to innovating technically superior products and providing energy efficient solutions for a wide range of home, office, data center and industrial applications. Our client base covers world class enterprises in the areas of semiconductors, optoelectronics, food processing, finance, petrochemicals and telecommunications.



Delta UPS solutions include a full line of UPSs and management software, and we deliver industry-specific solutions worldwide to a broad range of market sectors and industry leaders. Our UPS solutions not only ensure uninterrupted processes with unmatched reliability but also meet your growing business demands with uniquely-designed scalability and flexibility.

Network Solutions

Switches



SDWAN / vCPE



Enterprise Wireless Aps



Wireless Routers



Delta rides on the cutting edge of the communication technology wave and has accumulated more than 20 years of experience in Network Communication Equipment Industry. By providing extraordinary design and manufacturing quality for best brand in the world, we build trustworthy relationship with customers. Delta has complete portfolio for various network market including Datacenter, Enterprise, Carrier, SOHO and Industrial networks, and we always committed to providing competitive networking solutions which designed to meeting customers needs.



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Delta Electronics (Thailand) Public Company Limited

Infrastructure

Energy Infrastructure (EISBG)

Industrial Power Solutions

Delta introduced its own brand of standard power supply units (PSU) for industrial which offer customers the same world class technology and quality that Delta's ODM partners demand. Due to the fast growing popularity of Delta's CliQ DIN Rail Power Supply and PMC Panel Mount Power Supply series, Delta has been introducing many more standard power supply form factors for a wide-variety of demanding applications.



Renewable Energy

Delta provides its MegaWatt (MW) class Wind Power Solutions to its customer for Full Power (FPC) as well as Doubly Fed Induction Generators (DFIG) types. Delta converters incorporate leading technology and are fully compliant to modern day grid regulations in term of Low Voltage Ride Thru (LVRT), Zero Voltage Ride Thru (ZVRT) as well as High Voltage Ride Thru (HVRT). We further surpass most power quality requirements even in weak grids in terms of harmonics and flicker, etc., hence ensuring smooth integration into the grid and compliance of codes. Wind Power Converter models of 2.2 MW and 2.6 MW have been delivered from Delta India Rudrapur in last years. Close to 100 MW of converters are successfully running for last 4 years in Indian Wind farms, providing a smooth and reliable performance to our customers.

In addition, a variety of high technology solutions like Auxiliary Power Supply Unit, Nacelle and Tower Base control units, and other related Panels are available from Delta Wind Power business line. The advanced converter control architecture provides high reliability and complete monitoring with redundancy of various protections, together with high-efficiency power generation at low wind speed. Modular design enables front access for service and maintenance; the power modules could be replaced interchangeably. With built-in cooling design, it is an easy and efficient solution for users. Completely isolated power conversion circuitry and control circuitry enables higher insulation and safe operation for the users. Compact and neat mechanical design enables space saving and easy installation.



Production Capacity 2019

1 Production Capacity in Thailand Plant

- 1.1 Plant 1: Bangpoo Industrial Estate, Samutprakarn
 - Production area : 16,710 sq.m
 - No. of operators : 560
 - Production line : 12 lines
 - Actual production : 80% of production capacity
- 1.2 Plant 3: Bangpoo Industrial Estate, Samutprakarn
 - Production area : 13,550 sq.m
 - No. of operators : 772
 - Production line : 10 lines
 - Actual production : 80% of production capacity
- 1.3 Plant 5: Bangpoo Industrial Estate, Samutprakarn
 - Production area : 37,700 sq.m
 - No. of operators : 3,416
 - Production line : 56 lines
 - Actual production : 85% of production capacity
- 1.4 Plant 6: Wellgrow Industrial Estate, Chachoengsao
 - Production area : 13,900 sq.m
 - No. of operators : 1,957
 - Production line : 83 lines
 - Actual production : 80% of production capacity

2 Production Capacity in Slovakia Plant

- 2.1 Dubnica nad Vahom Plant
 - Production area : 10,250 sq.m
 - No. of operators : 245
 - Production line : 21 lines
 - Actual production : 65% of production capacity
- 2.2 Liptovsky Plant (Eltek)
 - Production area : 3,500 sq.m
 - No. of operators : 378
 - Production line : 12 lines
 - Actual production : 80% of production capacity

3 Production Capacity in India Plant

- 3.1 Hosur Plant
 - Production area : 5,825 sq.m
 - No. of operators : 110
 - Production line : 7 line
 - Actual production : 40% of Production Capacity
- 3.2 Rudrapur Plant
 - Production area : 13,930 sq.m
 - No. of operators : 206
 - Production line : 10 line
 - Actual production : 85% of production capacity

Most of the Company's products manufactured in Thailand are obtained BOI privileges which are listed as follows



Promotional privileges

The Company and a subsidiary in Thailand were granted promotional privileges by the Board of Investment subject to certain significant conditions. Significant privileges of the Company and the subsidiary in Thailand are as follows:

Details	The Company							A subsidiary in Thailand		
1. Certificate No.	1494(2)/2552	2061(1)/2553	1732(2)/2557	1158(2)/2558	1688(2)/2558	59-1316-1-00-2-0	61-1505-1-00-1-0	62-0076-1-00-0-0	1813(2)/2554	1814(2)/2554
2. Promotional privileges for	Manufacturing of DC FAN	Manufacturing of telecommunication equipment and electronics products for vehicle	Manufacturing of electro - magnetic products	Manufacturing of electro - magnetic products	Manufacturing of DC FAN	Designing of Electronics	Manufacturing of electro - magnetic products	Manufacturing of Ventilation Fan.	Manufacturing of Inverter	Manufacturing of electric light bulbs and display monitor
3. The significant privileges are										
3.1 Exemption from corporate income tax for net income from the promoted operations and exemption from income tax on dividends paid from the income of the operations throughout the period in which the corporate income tax is exempted.	7 years (Maximum amount Baht 298,170,000)	8 years	7 years (Maximum amount Baht 124,000,000)	5 years (Maximum amount Baht 682,381,686)	7 years (Maximum amount Baht 200,000,000)	8 years	4 years (Maximum amount Baht 1,572,170,000)	Non-granted	7 years (Maximum amount Baht 182,000,000)	7 years (Maximum amount Baht 202,400,000)
3.2 Exemption from import duty on machinery as approved by the board.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted
3.3 Exemption from import duty on raw materials and significant supplies used in export production.	Granted	Non - granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted
3.4 A fifty percent reduction of the normal rate of corporate income tax on net earnings derived from the promoted activity for a period of five years after the expiration of the above corporate income tax exemption period.	Non - granted	Granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted
3.5 Two times deduction of transportation, electricity and water supply for corporate income tax purpose for a period of ten years commencing as from the date of earning operating income.	Non - granted	Granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted
3.6 Permission to deduct cost of public utilities at the rate of twenty-five percent in addition to normal depreciation charges.	Non - granted	Granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted
4. Date of first earning operating income	15 March 2013	10 January 2015	5 January 2018	5 January 2017	1 December 2017	Not yet commenced operation	Not yet commenced operation	Not yet commenced operation	Not yet commenced operation	Not yet commenced operation
5. Additional right and benefit	Granted the additional tax incentive under the Skill, Technology and Innovation	-	Granted the additional tax incentive under the Skill, Technology and Innovation	Granted the additional tax incentive under the Skill, Technology and Innovation	-	-	-	-	-	-





The Company's operating revenues for the years ended 31 December 2019 and 2018, divided between promoted and non-promoted operations, are summarised below.

(Unit: Million Baht)

	Promoted operations		Non-promoted operations		Total	
	2019	2018	2019	2018	2019	2018
<u>Separate financial statements</u>						
Sales and service income						
Domestic sales	365	446	73	109	438	555
Export sales	36,222	39,338	3,424	222	39,646	39,560
Service income	-	-	38	9	38	9
Total Sales and service income	36,587	39,784	3,535	340	40,122	40,124

Significant tax privileges which were granted to other subsidiaries of the Company are as follows:

- Delta Electronics (Slovakia) s.r.o. was granted tax privileges by the Government of Slovakia for the manufacture of Power Supply and Solar inverters on 22 December 2006. Subject to certain imposed conditions, the privileges include an exemption from corporate income tax for a period of 10 years from the year in which the promoted operations commenced, which was 2010. The exemption is capped at EUR 6.2 million and currently available tax relief is approximately EUR 0.3 million.



Raw Material and Suppliers Sourcing

The raw materials used by Delta Thailand are classified into two main categories: Electronics parts and Mechanical parts. Electronics parts are composed of Semiconductors (IC, Diode, MOSFET, PWM etc.) and Passive Components (capacitors, fuse, resistor, relay etc.), the majority of which are imported from Singapore, Hong Kong, Japan, Taiwan, Europe and the United States of America and mainly paid for in US dollars. Mechanical parts compose of metal stamping, die-casting, wire harness, plastic injection, PWB and packaging and are mostly procured from local manufacturers, with some parts imported from China for risk diversification and cost benchmarking purposes. The ratio of imported raw materials to domestic raw materials is approximately 70:30. The company presently procures its direct raw materials from approximately 1,160 vendors (due to the consolidation of our vendor base) with purchase value per vendor not exceeding 7% of total procurement value. Vendors are also required to fulfill the requirements of ISO9001, ISO14001, ONAS18001, IATF16949 ETC.

As reported previously, the company has conducted an in-depth analysis of its key suppliers' financial status after the global financial crisis. The company also reviewed its supply chain diversification/geographical distribution of its suppliers' production lines. This was in order to reduce the risk of part shortages caused by extreme climate conditions or possible major disasters in the future. In 2019, the tight supply situation of Semiconductors and Passive Components extended from 2018 was gradually relieved, our team would continuously monitor on the market trend and possible changes against demand and supply situation in the coming 2020.

In 2019, the escalating US-China trade war has pushed China-based supplier chain considering on relocating their production site to Thailand or other AEC countries, which would strengthen completion and competitiveness of local supply chain in mid. to long-run that would eventually benefit to the company.

Continued since 2017, the company was certified ISO 13485 for Manufacturing of Power Supply for Active Medical Devices for Diagnostic Imaging. ISO 13485 requires only that the certified organization demonstrate that the quality system is effectively implemented and maintained. Other specific differences include: the promotion and awareness of regulatory requirements as Management responsibility; the Quality System Regulation for medical devices sold in the United States, enforced by the U.S. Food and Drug Administration (FDA); or the Medical Devices Directive, required for doing business in the European Union; controls in the work environment to ensure product safety; focus on risk management activities and design control activities during product development. Compliance with ISO 13485 is often seen as the first step in achieving compliance with European regulatory requirements.

Automotive Business Materials Management

The company purchased material from suppliers that are approved for supply. Suppliers are approved by a positive result from a defined supplier selection procedure, which may include a potential analysis and/or supplier audit according to VDA 6.3. To ensure timely and quality project execution, the supplier is obligated to develop an effective project plan based on IATF16949, VDA 2 etc.

As a D-U-N-S Number is affiliated with a company's business credit profile. Delta Thailand addresses the role of the D-U-N-S Number of related suppliers of EU car manufacturers to produce a D-U-N-S Number list that the company can benefit from when monitoring suppliers' credit profile. With a solid supplier credit profile, the company can grow its business and potentially win more contracts

VDA 6.3 is tool for process audits within the automotive industry by German Association of the automotive industry

Management of Environment-Related Substances (ERS) in Products

The company has introduced the IECQ/QC080000 Quality System and promoted Green Product Management (GPM) systems in its major plants. IECQ was implemented based on the risk classification of materials. The company utilizes the Green Products Management (GPM) system as an environmental information sharing platform for the supply chain. The most recent international environmental requirements, such as the latest controlled substances of EU's RoHS 2.0, REACH SVHC, are simultaneously relayed to supplier partners for their reference and compliance.

Control of Conflict Metals

Delta Thailand implements a policy of banning conflict metals. In addition, the company requests suppliers of power supply products to fill out a "Metal Origin Survey Form" and to sign a "Statement of Non-use of Conflict Metals", the company continuously communicates this policy with major materials suppliers by employing influence on Corporate Social Responsibility, and increasing the opportunities for ore products to receive verification of origin by the Responsible Business Alliance (RBA), formerly the EICC or a third party.

As of November 2019, around 99% of the company's suppliers have already signed the "Statement of Non-use of Conflict Metals".

RBA Verification Consultation

Delta Thailand started promoting RBA Verification Consultation from 2014, to reduce ESG risks in the supply chain and raise competitiveness. A verification and consultation team was organized jointly by Delta Thailand's human resources, labor safety, plant affairs, and purchasing departments to perform RBA verification and consultation of key suppliers with high ESG risks. Room for improvement in health and safety aspects of the RBA management system was verified with most suppliers. To address these issues, the Delta verification and consultation team shared experience in introducing and promoting the Delta Management System to suppliers. The team also follows up on the supplier's status to ensure continued improvement.

As of November 2019, 96% of Delta Thailand's suppliers have signed the "Declaration of Compliance with RBA Code of Conduct". Besides obtaining a high number signees, the company also held an "RBA On-Site Audit" to focus on local suppliers. The audit found that all of the company's local suppliers can comply with RBA Code of Conduct requirements.

Carbon Footprint/Energy Saving and Carbon Reduction Management

In order to fulfill its business commitment, "Care for the Environment, Energy Saving, and Our Green Earth", Delta Thailand continuously works with suppliers to reduce carbon emissions, which not only lowers operation costs for both the company and the supplier but also increases the competitiveness of the entire supply chain.

Embedded CSR in Supply Chain

In 2019, the company has conducted over 80% purchasing amount suppliers for the Supplier ESG Questionnaire (subjects are: Enterprise Management, Health Safety, Environment & Employee) collection & analysis and initiated activities for risky supplier audit & coaching from Q1'2020.

Establish Green Supply Chain

Moving forward to 2020, the company will continue in its "Green Supply Chain" establishment. It will emphasize a Green Policy for its Partners, Processes & Products by implementing the Delta Carbon Emission Reduction Project (GHG water consuming and waste reduction), regularly holding supplier communication and learning activities and ordering allocation to drive suppliers participation in CSR activity.



Research and Development (R&D)

In 2019, we continued our R&D investments with specific focus on our fast growing businesses electro-mobility, networking, datacenters and industrial power. We achieved major expansions of the product lines and continued improvement of our product's key features efficiency, power density and digital intelligence. Additionally, Delta R&D increased the application range and customer base respectively of its power technology products like industrial wireless charging, combined charge units for the electro-mobility and artificial intelligence.

The healthy view of the markets, customers and their demands combined with R&D manpower's expertise and strengths is the key to Delta's competitiveness and leadership in green environment and efficient energy saving power devices. Delta has a worldwide network of R&D centers located in Asia and Europe. These centers cooperate very close together. In addition, Delta R&D engaged in cooperation globally with renowned universities. We participate in several research programs to ensure sustainable growth with unique technology. This collaboration is a big benefit with innovative and green ideas coming together with Delta R&D expertise. It is a reliable way to establish a long-term and continuous relationships with young and experienced talents, to take care of high-tech, new and sustainable products.

Delta believes in close cooperation with key customers. Our customers are both worldwide market leaders and innovators of new technology products. Delta welcomes new customers in new industries, which give the opportunity to drive new processes and implement new technologies for upcoming market challenges.

Through Delta's green philosophy, we continued our leadership in the electronic world, which has been pursued over decades. Delta strengthens and follows its wish to reduce pollution worldwide.

Server Storage Networking (SNT)

Delta's worldwide R&D team has accumulated decades of experience and knowledge in developing highly sophisticated customized power supplies for well-known companies in the IT domain, networking and telecommunications industry. We have applied our knowledge to develop new products, which rank far beyond traditional standard power supplies. This knowledge enables us to become a system solution provider.

In 2019, Delta's R&D team won multiple projects for leading customers in the IT/Cloud market supplying unique products. Our world-leading customers recently developed very innovative, unique datacenter architectures achieving a high competitive advantage. A key element for this advantage is our product: the power supply using Delta proprietary technology. This requires high confidentiality from us to protect our customer's interest. Here the trend to higher efficient and more reliable three phase architectures continued.

In addition to three phase server power product developments, which require a high degree of customization, we developed a modular platform for our standard products. Our modular platform "Delta Smart Design" comprises and a highly standardized process from quote to mass production using well-tested building blocks, which are configured to the end-product. This allows us to respond much faster to customer requests and reduce the product design cycle significantly.

In parallel to this, we continued our efficiency roadmap for new products with up to 98% peak efficiency delivering 3000W, 5000W and 6000W output power and achieving power densities of larger 60 W/in³.



Delta 6000W PSU 98% Eff.



Here, Delta R&D uses new wide-bandgap semiconductor devices made from GaN and SiC combined with our new circuitry and magnetic components to achieve both high density and high efficiency at the same time. Delta filed several patents to protect our intellectual property.

Our engineers developed a special unit having a very high holdup time of 30 ms to enable the usage of a special memory type in the connected server. This period is 2.5 times longer than the standard of 12ms.

One major milestone for us was the shipment of a 1500W/24V power supply for use in semiconductor manufacturing equipment. We wanted to penetrate new markets with our technology and could enter semiconductor equipment market with this outstanding unit. This special design uses the advantage of water-cooling and can be directly connected to the process water lines inside semiconductor fabs.



1.2 KW PSU WITH 30MS HOLD-UP

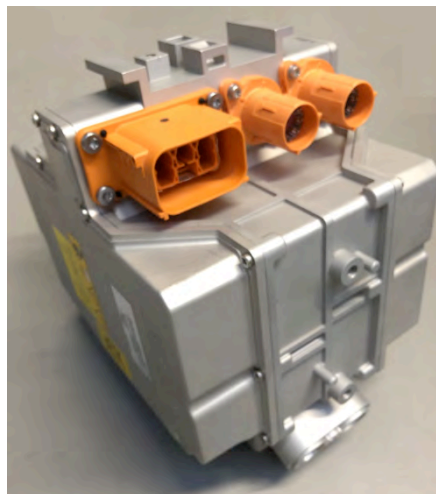
In addition, the power supply is housed in an IP65 chassis to ensure that the clean room environment is secured from any pollution. Due to the closed housing, the inner components are thermally connected to the cooling plate via potting material. The product's qualification is complete and mass production ramp up will be in Q1/2020.

In addition to sole power supply design, Delta R&D's core achievement was the continuous extension of our product offering to additional products used in data centers, like complete server shelves with distribution panel and power distribution units.

Solutions for Electric Vehicles (EV)

In 2019, Delta R&D continued to extend the product offering for on-board automotive charging products. Here, we received additional orders for PHEV in addition to our combined charge units under development for BEV.

These combined units comprise a product range from single phase 3.7 kW to three phase 22kW chargers. The 3-in-1 units contain the AC/DC charging function from 3.7kW up to 22kW together with a 3.7 kW DC/DC converter supplying the 12V board grid from the high voltage battery and a vehicle control unit (ECU).



7.4 kW Combined Charge Unit

We brought all units being under development in 2018 from design to final qualification and will release them the next future to mass production. In addition to this we provided to our customers in early involvement inquiries the prove of concept of new X-in-1 units (On-Board-Charger, DCDC Converter, DC Charging Control, Heating System, Battery monitoring) combining multiple functions necessary for the operation of PHEV or BEV. We expect new awards resulting from these involvements very soon.

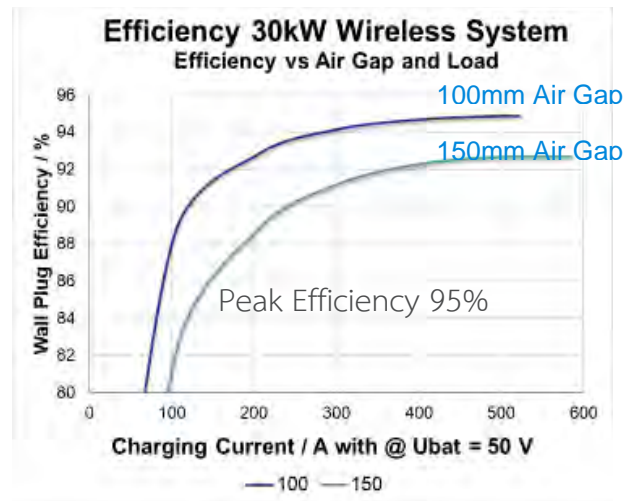
By deriving these from pre-developed platforms, Delta achieved a very high maturity level of this units very fast resulting in short development times. Key new platform developments have been executed for bi-directional power conversion technology and new alternative circuits for three phase charging delivering the right technology for our future products.



Custom Designed Power Supplies for Industrial/ Medical (IM) Device Applications and Charger for Industrial Electrical Vehicle (IEV)

Delta's R&D team has realized several major innovations in 2019 to provide our customers with an outstanding cost-performance ratio for industrial and medical applications, such as factory automation, machinery and robotics, battery charging technology, ultrasound application, artificial respiration and dialysis. The usage of advanced power and control technology has led to products with the best parameters in stability, efficiency, operation flexibility, robustness and reliability.

This also includes the use of SiC and GaN semiconductors to achieve efficiency and power density targets. Several patents for industrial products are applied which demonstrate the technical competence of the IMBU.



Delta's R&D team designed a 20kW and a 30kW wireless systems for forklift charging. Customer feedback is extremely positive to this outstanding product. Other customers have followed to introduce this new technology in their applications.

The Primary and Secondary Pad of a Wireless Charging System could be installed in a horizontal or vertical orientation. In the picture, it is an example of a vertical orientation. In case of a horizontal oriented installation, the Wireless Charging System has to check that there is no metal object between the primary and secondary pad before starting to transfer energy from the primary to secondary pad.



Throughout 2018 and 2019, the R&D team worked on several industrial battery charger platforms. Gaining a large US customer with this technology enabled us to tackle the mass production market with these new modular power units and cabinets at the same time.

The R&D team also develops a platform of power supplies that meet the requirements of industry and medical applications. The topology and semiconductors are selected to achieve the best in power density and efficiency.

Research and Development India

As part of DET R&D team, Delta India's R&D team has continued its expansion with increased development effort in multiple business areas and in developing new technologies.

Central PV Inverters

After successful installation of close to 150 1MW PVIs across India, Megawatt Power (MWP) R&D India successfully installed the high power inverter DelCEN 3000 which is an outdoor, IP 65 PV inverter. Now the trend in India is to have 1500Vdc panels for which MWP R&D has come out with a new design of 2.5MW, 1500V PVI. Production is planned in 2019 onwards.



Power Quality Restorer

The PQR (Power Quality Restorer) product vertical of MWP R&D has successfully developed the 6MVAR/25kV SVG/APF for the traction substation application in collaboration with HPRT (High Power Railway Traction) Shanghai. MWP R&D has built the lab including a dedicated traction sub-station which enables full power testing capability within our Delta lab premises. The product belongs to the 52kV class and is the highest voltage product that delta has ever designed. Further, the system is highly efficient with 99% efficiency.

MWP R&D is developing new onboard power for locomotive in railway traction applications. The R&D team has already developed an auxiliary (3x130kVA) power converter and the main propulsion converter (4.5MW) for Indian Railway applications. The first trial runs are targeted during 2019.



PQR Lab, left side-outdoor yard,
Right side indoor lab

Auxiliary Converter for Railway Locomotive

This product is part of the Indian locomotive set. It provides controlled power to critical locomotive loads mainly for traction motor blower, oil cooler blower, air compressor for braking, oil pump of traction converter and transformer. It consists of three converters of 130kVA capacity to provide adequate redundancy. The converters are single phase to 3 phase AC power. Apart from that, the product also houses a battery charger of sufficient capacity with an output voltage of 110V DC. This product is awaiting inspection from customer and mass production is planned in 2020.

Main Propulsion Converter

This product is designed for driving traction motors used in the Indian Railways 6000HP locomotive. It replaces the GTO based traction converter with advanced IGBT based converter.

Prominent features are:

- Medium voltage 4.5kV IGBT stack.
- 2.55MW power rating
- Water cooled stacks
- Regenerative braking capability
- Dynamic tractive and braking efforts

Customer inspection and trial run is planned in 2020.



Telecom Power Solutions (TPS)

Companies in the matured telecom market needs continuous innovation and cost leadership to be competitive and continue as the market leader. Multiple solutions are arriving to India's expanding and 4G market. TPS R&D in India is increasing its investment in an efficient and varied rectifier range, which caters to the global market.

Delta Rectifier Controller Series. (Rectifier with Intelligent Battery Charger)

DRC1000B and DRC1500B are the new products in Delta's new Delta Rectifier Controller product series that delivers power to the telecom system load and battery. This product was developed with inbuilt controller with programmable battery charging parameters using RS-485 and CAN. GUI is used to program battery parameters and manage alarms, parameters at I/P, system load and battery load. Programming using mobile app will be our future enhancement for this series.



The new range of telecom inverters has high efficiency and compact footprint. These inverters have a range from 300 VA to 4500 VA catering to various combinations of power requirements.



The next generation inverters are capable of paralleling without extra communication, thus enabling easy expansion of power up to 75 KVA. These compact high efficiency inverters will enable AC/DC solutions for telecoms that need combo power onsite.

Critical Infrastructure Solution (CIS)

R&D developed a new generation high power UPS with Integrated I/O panels. This new integrated Megawatt UPS is installed at prestigious Indian customers and is well received. The integrated solution for data centers with Mega Watt requirements has a common display, which gathers all information from each UPS frame (MUF) and displays it as combined information on the HMI.



Solar Hybrid UPS

R&D's new Solar Hybrid UPS provides a unique solution of energy management from multiple sources, while ensuring clean power to load. The intelligent algorithm built in the system make sure the green energy is utilized to the maximum and ensures best back up all time with minimum energy cost.



Industrial Automation Software (SW)

During last 3 years, Delta India R&D has expanded to include SW competence. This enabled the team to contribute in developing state-of-the-art SW for our IA product platform. The new SW envisages a unified architecture and platform for our entire product range.



The first SW suite under development is a unified architecture for development of future software to be aligned with Delta branding for the entire product range of Delta Industrial Automation Business Group (IABG). The first public version of this platform, to be launched in April 2020, will provide our customers an integrated environment to design, program, simulate, monitor & diagnose industrial solutions built with Delta parts. In the long run, this platform will enable Delta Electronics to evolve from a components supplier to a solution provider for Industrial Automation. The platform uses industrial standards like PLCOpen and AML to incorporate interoperability with similar platforms developed and under development from competitors.



Future Outlook

In the coming years, the Delta India R&D team will enhance our product innovation in high power converters, storage and alternate power usage. The team will expand to include significant SW development. Our team is investing in new areas of high power converter application including micro-grid, PCS and related areas.

Delta India R&D is also planning to develop EV charging solutions catering to DC HV charging with 200-700 V to participate in the ambitious program of only EV by 2030.

We are making new investments in EV solutions (OBCM and Traction Inverters) and SW technologies to cater to the global growth plan. Our Indian R&D team will collaborate with other Delta R&D centers in leveraging technical strengths across groups and providing competencies that add value to Delta globally.

Standard Industrial Power Supplies

IPS (Industrial Power Supplies) R&D teams in Thailand and Taiwan successfully delivered many new products in 2019 for a variety of applications. Our new product series PJL for stage lighting was introduced, the first range of its variety, with great success. Our open frame products for household applications including small form factor power supply with UPS functionality and addition of 600W with a variety of output voltage ranges, received great responses. This enabled IPS to penetrate many regions within a short time frame.

We released several new panel mount standard power supplies in power ranges of 50W, 100W and 150W with low profiles that gave us a distinct advantage over our competitors. For the LED driver market, the new LNE series with high power 600W released test results for both indoor and outdoor lighting requirements. This series is designed to cater to very high surge immunity single pulse (up to 10KV) with efficiency levels up to 96% and IP67 design making them an essential part of sports arena lighting and agricultural lighting.

In the medical standard power supplies segment, we released the 500W MEB-500 with a very high power density of up to 14.26W/IN³ and the smallest foot print 1.9"x 2.75". Its 25W max power and power density of 4.54W/IN³ with convection cooling complying to 2xMOPP makes it a great addition to our product portfolio. We released many other ITE adapters in the 60W power range with a variety of output voltages to address the standard ITE adapter market.

We believe it will be another exciting year for IPS in 2020. IPS R&D will release many more new products in 2020 for various segments in the DIN rail platform and open frame platform for single phase and three phase applications. The Delta brand is becoming more recognizable as a great standard power supply in our channels and with continuing discipline in market and product research, IPS will continue to gain market share globally in 2020 and the coming years.



2019/2020 Industry Outlook

The following information is extracted from established market research reports. All quoted sources are clearly defined in attributions.

General Economic Outlook

Worldwide

In its December 2019 report, 2020 Global Macro Outlook: Calmer Waters Ahead, Morgan Stanley reports that although trade disputes disrupted global economic growth in 2019, simultaneously easing of tensions and monetary policy could put the global economy on a path to recovery. It forecasts a recovery in global GDP growth from 2.9% in 4Q19 to 3.4% in 4Q20 (averaging 3.2% GDP growth in 2020) and 3.5% growth in 2021, up from an estimated 3% in 2019. This growth will come predominantly from emerging markets. The U.S. economy continues to be stable, but its pace of growth may slow down. However, should additional tariffs be enacted global growth could decelerate further and Morgan Stanley strategists who are prescribe more nimble and defensive positioning than in a typical recovery.

Source: Morgan Stanley. 2019. 2020 Global Macro Outlook: Calmer Waters Ahead. Link Accessed December 2019.

In its January 2020 Global Economic Prospects, the World Bank reports it expects global growth to recover to 2.5% in 2020, up slightly from the post-crisis low of 2.4% registered in 2019. This projected recovery could be stronger if reduced trade tensions lead to a sustained reduction in policy uncertainty. Growth among advanced economies as a group is anticipated to slip to 1.4% in 2020 in part due to continued softness in manufacturing. U.S. growth is forecast to slow to 1.8% this year, reflecting the negative impact of earlier tariff increases and elevated uncertainty. Euro Area growth is projected to slip to a downwardly revised 1% in 2020 amid weak industrial activity.

China will register a pace of expansion below 6% for the first time since 1990, amid a slowdown in labor productivity growth and continued external headwinds. After decelerating to an estimated 6.1% in 2019, growth is expected to moderate to 5.9% in 2020 and 5.8 percent in 2021. Growth in EMDEs is expected to accelerate to 4.1% in 2020 but this rebound is not broad-based and about a third of EMDEs are projected to decelerate this year due to weaker-than-expected exports and investment.

Source: World Bank. 2020. Global Economic Prospects, January 2020: Slow Growth, Policy Challenges. Washington, DC: World Bank. DOI: 10.1596/978-1-4648-1468-6. License: Creative Commons Attribution CC BY 3.0 IGO.

Southeast Asia, China and India

The Organization for Economic Cooperation and Development (OECD) Economic Outlook for Southeast Asia, China and India 2020 presents the growth picture for the region over the next five years. It reports that Emerging Asia (Southeast Asia, China and India) experienced further moderation of economic growth midway through 2019 and overall Emerging Asia's Growth GDP growth in 2019 and 2020 is expected to come in at a slower pace than the rates projected in the OECD's July 2019 outlook. In the medium term, the region's performance from 2020-24 is also anticipated to be less impressive than from 2013-17.

The OECD forecasts GDP growth in Emerging Asia is to come in a 5.7% on average in 2020-24 (Table 1) down from 6.7% in 2013-17. Trade tensions between the United States and China are continuing, and the broadening economic weakness in advanced economies adds substantial uncertainty to export prospects.



China's anticipated growth will taper further, to 5.6%, as structural reform continues, compared with its 2013-2017 average of 7.1%. India's expected growth is more modest at 6.6% in the medium term, compared with its 2013-2017 average of 7.4%, as the banking sector regains its footing. Meanwhile, Southeast Asia (ASEAN-10) is estimated to grow by 4.9% during the period, down from the average rate of 5.0% in 2013-2017.

Table 1.1. Real GDP growth in ASEAN, China and India, 2018-24

Annual percentage change	2018	2019	2020	Changes from previous forecast (July 2019)		2020-24	2013-17
ASEAN-5 countries				2019	2020		
Indonesia	5.2	5.0	5.0	↓	↓	5.1	5.1
Malaysia	4.7	4.4	4.4	-	↓	4.4	5.2
Philippines	6.2	5.6	6.0	↓	↓	6.2	6.6
Thailand	4.1	2.7	3.0	↓	↓	3.2	2.8
Viet Nam	7.1	6.8	6.6	↑	-	6.5	6.2
Brunei Darussalam and Singapore							
Brunei Darussalam	0.1	2.0	1.7	↑	↓	1.9	-1.2
Singapore	3.1	0.6	1.2	↓	↓	2.3	3.7
CLM countries							
Cambodia	7.5	7.0	6.8	-	-	6.7	7.1
Lao PDR	6.3	6.5	6.6	↓	↓	6.8	7.4
Myanmar	6.5	6.6	6.7	↓	↓	6.9	7.2
China and India							
China	6.6	6.1	5.7	↓	↓	5.6	7.1
India	6.8	5.8	6.2	↓	↓	6.6	7.4
Average of ASEAN-10	5.2	4.6	4.7	↓	↓	4.9	5.0
Average of Emerging Asia	6.4	5.7	5.6	↓	↓	5.7	6.7

Note: Data are as of 25 October 2019. Data for India and Myanmar relate to fiscal years. The projections for China, India and Indonesia for 2019 and 2020 are preliminary and based on the results of the OECD Economics Department's Short-Term Economic Prospects (STEP) meeting on 22 October 2019.

Source: OECD Development Centre, Medium-term Projection Framework (MPF-2020).

Table 1. OECD Development Centre's Medium Term Projection Framework 2020(MPF-2020)

Source: OECD Development Centre

The resilience of private consumption in Emerging Asian anchored the growth momentum, as in the past. However, exports continued to reel from trade tension headwinds accompanied by a softening of fixed investment. Monetary tools have been used within and outside the region to spur economic growth, while some countries in the region are also considering other stimulus measures. The challenge for Emerging Asian economies is to reinforce the effectiveness of these policies. Strengthening local government involvement in disaster resilience initiatives to address environmental and climate risks is also vital.

Source: OECD (2019), *Economic Outlook for Southeast Asia, China and India 2020: Rethinking Education for the Digital Era*, OECD Publishing, Paris, <https://doi.org/10.1787/1ba6cde0-en>.

Overall, the above reports give a relatively cautious economic outlook for the global market with potential risks to economic recovery ahead for 2020. These risks include a re-escalation of trade tensions and trade policy uncertainty, a sharper-than expected downturn in major economies, and financial turmoil in emerging market and developing economies.



Power Supply Market

Global Merchant AC-DC and DC-DC Power Supply Market

The Global Switching Power Supply Industry 2019 report, by Micro-Tech Consultants (MTC) provides an in-depth market and business analysis of the low-voltage embedded AC-DC and DC-DC power supplies sold to original equipment manufacturers (OEMs). This year's report gave more comprehensive analysis on the EV battery charger market which and determined the market size to be significantly higher than previously stated. As a result, the total and merchant power supply market forecast increases considerably in this update.

According to MTC, 2018 was a good year for the overall power supply industry. All segments of the markets performed better, but the main growth drivers were LEDS drivers and battery chargers for electric vehicles. Looking ahead, growth in drones, smart home, data centers, AI, 5G and factory automation sectors are expected to provide new applications for the power supply industry. Considering and combining various industry trends, MTC forecasts, in the long-term, power supply growth will be significantly positive.

According to the 2019 MTC report, global consumption of merchant switching power supplies was worth approximately USD 31.8 billion in 2019 up from around USD 30.1 billion in 2018 and 6.0% CAGR is expected from 2018 to 2023 (Figure 1).

Global Consumption of Merchant Switching Power Supplies



Global Consumption of Merchant AC-DC Switchers & DC-DC Converters

WW Merchant	2018	2019	2020	2021	2022	2023	18-23 CAGR
Total	30,149	31,888	33,751	35,771	37,937	40,307	6.0%

US dollars in millions

Figure 1. Global consumption of Merchant Switching Power Supplies 2018-2023

Source: MTC report, "Global Switching Power Supply Industry 2019"

Global consumption of merchant power supplies by region is shown below (Figure 2) with the APAC region forecasted to have the highest CAGR at 6.4% during 2018-2023.



Global Consumption of Merchant AC-DC Switching Power Supplies in Different Geographic Regions Merchant AC-DC Switchers & DC-DC Converters

WW Merchant	2018	2019	2020	2021	2022	2023	18-23 CAGR
AMER	9,648	10,154	10,696	11,275	11,917	12,609	5.5%
EMEA	6,510	6,899	7,312	7,769	8,236	8,726	6.0%
APAC	13,655	14,469	15,402	16,385	17,439	18,625	6.4%
ROW	336	338	340	342	344	346	0.6%
Total	30,149	31,888	33,751	35,771	37,937	40,307	6.0%

US dollars in millions; totals may not add up due to rounding error

Figure 2. Global Consumption of Merchant Switching Power Supplies by Regions

Source: MTC Report, "Global Switching Power Supply Industry 2019"

MTC reports that power supply industry remains highly fragmented and diverse with new markets and applications emerging. The top 10 OEM power supply companies in the world accounted for 35.6% of total global sales in 2018 compared with 44.5% in 2017 and 44.7% in 2016. Delta Electronics Group remains the largest merchant power supply company in the world with sales to almost all major commercial OEMs as of 2018.

Merchant Switching Power Supply Market Segments

In its report, MTC segments the global power supply market into eight categories (Figure 3): LED lighting (LED), consumer/retail equipment (CON), computer/office equipment (COE), networking/telecom equipment (NTE), medical equipment (MED), industrial/instrumentation equipment (IND), transportation (TRN) and military/aerospace equipment (MIL).

Global Consumption of Merchant Switching Power Supplies LED, CON, COE, NTE, IND, MED, TRN & MIL

WW Merchant	2018	2019	2020	2021	2022	2023	18-23 CAGR
LED	1,888	2,206	2,559	2,940	3,353	3,811	15.1%
CON	11,591	11,763	11,952	12,153	12,379	12,623	1.7%
COE	4,019	4,054	4,096	4,114	4,202	4,261	1.2%
NTE	3,060	3,195	3,354	3,544	3,767	4,041	5.7%
IND	2,638	2,705	2,767	2,821	2,872	2,919	2.1%
MED	621	640	660	680	700	721	3.0%
TRN	5,353	6,314	7,315	8,408	9,546	10,776	15.0%
MIL	980	1,011	1,047	1,080	1,118	1,155	3.4%
Total	30,149	31,888	33,751	35,771	37,937	40,307	6.0%

US dollars in millions; totals may not add up due to rounding error

Figure 3. Global Consumption of Merchant Switching Power Supplies 2018-2023

Source: MTC report, "Global Switching Power Supply Industry 2019"



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Delta Electronics (Thailand) Public Company Limited

As shown in the table above, the LED lighting and segment is the fastest growing segment with global merchant consumption predicted to reach around USD 3.8 billion and by 2023 with 15.1% CAGR from 2018 to 2023. The emergence of the LED lighting power supplies market is largely due to more competitive prices, a trend towards green technologies and supportive government regulations. Transportation is the second fastest growing market segment with consumption predicted to reach around USD 10.7 billion by 2023 with 15.0% CAGR from 2018 to 2023.

Source: MTC (2019) Global Switching Power Supply Industry 2019. Micro-Tech Consultants, Santa Rosa, CA.

Emerging Markets

Electric Vehicles (EV) Market

In May 2019, the International Energy Agency (IEA) Global EV Outlook 2019 reported the global stock of electric passenger cars passed 5 million in 2018, an increase of 63% from the previous year. In 2018, around 45% of EVs on the road (2.3 million) were in China compared to 24% in Europe and 22% in the US. The number of charging points worldwide was estimated to be approximately 5.2 million at the end of 2018, up 44% from the year before. The IEA's New Policies Scenario, based on announced policy ambitions, projects global EV sales to reach 23 million in 2030.

Source: IEA (2019), "Global EV Outlook 2019", IEA, Paris <https://www.iea.org/reports/global-ev-outlook-2019>

As a supplier to top-tier global car manufacturers, Delta is poised to reap the benefits of EV market growth worldwide. Our world-class R&D and manufacturing capabilities help us develop and produce an extensive automotive electronic product portfolio including onboard charger modules, battery junction box, DC-DC converters and thermal management solutions. In addition, Delta is working to support electrification and EV uptake in the Southeast Asia and the Indian regions with charging solutions including AC chargers for private applications and DC quick chargers with site management systems for public stations.

Energy Storage Market

In July 2019, Bloomberg New Energy Finance (BNEF) estimated a 122-fold boom of stationary energy storage over the next two decades that will require \$662 billion of investment. Global energy storage installations will multiply exponentially from a modest 9 GW / 17 GWh deployed as of 2018 to 1,095 GW / 2,850 GWh by 2040. This growth will be made possible by further sharp declines in the cost of lithium-ion batteries, on top of an 85% reduction in the 2010-18 period. BNEF's Energy Storage Outlook 2019, predicted a further halving of lithium-ion battery costs per kilowatt-hour by 2030, as demand takes off in stationary storage (Figure 4) and EVs.



Global cumulative energy storage installations

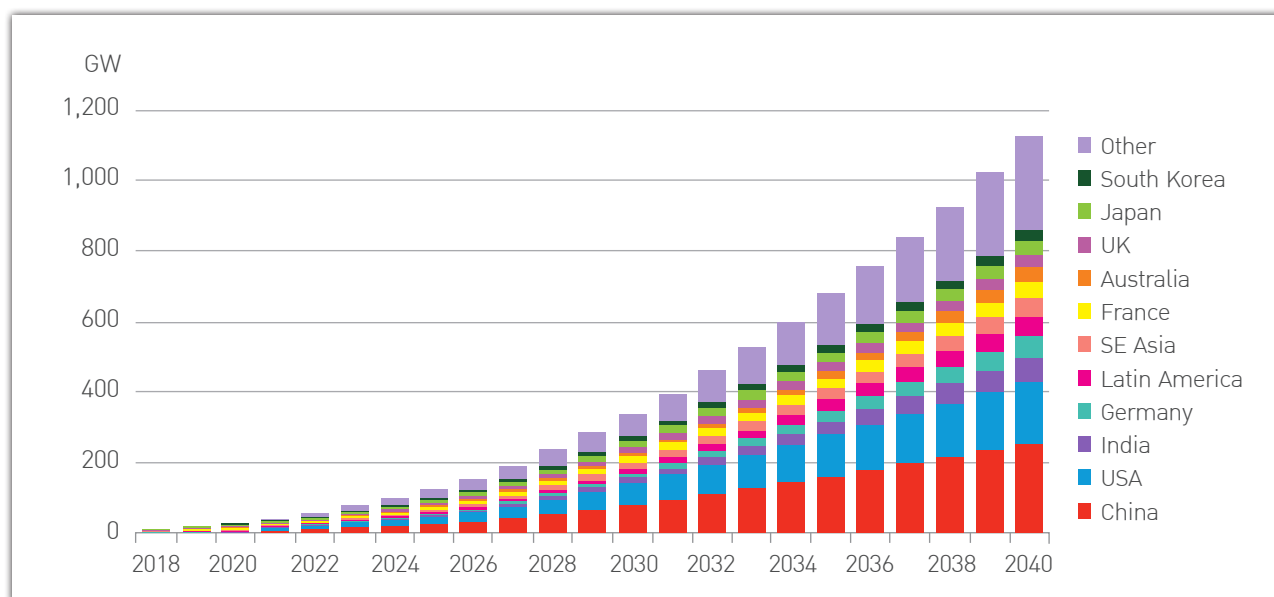


Figure 4. Global cumulative storage deployments 2018-2040

Source: Bloomberg New Energy Finance

Falling wind, solar and battery costs mean wind and solar are set to make up almost 40% of world electricity in 2040, up from 7% today. Meanwhile passenger EVs could become a third of the global passenger vehicle fleet by 2040, up from less than half a percent today, adding huge scale to the battery manufacturing sector.

Source: Bloomberg (2019). *Energy Storage Investments Boom As Battery Costs Halve in the Next Decade*, Bloomberg New Energy Finance, July 31, 2019

Delta is well positioned to participate in this booming industry with Energy Storage System (ESS) solutions that leverage our leading power conversion and energy storage technologies to provide power backup and quality for a wide range of energy scenarios. Our lithium-ion battery portfolio includes cells, modules, cabinets and containers for excellent scalability and adaptability for balancing renewable energy and ensuring power quality.



2020 Business Directions

Delta Thailand Operation Review

While the trade war between the US and China has impacted global economic growth, it has also provided a boost to some countries in Southeast Asia. Thailand is not an exception. Delta Thailand production has expanded to more diversified products i.e. Networking Systems and Power Electronics for Home Appliances. These new products have contributed an additional 7% to total production in 2019 and this is expected to increase to 20% in 2020.

Smart manufacturing and smart logistics remains the focus of manufacturing operations to cope with the changing world. Delta's Manufacturing Execution System (MES) is employed to serve as the platform for quality and productivity management by integrating the complete manufacturing process from customer demands, material request, material delivery, material storage, production, direct-to-stock, shipment and pickup. Overall, the smart manufacturing and smart logistics system has facilitated the improvement of our operational efficiency in sales, production management, procurement, storage and transportation by decreasing manpower demand by 25%.

Industrial Power Supply Business (IPS)

The year 2019 saw good growth for the Industrial Power Supply (IPS) team despite the trade and currency issues worldwide. As expected, the range of medical certified standard power supplies contributed the greatest revenue growth i.e. the MEG-2K1A configurable power supply. The design efforts had started since 2018, leading into 2019 and into 2020.

Because of the US-China trade war, many customers have started to source for power supplies made outside of China. This has opened up many opportunities for the IPS team because of our existing production in Thailand. In Thailand, IPS manufactures power supplies complying to EN/IEC60950, EN/IEC61010 and EN/IEC60101 certifications. In 2020, Delta IPS R&D will continue to focus on high density and high quality power supply designs, meeting the long product life-cycle targets for all our customers.

Our website DeltaPSU.com lists all the Delta IPS products and includes technical datasheets and safety certificates. In addition, Delta IPS will continue to join exhibitions and industry events worldwide to raise brand awareness.

Industrial & Medical Business (IM)

In 2019, the IM business had an annual revenue of US\$117M (-3.3%) and NOP of 14.3%. The second half of the year (USD 52.8M) was in stark contrast of the first half results (USD 64.3M). This anticipated drop was driven by a steep decline in the industrial segment as the global market experienced a contraction in capital investments. The R&D, selling and management costs were well controlled and were 6% below budget during this difficult time. The Industrial and Medical LOB achieved an annual revenue of USD 104M, yet was able to maintain a strong NOP of 20.2%. The new business development segment of Industrial Electric Vehicle LOB achieved an annual revenue of USD12.6M with an NOP loss of USD 4.4M.

A new DSM fully automated production line for the DIN Rail power supplies went into operation at Delta Thailand. This investment was necessary to ensure our future competitiveness, high quality level and innovation in both process and design.

The first half IMBU forecast for 2020 is currently on target to surpass the budget by 4%. However, regular monitoring and actions are required to ensure this positive result. Bringing new IEV products into mass production will be a significant driver to success.

Custom Design Power Business (CD)

Delta's CDBU business experienced growth in 2019. While our telecommunication business had been struggling throughout most of the year, due to the delay of 5G deployment, our data center business ramped up when major data center customers continued to build their own data centers. On one hand, traditional high-end server business sales dropped dramatically as markets continue shift more to cloud services. However, we started to see some traditional server providers successfully migrating to cloud services as a positive development. Networking product sales continued at a healthy level and we expect the market to move along the same trend for the next few years due to 5G deployment.

Delta CDBU has been able to develop multiple new customers with our highly technical and competitive data center, network and high-performance computing solutions. In addition, we have launched new products and expect more to come-to-market in 2020 as we expand 5G business opportunities. The company's highly competent business and engineering teams will continue to leverage new technology and new market segments to create more business success.

Electric Vehicle Business (EV)

In 2019, automotive business revenue surpassed the budgeted expectations by almost 40%. Volumes increased due to higher demand on already launched platforms but also due to newly added platforms that were ramped-up within the year at Europe's largest automaker. Strict emission reduction rules in Europe are forcing automotive manufacturers to widely broaden their Plug-in Hybrid Electric Vehicles (PHEV) and fully electric Battery Electric Vehicles (BEV) offerings to avoid or at least reduce severe penalties. Mass production demand for existing products has grown throughout the year while new product launches have increased overall demand.

As in the previous year, the 7.2kW onboard chargers (OBC) are the basis of the business in 2019 while ongoing designs are heading to higher power levels like 11kW or even 22kW. New OBC product launches in 2020 will continue to grow the business. DCDC converter and high voltage connection boxes will enlarge Delta automotive product offerings from 2021 onwards.

New business awards from existing customers as well as new major European customers will further increase Delta's automotive business footprint and lead to sustaining growth in the years to come. The electrical vehicle market is by far the fastest growing segment in the global automotive industry and underlines Delta's efforts to be a major player in this industry.

Fan and Thermal Solutions Business

As a leading provider of DC brushless motor fans and thermal solutions, Delta continues to develop cutting-edge ventilation and cooling solutions for our automotive customers in 2018. The major focus for 2020 will be to further develop our HVAC and headlamp product lines to meet the latest market demands.

Energy saving and environmental protection is now a top priority for automakers worldwide and Delta's DC brushless motor fan and blowers offer our customers unique solutions as replacements to traditional brush motors.



During use, the brushes in conventional HVAC motor breakdown into micro tiny particles, which are both harmful to the environment and make motor replacement necessary after a certain mileage. In contrast, our DC brushless motor fans overcome the maintenance issues of brush motor HVAC and are lightweight, helping reduce the vehicle's total weight and saving energy.

Headlamp designs in new car models are rejecting traditional light bulbs in favor of high-tech designs that support the driver visibility and vehicle-to-vehicle communication. These sophisticated systems generate greater heat which requires cooling fans to control lamp temperature and ensure peak performance in brightness and multi-functional operating systems.

Moving forward, our team's product and process designers will continue working closely to develop our own new innovations for our specific customer needs. We develop all our fans and blowers for specific programs and maintain supply continuity for the after-market even after the vehicles end production. For existing models, our continuous VAVE programs, internal or with our customers, help us keep improving and raising our product competitiveness.

Industrial Automation (IA)

Delta's Industrial Automation (IA) team had another exciting year in 2019. Delta IA enhanced its competencies by successfully transforming existing businesses into system integration (SI) and solution business. Delta IA has quite a wide range of products and we want to provide one-stop purchasing.

In terms of new products, Delta released many offerings like compact-designed powerful multifunction drives ME300/MS300/MH300 series with power up to 22kW. Our new Standard AC Servo System ASDA-B3 has 24 bit encoder and up to 6000 rpm while supporting EtherCAT communication. Our new HMI DOP100 series, from 4 inch to 15 inch, has friendly interface and high efficiency. Our new EtherCAT motion controller DVP50MC and CodeSys motion control solution AX-8 series, has up to 64 axes servo control. Our new machine vision controller DMV3000G has GigE camera and extends our product coverage to industrial Ethernet switch, industrial PC, digital power meter etc.

In Thailand, Delta has successfully developed automation solutions with one of the leading OEM machine makers in Thailand. With support from the global R&D center and our local team, the OEM machine maker ramps up and stays abreast of the latest industrial manufacturing trend. The new machine model, supported by Delta's Automation Solution, can perform smarter and faster. Factories can benefit from massive energy savings compare to traditional machine solution in the market.

In Singapore, Delta joined the ITAP 2019 exhibition and signed an MOU with government developer JTC as their A*partner for industrial automation to strengthen cooperation with IA partners and keep developing solutions with local system integrators.

In Malaysia and Indonesia, Delta has won many projects in the Electronics, Rubber and Glove, textile and F&B industries. We expect to achieve progressive results and more collaboration and support from the SEA team is a welcome boost to our confidence level going into 2020.

In Australia, Delta is strengthening cooperation with partners who focus on OEM and won many power quality products with our authorized distributor. Looking forward at 2020, we are very excited as we believe we have the right strategies to achieve or exceed our targets.

Critical Infrastructure Solution (CIS)

In 2019, UPS products of CISBU has been successfully deployed around the country to support the digital infrastructure of Thailand 4.0. This helps Thai society, especially in rural areas, by promoting ability to access the internet all around country. In addition, Delta's CISBU applied and successfully installed tailor-made products to support the Thai digital identification policy which enhances the security level of personal information access throughout all digital platforms for Thai citizen. Healthcare and hospital hub is another key outstanding business opportunity of Thailand among Southeast Asia countries. Delta UPS is widely equipped to support hospital and medical laboratories ensuring medical equipment will be always available to support needs at critical timing.

Besides UPS product sales in 2019, the CIS data center system which comprises UPS, precision cooling, racks, PDC, PDU and DCIM, has been recognized as a niche leading technology product for the Thai market and implemented to support various ICT infrastructure of leading Thai enterprises.

In Thailand, UPS and data center products still do not have a mature customer base. Justifying product quality solely from brand label without prior actual experience is the norm resulting in some lost business opportunity. The perception of Taiwan products as the same as Chinese made products misleads many to expect lower a buying price. Furthermore, price dumping from Chinese competitors who are expanding more in the Thailand market has become a major obstruction for new customer or business development.

At the global quality level, high cost to performance value and local presence are the key messages to keep emphasizing in our communication to each customer in both mass communication at the marketing event and via channel business partners who help to voice out the message to a wider audience.

Marketing and channel partner development is still crucial for Delta to grow our local branding business in Thailand in 2020 and onward. Key account development will be a focus action in 2020 to promote more Delta CIS products and solutions. This helps to increase business opportunities and creates a strong channel to bring key reference projects that encourage brand recognition and furthers business growth.

In 2020, we will ramp up efforts to capture Thai mega infrastructure projects and other government investment projects due to the negative outlook in the private sector from circumstances like the strong Baht depreciation and global trade war. Tightening collaboration with infrastructure construction companies is identified as one of the key action for our team with follow-up mechanism from Delta management.

Another key task in 2020 will be to add more data center system providers with enhancement of turn-key capability. This would enrich Delta Thailand to have comprehensive solution capability to serve new key account development in the ICT segment especially cloud or colocation service segments which still keep their positive growth momentum in this digital era.

New products, outdoor micro-datacenter, POD, and high density high performance UPS, has been promoted to support the growing digital infrastructure of 5G and IOT trend. This was initiated since the end of 2019 to launch to key business partners and key customers. Thus we expect with high confident level that our business outcome in 2020 will keep up positive growth at both areas.



Delta Network Solutions

In 2019, Delta Networks, Inc. (DNI) reached a key milestone with the setup and scale up of our new Thai factory. Our new Thailand manufacturing operations extends our global manufacturing capabilities and helps us reach our goal to be a premier vendor in the networking and communication industry. Throughout the year, we have worked to set up equipment and train staff to build up production and start generating sales revenue from zero to 80M USD.

As many new operation, our team faced some challenges to expediting production scale to meet new products awarded in the first year. In 2020, our major business focuses will be in network solutions associated with new 5G technology in telecom and data center applications and 11AX next generation wireless access for enterprise and connected home applications.

To reach our targets we plan to forge stronger alliances with our key accounts in each respective field and grow the business with them through innovative product and solutions development. At the same time, we will support customers to migrate products and solutions from existing models to 5G and 11AX access technology.

Looking ahead, we plan to invest more in high-end switch production lines and approaching new customers in this segment. Overall, we are confident in our ability to acquire new customers for telecom and data center application offerings due to strong market demand in the latter half of 2019.

India Market

Telecom Power Solutions Business (TPS)

The year 2019 has been quite lackluster for the Telecom Industry in India. Despite heavy growth in data traffic, the industry has suffered a huge financial blow. Incumbent operators, Airtel and Vodafone Idea have been reporting significant losses. State owned operator BSNL has also been reeling under severe financial stress and was even unable to pay salaries, vendor payments and other liabilities.

The Indian government has finally granted a revival package of approx. USD 10 billion to help BSNL come out from crisis and turn profitable in next 2 years. The only profitable telecom operator is Reliance Jio, who started operations in 2016 amid furor and disruption. All four operators together also carry a large debt of over USD 61.5 billion.

This market condition has compelled operators to curtail investments & limit expenses. Operator spending for towers also reduced creating less opportunities. Yet there seems some respite now, as all three private operators have raised the tariff of pre-paid plans by 30% to 40%, which will help them improve their financials. Tower companies also expect business improvements in 2020 from current stage. BSNL situation should also improve in 2020.

All in all, 2020 still looks challenging like a year for India's Telecom Power Business as the industry is grappling with debts, financial troubles. Tariff hike, government intervention should improve market sentiment. Delta India, is still hunting every business opportunity, creating more economic products and solutions while fighting tough competition from Chinese entrants.





PV Inverter Business (PVI)

In 2019, the Indian solar industry could not meet the growth expectations at the beginning of the year. The first half of the year was down by ~34% (~3.3GW), due to delay in policy related decisions on account of the general elections. Amidst the prevailing economic slowdown since Q3, total solar installations were a little better compared to the first two quarters.

However, the industry continues to face negative market sentiment, lower investments and funding, adverse rooftop policies in a few states and less auctions for the utility scale projects. Y2019 is expected to close 5% lower compared to 8.3 GW for Y2018, with utility installations at a growth of 2% and rooftop at a minus trend of ~25%.

The effect of the economic slowdown is still effecting project execution resulting in negative growth in the industry. The national economy is expected to improve after Q1'2020 and the overall forecast for next year is up by ~20%, amounting to a total of 9.6GW in solar installations. This will be close to the solar installation level we touched in Y2017.

China suppliers have tightened their grip on the India solar market with their business share increasing in both rooftop and utility segments. In modules, their share is close to 40% while in inverters their overall share is >50%. They have increased their investment and presence in India and it looks like they are committed to be here for long term business.

Due to the competition from China brands, Delta has lost a significant share in the rooftop inverter segment, with our share reducing from 26% to 18%. Delta still holds the No.1 position in the rooftop inverter segment and with new product launches planned in Y2020, we are confident to improve our business share. We have plans to increase our participation in the growing utility segment which currently accounts for >85% of the market, with new launches in Y2020.

Y2020 could be a changeover year, after two year of sluggishness, and the coming years look promising for overall industry growth. Delta has a clear road map to get the best out of this opportunity.



Risk Management

Risk is inherent in all business and administrative activities that are increasing in complexity to keep pace with changes in a highly dynamic business environment. Delta continually raises awareness in risk management throughout our organization. We believe risk management is one of the most effective tools to ensure good management practice and facilitate the achievement of our objectives. The Board of Directors has appointed a Risk Management Committee to establish a risk management policy that covers our entire organization and extended networks to ensure that risk management procedures or systems are in place to appropriately mitigate negative impact on the organization.

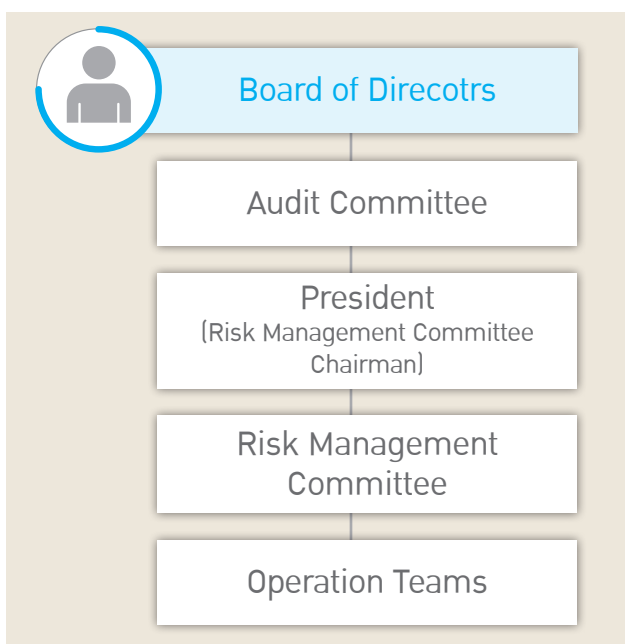
Risk Management Committee

The company President is both Chairman of the Risk Management Committee and a member of the Board of Directors. The Committee comprises of not less than five members who are the heads of major functions and/or persons assigned by the Board of Directors or Chairman of the Committee. When necessary the Committee may invite other persons who are involved with or responsible for any matters related to the meeting agenda to participate in the Risk Management Committee meeting.

Duties and Responsibilities of Risk Management Committee:

1. Establish risk management procedures
2. Implement risk management, delegate risk management tasks to their respective managers
3. Develop and review strategic risk management plans
4. Report to the Audit Committee semi-annually, or whenever necessary, and report to the Board of Directors at least once a year
5. Monitor and continuously improve risk management
6. Seek advice from relevant professional consultants in some cases

Risk Management Committee Organization



Risk Management Process

In order to put the risk management framework into practice, the Risk Management Committee has set up the risk assessment and risk policy for management and documented information in the “Risk Management Committee Charter”.

The Committee has advised management to perform risk management according to the Risk Management Policy with support from the Risk Management Manager who acts as the focal point for each department. The management and heads of major functions need to identify risks and how they occur, investigate the risk background and find areas where risks occur. Next they must measure, rank and prioritize identified risks to form management strategies and processes. The Risk Management Manager will summarize the information and documentation from relevant departments and present it to the Committee.

The Committee will review the documentation, allocate priorities, develop and review strategic risk management plans proposed by each function (if any). They will also ensure compliance with risk assessment and management procedures. Finally, the Committee will submit a report on the risk management status to the Audit Committee or the Board of Directors at least twice a year.

Key Risks and Management Strategies

1. Financial Risk Management

Exchange Rate Risk

Thai economy of 2019 is expected to grow around 2.8% slowing down from the exports and weaker private investment. Being suffering from the US-China trade war and the strong baht, Thai exports of 2019 have been adversely affected. However, the government stimulus measures and monetary policy easing would help boost private consumption and investment. Export conditions are expected to gradually recover following clearer adjustments amid intensified trade pressures. Potential investment from companies relocating from China could also help offset the damage. The cabinet approved the Thailand Plus package to attract foreign firms looking to relocate production amid the US-China trade war. The package covers additional tax incentives, special investment zones and amendment of the law to ease foreign investment.

The baht had strengthened by 7% from 32.50 level at the beginning of 2019 to 30 level in December from the high trade surplus amounted to 1.28 billion dollars, the trade data for September 2019. In which exports decreased by 1.39% compared to the same period last year while imports reduced 4.24%, which improved from a relatively low comparison base. In addition, demand for safe haven from the depreciation of the dollar in the world market and the low interest policies in many countries made foreign investors interested in investing in Asia and Thailand.

Year 2020 the Thai economy is expected to be still fragile from the negative exports with external factors US-China trade war and high household debt. While private investment expected to slow down slightly from 2019, as the export sector has not recovered. In addition, the construction of the real estate sector that is affected by the “Loan to Value” (LTV) measures, slowed down private consumption. However, it is expected that the factors that will help drive the Thai economy in 2020 will be the government investment that will be approved at the beginning of the year and foreign investment in industries such as agriculture, minerals, ceramics and basic metals, electrical appliances and chemicals.

Thai baht tends to strengthen by assessing that the risk of high trade world causing investors willing to invest in safe assets. Although the Bank of Thailand issued measures to slow the appreciation of the baht, it may not be able to reduce the high surplus of current accounts. Year 2020 there will be a US presidential election which most policies will go in the direction of USD depreciation that will impact Thai Baht appreciation. However, the baht may depreciate quickly if concerns about the increase of global recession.



The company is aware of those uncertainties and continues to adopt a hedging policy to mitigate foreign exchange risk with natural hedging for the company's assets and liabilities in foreign currencies. In addition, our company also uses the foreign currency forward contracts to protect net position of each currency. This policy is effective in minimizing risk from fluctuations of exchange rates or interest rates and avoid speculation with some reasonable costs incurred from hedging transactions.

Apart from managing the risk on US dollar currency, the company also deals with other currencies in relation to the countries where subsidiaries are located in such as India Rupee and others. Risk management for each currency is varying in accordance with the situation in each country. It is therefore necessary to monitor closely and regularly.

Accounts Receivable Collections

The company constantly monitor and evaluate the economic situation to determine if there will be any factors affecting the company's operations and our customers' financial position and to ensure smooth collection of receivables. We also utilizes credit insurance and other related financial instruments to mitigate the trading risk.

With the efficient accounts receivable management, credit control system and experienced personnel, the company, even though it has encountered various challenges, has managed the accounts receivable and collections up to standard during the past years. This has helped to ensure sufficient and smooth cash in-flows to support the business operations and needs.

2. Corporate Investment Risk Management

Investments and financial assistance given to subsidiaries are generally risk inherent transactions. Risk management practices that our company adopts are close monitoring and control of treasury, accounts receivable and other significant financial and administrative activities. The executives of subsidiaries attend company gatherings from time to time for training, meeting or performance review which is regularly done through video conference. This ensures administration efficiency towards the same business direction and boosts working morale cooperation among the group also.

3. Supply Chain Risk Management

The company assesses the major risk factors throughout the supply chain. This is because any misalignment in the supply chain management would affect the confidence of customers and other stakeholders as well as impact future operations. In 2019, the tight supply situation of semiconductors and passives components mostly had been relieved; going forward to 2020, we still need to continuously monitor the market situation and the inventory level. The company also does not foresee any serious supply related impact and will continue to monitor and work closely with our valued suppliers to ensure no disruption to our operations.

To ensure good quality and continuity of supply, the company always places strong emphasis on managing "Key/Critical Suppliers" and "Key/Critical Parts" in our supplier management framework. Apart from evaluating the technology, quality, responsiveness, delivery performance and price of the supplier, the company also focuses on managing the supply and demand of critical parts by utilizing end customers demand forecast, system integrators and suppliers inventory level. Generally, local suppliers are preferable as they offer an advantage in delivery time and responsiveness but they are also required to meet our standards for technology, quality and price. In 2020, we foresee there will be more business transferred to Delta Thailand with the original Chinese supplier base that we need to further work on localization plan of those imported materials.



The company also conducts in-depth analysis of key suppliers' financial status after the global financial crisis as well as reviewing the supply chain diversification/ geographical distribution of suppliers' production lines in order to reduce the risk of material shortage caused by extreme climate conditions or possible major disasters in the future.

Besides lowering ESG risks in the supply chain and improve competitiveness, Delta started promoting RBA Verification Consultation since 2014. A verification and consultation team was organized jointly by Delta's Human Resources, Labor Safety, Plant Affairs and Purchasing departments to perform RBA verification and consultation of key suppliers with high ESG risks. Room for improvement has been verified for most suppliers in health and safety aspects of the RBA management system. Excessive work hours are common managerial problems in the industry. To address these findings, the Delta verification and consultation team shared their experience in introducing and promoting Delta's management system to suppliers. The team continuous follow-up to ensure continued improvement among suppliers.

Up to now, 96% of Delta's suppliers signed the company's "Declaration of Compliance with RBA Code of Conduct". Besides requesting suppliers to sign the RBA Declaration, Delta also held the RBA On-Site Audit focus on local suppliers. All the local suppliers audited were determined to comply with Delta's RBA Code of Conduct requirement.

4. Information Risk Management

To respond to increasing demand on the DET computer network to provide high speed wireless access for our manufacturing, the current IT infrastructure will move deeply into the manufacturing area.

Manufacturing equipment like or similar to IoT can realize the seamless integration of various manufacturing devices equipped with sensing, identification, processing, communication, actuation and networking capabilities. This is based on a highly integrated smart cyber-physical space with networking between machinery, sensors and control systems. The intelligent systems enable rapid manufacturing of new products, dynamic response to product demands, real-time optimization of manufacturing production and supply chain networks.

However, this opens the door to create whole new kinds of attacks for our Smart Manufacturing. Unsecure manufacturing IoT is like an open gate that is vulnerable to information attacks from outside. To secure and mitigate this risk, IT infrastructure management are tough built with resilient equipment. We engaged with professional contractors and service providers to build up our firewall, hardware redundancy, maintenance service and proactive care service. This will reduce risks of hardware failure, data loss and improve the information security.

IT Department conducted annual Information Security Awareness training and Re-Cap for all employees and IT Orientation for New Employee according to DET HR's schedule. In addition, IT worked to migrate Windows OS to Windows 10 in our Production Line for more secure computer OS and implemented domain controller in Production Line computers to standardize the company's computer policy.

The company's IT system implemented vulnerability scanning to avoid cyber-attacks, review administrative rights to limit users when installing software in computers and installed a Data Leak Prevention system to block access to unauthorized personal electronics devices, external cloud storage or USB. We also proactively update the software patches and review software installed to manage and mitigate the risks.

The company also has activities like the network security policy, implemented to reduce the scope of impact, and update policy for any network connected device that needs good management and to process vulnerability risk verification for new applications and annual review. We request employee cooperation with IT for any new IoT devices implementation. Ongoing the company's IT department will prepare and



implement application management, awareness programs and regular audits, in cooperation with vendors, to improve software compliance.

We also have Software Development Process & Control Procedures to manage in-house software development and bugs detection. These applications and device monitoring allow us to do remote health checks of real time manufacturing capacity input and output as well as machine performance based on infrastructure network that connects everything.

5. Legal and Intellectual Property Rights Risk Management

Intellectual Property refers to a work or invention that is the result of creativity by human intellect with legal rights. Intellectual property includes copyright, patent, trademark, petty patent, trade secret and layout-designs of integrated circuits etc.

Intellectual property has value both beneficially and commercially which results from intellectual ability, knowledge, monetary investment and time in creation of an intellectual property. Therefore, inventors and authors' rights should be protected and maintained from any kind of infringement and the intellectual property of the others should be respected and legally used.

In recognition of the importance of intellectual property, the company makes a policy to guard and protect the intellectual property owned by the company from violation and unauthorized use, while also maintaining strict respect for the intellectual property of the others.

When using, duplicating, adapting, disclosing or disseminating copyrighted materials to the public, whether in whole or in part, executives and employees can only proceed after being granted approval or permission from the copyright owners. In the case of any doubt in dealing with such copyrighted materials, prior to proceeding - it is the duty of the executives and employees to consult on such matters with the Legal department.

When using legally registered logos or trademarks of the company or Delta Group, executives and employees should take into account appropriateness of use and apply it prudently only for the benefit of the company or Delta Group.

Any invention and design, new product or any discovery which results in an improved or new and innovative product or service, which has not yet been registered for a patent or petty patent must be safely guarded and protected from intellectual property infringement.

When duplicating, adapting, disclosing and disseminating copyrighted works or other people's trade secrets to a third party or the public, either in whole or in part, permission or consent must first be legally granted from the copyright owners.

Executives and employees who have access to trade secrets (for example, trade information, production cost information, production formulas, product pricing formulas, patterns, software, technical methods, production procedures, business management information, product price details, customer lists and advertising strategies, etc.) are required to safely guard such information and comply with the company Code of Conduct.

6. Environmental Risk Management

The Climate Change Report of United Nations IPCC points out that average global warming of 0.2°C is expected for each of the next two decades. Long-term global warming is expected in the range of 2°C - 4.5°C. Sea level rise of between 18 cm and 59 cm is expected by the end of the 21st century. The report's findings are a conservative estimate according to recent science.

A total of 25 climate topics were collected in 2017 through the aforementioned procedures. After ranking the comprehensive risks and upon internal confirmation, a total of 11 major risks have been identified. These risks encompass policy and legal risks, technology risks, market risks, and physical risks.

Major Risks:

- 1) Increase in payment for Greenhouse gas emissions
- 2) Fuel/energy tax or relevant legal regulations
- 3) Voluntary regulations
- 4) Standard environmental regulations (including those being planned)
- 5) Regulation of renewable energy
- 6) Products/services replaced by low-carbon technology
- 7) Costs for transition to a low-carbon economy
- 8) Uncertainty of market information
- 9) Increase in raw material expenses
- 10) Changes in rainfall, severe changes in weather type
- 11) Rise in average temperatures

Other Risks:

- 1) Increase in liability for reporting emissions
- 2) Compulsory legal regulations for products and services
- 3) Litigations
- 4) International industry standards
- 5) Constraints on air pollution
- 6) Uncertainty of new legal regulations
- 7) Lack of regulations
- 8) Failure of investment in new technology
- 9) Changes in consumer behavior
- 10) Changes in consumer preferences
- 11) Industry stigmatization
- 12) Increases in stakeholders' concerns and negative feedback
- 13) Increases in severity of extreme weather incidents
- 14) Rise in average sea level

The company is promoting carbon-reduction technologies and reduction of carbon emissions to respond to this risk by the following activities and operations:

Green Business: The company is building and enhancing its R&D capabilities to develop green energy/energy saving products and solutions. This R&D designs and develops new products and services with Green Innovation that have a lower carbon footprint and lower environmental impact.

Green Operations: Delta participated in the Ministry of Industry's "Green Industry" and "ECO Factory" programs to showcase its strong commitment to environment-friendly industrial practice. The company's two plants at Bangpoo Industrial Estate and Wellgrow Industrial Estate are certified Green System, which is a level for industries in Thailand with systematic environmental management processes include monitoring, evaluation and improvement.

The company set energy management goals for major production sites and implemented annual energy-saving projects. Delta is the first company in Thailand to be certified ISO14064-1 (Standard of



Management System for Quantification and Reporting of Greenhouse Gas Emissions) and ISO50001 (Standard of Energy Management System) and we remain committed to standards that further enhance our competency towards the future.

The company also promoting renewable energy by installing solar PV systems at Bangpoo and Wellgrow plants. Along with the several projects for Energy Saving and Carbon Reduction, the company has developed a SCADA (Supervisory Control and Data Acquisition) system and in-house software integrated with digital metering technology to monitor, gather and process data at main sites including Thailand factories. The real-time monitoring and analysis functions provided by the system help identify more opportunities for energy saving and carbon reduction.

Green Buildings: Since 2006, Delta committed to make all new buildings green buildings. The company's head office in Bangpoo, Samutprakarn has received the LEED (Leadership in Energy and Environmental Design) Gold certification in the EBOM (Existing Buildings: Operations and Maintenance) category. It is also the first factory in Thailand to have received the certification under the EBOM category.

Green Supply Chain: The company's Green Supply Chain Management Committee continues to develop and improve supplier compliance with three supporting tools: agreement, training and audit. We prioritize GHG emission reduction and energy saving as one of the major topics in the Responsible Business Alliance (RBA).

- 1) Suppliers must fully comply with local statutory regulations and define its own risk control mechanism.
- 2) Suppliers must establish management systems regarding environmental protection, energy saving and GHG emission reduction.
- 3) Suppliers must comply with relevant Delta standards on managing of RBA.

Green Society (Employee & Community): The company promotes Energy Volunteer and Education (DEEP & SEED) programs and offers scholarships, products and training on carbon reductions to schools and universities. We share our experience in building energy-efficient and low-carbon green buildings and green factory-office buildings through our open house activities and green building programs. This includes working with local environmental protection groups to promote environmental education programs and the energy-saving ideas of green buildings with the government, school, media, communities and public. For carbon disclosure, we engaged with the Carbon Disclosure Project (CDP), Dow Jones Sustainability Indices (DJSI), IR-related and NGO's questionnaires. Delta publishes the company GHG management measurement and results in our Sustainable Development Report and Annual Report.

7. Occupational Health and Safety (OHS) Risk Management

The company carries out OHS Risk Management through the following activities:

- 1) Providing basic safety training programs such as Basic Fire, First Aid Responder, Safety Officer at Supervision and Management Level, Basic Safety Training for employees, sub-contractors and vendors, Safety in Electrical Work, Safety Radiation, Fork Lift, Ergonomic and Machine Safety, Emergency Response Team, Fire/Chemical Drill and Confined Space Training.
- 2) Setting up a Safety Committee to carry out regular audits and improvements on workplace environment such as; monitoring workplace environment quality, measuring emissions, inspecting drinking water/wastewater and monitoring radiation from X-ray machines etc.
- 3) Identifying, evaluating and managing the risks associated with the environment as well as with the health and safety of our employees, contractors, customers and those living in our community. Periodic activities include Safety Week Campaign, Corporate Social Responsibility (CSR) and Safety Project etc.

Capital Structure

Registered and paid up share capital (31 December 2019)

Type of Equity	No. of Shares	Par value (Baht)	Total Value (Baht)
1. Registered Share Capital (Common share)	1,259,000,000	1	1,259,000,000
2. Paid up Capital (Common share)	1,247,381,614	1	1,247,381,614

Top 10 shareholders (as of 9 July 2019)

No.	Name	Holding	%
1	Delta Electronics Int'l (Singapore) Pte. Ltd	534,479,306	42.85%
2	Delta International Holding Limited	191,984,450	15.39%
3	CITI (Nominees) Limited-CBHK-PBGSG-Restricted Shares	172,845,420	13.86%
4	Delta Electronics Inc.	69,128,140	5.54%
5	The Hong Kong and Shanghai Banking Corporation Limited, Hong Kong Branch	60,200,000	4.83%
6	Raffles Nominees (Pte) Limited	57,505,000	4.61%
7	UBS AG Hong Kong Branch	54,760,000	4.39%
8	Thai NVDR Co.,Ltd.	24,841,237	1.99%
9	South East Asia UK (Type C) Nominees Limited	14,377,434	1.15%
10	N.C.B.Trust Limited-Norges Bank 1	3,433,200	0.27%
11	Others	63,827,427	5.12%
Total		1,247,381,614	100.0%

Note: Shareholders of Thai NVDR Co., Ltd., who held non-voting depositary receipts (NVDR) in Item 8, were ineligible for voting at shareholders' meetings except when exercising their voting rights on delisting the shares from SET.

Minor shareholders

As of March 4, 2019, total number of Minor Shareholders (Free float) is 4,250, equivalent to 37.67%

Shareholding agreement with major shareholders

Among major shareholders, the company does not have any shareholding agreement, which might affect its management.

Other types of shares

The company does not issue other types of shares, except from ordinary share, which is the only one class of security.



Dividend Policy

The company has a policy to pay dividend at least 30% of its net profits. However, the dividend payout ratio would be subject to change depending on the investment plan and/or other capital requirements the Company may have in the future.

The company's Board of Directors' Meeting No. 1/2020 held on 17 February 2020 resolved to pay dividend for the year 2019 at Baht 1.80 per share, representing a payout ratio of 76%. This is subject to the 2019 Annual General Meeting of Shareholders' approval. (The dividend paid in 2019 was Baht 2.30 per share, representing a payout ratio of 56%).

Dividend payment of the subsidiaries

Dividend payment of the subsidiaries would be determined based on the profitability and reinvestment opportunities of each subsidiary. In addition, the relevant laws, regulations, tax and foreign exchange control of the country where the subsidiary is located at will also be taken into consideration for greatest benefits of the company and shareholders.

Dividend Payment in past 5 years

Year	EPS	Dividend/Share (Baht)	%Payout Ratio
2015	5.38	3.10	57.6%
2016	4.42	3.00	67.8%
2017	3.95	2.20	55.7%
2018	4.12	2.30	55.9%
2019*	2.37	1.80	76.1%

* Pending for approval from the 2020 Annual General Meeting of Shareholders' on March 31, 2020 to approve the dividend distribution for the year 2019.





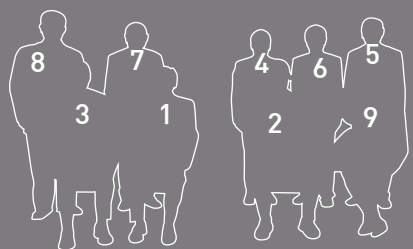
Board of Directors

- | | | |
|---|--|--|
| 1 ▶ Mr. Kong Meng Ng
Chairman of the Board | 4 ▶ Mr. Chang Tsai-hsing
Director of the Board | 7 ▶ Mr. Boonsak Chiempricha
Independent Director |
| 2 ▶ Mr. Cheng Ping
Director of the Board | 5 ▶ Mr. Chu Chih-yuan
Independent Director | 8 ▶ Dr. Witoon Simachokedee
Independent Director |
| 3 ▶ Mr. Ko Tzu-shing
Director of the Board | 6 ▶ Mr. Anusorn Muttaraid
Director of the Board | 9 ▶ Mrs. Tipawan Chayutimand
Independent Director |



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Delta Electronics (Thailand) Public Company Limited



Profile of Board of Directors

Mr. Kong Meng Ng

Age : 73 Years

Shareholding in the Company

As of 31 Dec 19

80,000 Shares (0.006% of the voting rights)

Position

- Chairman of the Board (Authorized Director) (Director since : 3 May 1990)

Education

- Master of Science in Electronic Engineering, University of Southampton, UK
- Bachelor of Electrical Engineering, National Taiwan University, Taiwan

Training

- Director Accreditation Program (DAP) Thai Institute of Directors Association Year 2007
- Director Certification Program (DCP), Thai Institute of Directors Association, Year 2009
- Financial Statements Demystified for Directors (FDD), Thai Institute of Directors Association, Year 2009

Work Experience

Listed Company

- 1990-Present • Chairman of the Board Delta Electronics (Thailand) Pcl.
- 2004-2008 • Executive Committee Member, Delta Electronics (Thailand) Pcl.
- 1990-2006 • President, Delta Electronics (Thailand) Pcl.

Non-Listed Company

- 2007-Sep 2018 • Director, Delta Greentech SGP Pte., Ltd.
- 2012-Dec 2016 • Director, Delta Electronics International (Singapore) Pte., Ltd.

Mr. Cheng Ping

Age : 58 Years

Position

- Director of the Board (Authorized Director) (Director since : 24 June 2019)

Education

- Bachelor of Business Administration, California State University, East Bay, United States

Training

- The impact of tax reform on Delta group (2018)
- Introduction of (EU) GDPR and Personal Data Protection Rules in China (2018)
- Corporate Strategy (2019)
- Balance between Technology and Humanities- Which Side AI Stand On (2019)

Work Experience

Listed Company

- 2019-Present • Director of the Board, Delta Electronics (Thailand) Pcl.
- Director, Cyntec Co., Ltd.
- Director, Drake Investment (HK) Limited
- Director, Boom Treasure Limited
- Director, Guangzhou Amerlux Lighting Co., Ltd.
- 2012-Present • Chief Executive Officer, Delta Electronics, Inc.
- 2001-Present • Director, Delta Electronics, Inc.

Non-Listed Company

- 2019-Present • Director, Delta Greentech SGP Pte. Ltd.
- 2017-Present • Director, Delta America Ltd.
- Director, Delta Electronics Int'l (Singapore) Pte. Ltd.
- Chairman, Unicom (Nanjing) System Eng. Corp.
- Chairman, Unicom System Eng. Corp.
- 2016-Present • Director, Castle Horizon Limited
- Director, Energy Dragon Global Limited
- Chairman, Delta Electronics (Xi'an) Co., Ltd.
- Chairman, Delta Electronics (Bijng) Co., Ltd.



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Delta Electronics (Thailand) Public Company Limited

Mr. Cheng Ping (cont'd)

Age : 58 Years

Shareholding in the Company

As of 31 Dec 19

-None-

(0% of the voting rights)

2015-Present	<ul style="list-style-type: none"> Chairman, Delta Electronics Components (Wujiang) Ltd. Executive Director, Delta Energy Technology Puhuan (Shanghai) Co., Ltd. Director, Delta Networks Holding Ltd.
2014-Present	<ul style="list-style-type: none"> Chairman, Delta Electronics (Pingtan) Co., Ltd.
2012-Present	<ul style="list-style-type: none"> Chairman, Delta Greentech (China) Co., Ltd. Chairman, Delta Energy Technology (Shanghai) Co., Ltd. Director and General Manager, Delta Green (Tianjin) Industries Co., Ltd.
2010-Present	<ul style="list-style-type: none"> Director and General Manager, Chenzhou Delta Technology Co., Ltd.
2007-Present	<ul style="list-style-type: none"> Director and General Manager, Delta Electronics (Chenzhou) Co., Ltd. Director, Delta Electronics (Wuhu) Co., Ltd.
2001-Present	<ul style="list-style-type: none"> Director, Delta Electronics (H.K.) Limited Director and General Manager, Delta Video Display System (Wujiang) Ltd.
1999-Present	<ul style="list-style-type: none"> Director and General Manager, Delta Electronics (Jiangsu) Ltd.
1998-Present	<ul style="list-style-type: none"> Director and General Manager, Delta Electronics Power (Dongguan) Co., Ltd.
1993-Present	<ul style="list-style-type: none"> Director and General Manager, Delta Electronics (Dongguan) Co., Ltd.

Mr. Ko Tzu-shing

Age : 72 Years

Shareholding in the Company

As of 31 Dec 19

-None-

(0% of the voting rights)

Position	<ul style="list-style-type: none"> Director of the Board (Authorized Director) (Director since : 24 June 2019)
Education	<ul style="list-style-type: none"> Bachelor of Electrical and Control Engineering, National Chiao Tung University, Taiwan
Training	<ul style="list-style-type: none"> The impact of tax reform on Delta group (2018) Introduction of (EU) GDPR and Personal Data Protection Rules in China (2018) Corporate Strategy (2019) Balance between Technology and Humanities- Which Side AI Stand On (2019)
Work Experience	
Listed Company	
2019-Present	<ul style="list-style-type: none"> Director of the Board, Delta Electronics (Thailand) Pcl.
2012-Present	<ul style="list-style-type: none"> Vice-Chairman of Strategic Steering Committee, Delta Electronics, Inc.
2001-Present	<ul style="list-style-type: none"> Vice-Chairman, Delta Electronics, Inc.
Non-Listed Company	
2016-Present	<ul style="list-style-type: none"> Director, Delta Controls Inc.
2012-Present	<ul style="list-style-type: none"> Chairman, Delta Green (Tainjin) Industries Co., Ltd. Director, Delta Greentech (China) Co., Ltd.
2010-Present	<ul style="list-style-type: none"> Chairman, Chenzhou Delta Technology Co., Ltd. Director, Delta Electronics Capital Company
2007-Present	<ul style="list-style-type: none"> Chairman, Delta Electronics (Wuhu) Co., Ltd. Chairman, Delta Electronics (Chenzhou) Co., Ltd.
2004-Present	<ul style="list-style-type: none"> Chairman, Delta Electronics (Dongguan) Co., Ltd. Chairman, Delta Electronics Power (Dongguan) Co., Ltd.
2000-Present	<ul style="list-style-type: none"> Director, Delta Electronics (Jiangsu) Ltd.
1991-Present	<ul style="list-style-type: none"> Director, Delta Electronics (Japan), Inc.



**Mr. Chang
Tsai-hsing**
Age : 52 Years

Shareholding in the
Company
As of 31 Dec 19
-None-
(0% of the voting rights)

Position	<ul style="list-style-type: none"> Director of the Board (Authorized Director) (Director since : 24 June 2019) Vice President of South East Asia and India Region Executive Committee member Corporate Governance Committee member
Education	<ul style="list-style-type: none"> Bachelor of English Literature of National Central University, Taiwan
Training	- None -
Work Experience	
Listed Company	
2019-Present	<ul style="list-style-type: none"> Director of the Board Vice President of South East Asia and India Region Executive Committee member Corporate Governance Committee member Delta Electronics (Thailand) Pcl.
Non-Listed Company	
2016-Present	<ul style="list-style-type: none"> Vice President, Asia Pacific Region Member of Strategic Steering Committee Delta Electronics International (Singapore) Pte. Ltd.
2010-2018	<ul style="list-style-type: none"> President & General Manager EMEA (Europe, Middle East & Africa) Region, Delta Group.

Mr. Chu Chih-yuan
Age : 73 Years

Shareholding in the
Company
As of 31 Dec 19
-None-
(0% of the voting rights)

Position	<ul style="list-style-type: none"> Independent Director (Appointment Date : 30 Apr 1988 and appointment be Independent director on 27 Oct 2015) Audit Committee Member Nomination & Compensation Committee Member
Education	<ul style="list-style-type: none"> Bachelor of Accounting in Economics, Chinese Culture University (Taipei), Taiwan Executive Program of Graduate School of Business Administration, Chung Yuan Christian University, Taiwan
Training	<ul style="list-style-type: none"> Director Accreditation Program (DAP) Thai Institute of Directors Association, Year 2007
Work Experience	
Listed Company	
1988-Present	<ul style="list-style-type: none"> Director of the Board, Delta Electronics (Thailand) Pcl. (appointment to Independent director on October 2015)
Oct 2015-Present	<ul style="list-style-type: none"> Audit Committee Member, Delta Electronics (Thailand) Pcl. Nomination & Compensation Committee Member, Delta Electronics (Thailand) Pcl.
Jun 2016-Present	<ul style="list-style-type: none"> Independent director, C Sun Manufacturing Ltd.
1986-Sep 2013	<ul style="list-style-type: none"> Senior Vice President and Corporate CFO, Delta Electronics, Inc.
Non-Listed Company	
2011-Present	<ul style="list-style-type: none"> Director, Digital Projection International Holding Ltd.
2010-Aug 2016	<ul style="list-style-type: none"> Supervisor, Delta Electronics Capital Company
2009-Jun 2015	<ul style="list-style-type: none"> Supervisor, NeoEnergy Microelectronics
2012-Mar 2014	<ul style="list-style-type: none"> Supervisor, Delta Green Life Co., Ltd.
2004-Mar 2014	<ul style="list-style-type: none"> Director, Delta Electronics International Ltd. (Labuan) Supervisor, Delta Electronics (Korea), Inc.
2002-Mar 2014	<ul style="list-style-type: none"> Supervisor, Delta Greentech (China) Co., Ltd.
1998-Mar 2014	<ul style="list-style-type: none"> Supervisor, Addtron Technology (Japan) Co., Ltd.
1995-Mar 2014	<ul style="list-style-type: none"> Director, Delta Power Sharp Ltd.
1991-Mar 2014	<ul style="list-style-type: none"> Supervisor, Delta Electronics (Japan), Inc.
2012-Mar 2013	<ul style="list-style-type: none"> Supervisor, Allied Material Technology Corp.



**Mr. Anusorn
Muttaraid**

Age : 66 Years

Shareholding in the
Company
As of 31 Dec 19
-None-
(0% of the voting rights)

Position	<ul style="list-style-type: none"> Director of the Board (Authorized Director) (Appointment Date : 22 Aug 1994) Nomination & Compensation Committee Member Corporate Governance Committee Member
Education	<ul style="list-style-type: none"> Bachelor of Science, Kasetsart University
Training	<ul style="list-style-type: none"> Director Certification Program (DCP), Thai Institute of Directors Association, Year 2004 Capital Market Academy Leader Program # 27, Capital Markey Academy
Work Experience	
Listed Company	
1994-Present	<ul style="list-style-type: none"> Director of the Board, Delta Electronics (Thailand) Pcl.
2018-Present	<ul style="list-style-type: none"> Corporate Governance Committee Member, Delta Electronics (Thailand) Pcl.
2015-Present	<ul style="list-style-type: none"> Nomination & Compensation Committee Member, Delta Electronics (Thailand) Pcl.
2015-2019	<ul style="list-style-type: none"> Sustainability Development Committee Member, Delta Electronics (Thailand) Pcl.
2009-2019	<ul style="list-style-type: none"> Risk Management Committee Member, Delta Electronics (Thailand) Pcl.
1999-2019	<ul style="list-style-type: none"> Executive Committee Member, Delta Electronics (Thailand) Pcl.
1993-2019	<ul style="list-style-type: none"> Human Resources & Administration/ Public Relations Director, Delta Electronics (Thailand) Pcl.
2007-Oct 2015	<ul style="list-style-type: none"> Compensation Committee Member, Delta Electronics (Thailand) Pcl.
Non-Listed Company	
2011-Present	<ul style="list-style-type: none"> Member of sub-committee of Comprehensive Economic Partnership in East Asia (ASEAN+6), Board of Trade of Thailand
2010-Present	<ul style="list-style-type: none"> Managing Partner, Anupong Globalize Limited Partnership
2009-Present	<ul style="list-style-type: none"> Chairman of Committee on Indian Affairs, The Thai Chamber of Commerce and Board of Trade of Thailand
2007-Present	<ul style="list-style-type: none"> Chairman of Thailand-India Business Council, The Thai Chamber of Commerce and Board of Trade of Thailand Managing Partner, Anusorn Globalize Limited Partnership
2017	<ul style="list-style-type: none"> Corporate Governance Committee Chairman/Chairman of the Executive Consultant/ Advisory of Information Technology Committee, The Small and Medium Enterprise Development Bank of Thailand (SME Bank)
2015-2017	<ul style="list-style-type: none"> Nomination & Compensation Committee Chairman/Relation Affair Committee Chairman/ Information Technology Committee Chairman, The Small and Medium Enterprise Development Bank of Thailand (SME Bank)
2011-2017	<ul style="list-style-type: none"> Director/Executive Director, The Small and Medium Enterprise Development Bank of Thailand (SME Bank)
2011-2015	<ul style="list-style-type: none"> Risk Committee Chairman, The Small and Medium Enterprise Development Bank of Thailand (SME Bank)
2011-2014	<ul style="list-style-type: none"> Director of Advisory Board, Department of Trade Negotiations Ministry of Commerce



**Mr. Boonsak
Chiempricha**

Age : 70 Years

Shareholding in the
Company
As of 31 Dec 19
-None-
(0% of the voting rights)

**Dr. Witoon
Simachokedee**

Age : 66 Years

Position	<ul style="list-style-type: none">Independent Director (Appointment Date : 5 April 2016)Audit Committee Chairman
Education	<ul style="list-style-type: none">Master of Business Administration the University of Santa Clara, San Jose, CA., U.S.A.Bachelor of Accounting, Chulalongkorn UniversityDiploma, National Defence College, (NDC 4111) ,The Joint State - Private Sector
Training	<ul style="list-style-type: none">Director Certification Program (DCP), Thai Institute of Directors year 2003Director Accreditation Program (DAP), Thai Institute of Directors Association Year 2004Role of the Chairman Program (RCP), Thai Institute of Directors Association Year 2007Corporate Governance for Capital Market Intermediaries (CGI), Thai Institute of Directors Association Year 2014
Work Experience	
Listed Company	
2016-Present	<ul style="list-style-type: none">Independent Director/ Audit Committee Chairman, Delta Electronics (Thailand) Pcl.
2010-Present	<ul style="list-style-type: none">Independent Director, President Bakery Pcl.Chairman of the board, G Capital Pcl.Chairman of the board /Executive Chairman, Indara Insurance Pcl.
2012-Present	<ul style="list-style-type: none">Director/ Audit Committee Member, Principal Asset Management Co., Ltd
2010-2019	<ul style="list-style-type: none">Audit Committee Member/Risk Management Committee Chairman, President Bakery Pcl.
Non-Listed Company	
2019-Present	<ul style="list-style-type: none">Audit Committee Chairman of Court of Justice, Office of Internal Audit
2018-Present	<ul style="list-style-type: none">Director of Audit & Evaluation Sub-Committee of special governmentConsultant of Financial Management program, The Comptroller General's Department
2013-Present	<ul style="list-style-type: none">Financial Director, The Thai Bar Under the Royal Patronage Government Sector
2012-Present	<ul style="list-style-type: none">Honorary Council Member and Audit Committee Chairman, Mahasarakham University Council Committee
2015-2019	<ul style="list-style-type: none">Expert, Election Commission of Thailand Independent Entity
Position	<ul style="list-style-type: none">Independent Director (Appointment Date : 30 Mar 2015)Nomination & Compensation Committee Chairman
Education	<ul style="list-style-type: none">Honorary Doctorate of Engineering, Safety Engineering, Kasetsart UniversityDoctor of Philosophy Public Administration (Management of public and private sector), Ramkhamhaeng UniversityHonorary Doctorate of Science. Safety Technology Occupational Health, Rajabhat Suan Sunanta UniversityMaster of Business Administration, Faculty of Commerce and Accountancy, Thammasat UniversityBachelor of Laws degree, Thammasat UniversityBachelor of Engineering (The Electrical Engineering), Kasetsart University
Training	<ul style="list-style-type: none">Director Certification Program (DCP), Thai Institute of Directors year 2009Financial Statements for Directors (FSD), Thai Institute of Directors year 2009



**Dr. Witoon
Simachokedee**
(cont'd)
Age : 66 Years

Shareholding in the
Company
As of 31 Dec 19
-None-
(0% of the voting rights)

Work Experience

Listed Company

- 2015-Present • Independent Director/Nomination & Compensation Committee Member, Delta Electronics (Thailand) Pcl.
- 2017-Present • Independent Director/Audit Committee Member, Sakol Energy Pcl.
- 2011 • Directors, PTT Exploration and Production Pcl..
- 2008 • Chairman of the board, Ratchaburi Electricity Generating Holding Pcl.
- Director of PTT Chemical Pcl.
- Director of PTT Aromatics and Refining Pcl.

Non-Listed Company

- 2019-Present • Consultant team of Minister of Industry
- 2013-Present • President of Foundation for Business and Industrial Development
- 2014 • Acting Industry Minister, Ministry of Industry
- 2009-2014 • Permanent Secretary, Ministry of Industry
- 2011 • Chairman of the board, Industrial Estate Authority of Thailand
- Directors, Small and Medium Enterprise Development Bank of Thailand (SME Bank)

**Mrs. Tipawan
Chayutimand**
Age : 62 Years

Shareholding in the
Company
As of 31 Dec 19
-None-
(0% of the voting rights)

Position

- Independent Director (Appointment Date : 2 April 2018)
- Audit Committee Member

Education

- Master of Business Administration, Kasetsart University
- Bachelor of Accounting, Thammasat University
- Certified Public Accountant No. 6870
- Tax Auditor No. 000111

Training

- Senior Executive Program by London Business School
- Anti-Money Laundering Program by US International Revenue Service
- Development of Management Skills and Leaderships Program by National Graduate Institute for Policy Studies (Japan)
- International Taxation Course by The Japanese National Tax Agency (Japan)
- Transfer Pricing And Tax Audit for Multinational Companies Program by Australian Taxation Office
- Director Certification Program (DCP), Thai Institute of Directors Association, Year 2019

Work Experience

Listed Company

- 2018-Present • Independent Director/ Audit Committee Member, Delta Electronics (Thailand) Pcl.

Non-Listed Company

- 2019-Present • Independent Director, SREIT Management Co., Ltd.
- 2014-Sep 17 • Director of Large Business Tax Administration Division, The Thai Revenue Department
- 2012-Feb 14 • Director Area Revenue Office 8, The Thai Revenue Department
- 2011-Dec 12 • Tax Audit Officer, Expert Level, Large Business Tax Administration Division, The Thai Revenue Department



Profiles of Management Team

Mr. Hsieh Shen-yen

Age : 68 Years

Shareholding in the Company

As of 31 Dec 19

-None-
(0% of the voting rights)

Position

Education/

Training

- President, Delta Electronics (Thailand) Plc
- EMBA course at National Taipei University of Technology
- B.A. Navigation, China Maritime College.
- Director Accreditation Program (DAP), Thai Institute of Directors Association Year 2014

Work Experience

Listed Company

2014-Present

- President, Delta Electronics (Thailand) Plc
- Executive Committee Chairman/Risk Management Committee Chairman, Delta Electronics (Thailand) Plc

2019-Present

- Corporate Governance Committee Chairman, Delta Electronics (Thailand) Plc.

2015-present

- Sustainability Development Committee Chairman, Delta Electronics (Thailand) Plc.

2018-2019

- Corporate Governance Committee Member, Delta Electronics (Thailand) Plc.

2013-2019

- Director of the Board, Delta Electronics (Thailand) Plc

Non-Listed Company

2013-2016

- Director, Taiwan Powder Technologies Co.,Ltd

2003-2016

- Executive Vice President, Delta Electronics (Dongguan) Co.,Ltd.

Mr. Chang Tsai-hsing

Age : 52 Years

Position

- Vice President of South East Asia and India Region
(For further details, please refer to his profile in the Board of Director)

Mr. Yu Po-wen

Age : 59 Years

Shareholding in the Company

As of 31 Dec 19

-None-
(0% of the voting rights)

Position

Education/

Training

- Chief Financial Officer (CFO)
- M.B.A, University of South Australia
- B.A (Accounting), Chinese Culture University (Taipei)
- TLCA CFO Professional Development Program (TLCA CFO CPD) No. 5/2019

Work Experience

Listed Company

2019-Present

- Chief Financial Officer (CFO), Delta Electronics (Thailand) Pcl.
- Sustainability Development Committee Member, Delta Electronics (Thailand) Pcl.

1991-Feb 2016

- Chief Financial Officer (CFO), Delta Electronics (Thailand) Pcl.

1999-2016

- Executive Committee Member, Delta Electronics (Thailand) Pcl.

2009- 2016

- Risk Management Committee Member, Delta Electronics (Thailand) Pcl.

2015- 2016

- Sustainability Development Committee Member, Delta Electronics (Thailand) Pcl.

Mr. Vichai Saksuriya

Age : 57 Years

Shareholding in the Company

As of 31 Dec 19

42,100 Shares (0.0033%
of paid up capital)

Position

Education/

Training

- Operations Vice President
- EMBA, National Taiwan University of Technology, Taiwan
- B.E. Electrical Engineering, National Taipei Institute of Technology, Taiwan
- Director Accreditation Program (DAP), Thai Institute of Directors Association Year 2014

Work Experience

Listed Company

2011-Present

- Operations Vice President, Delta Electronics (Thailand) Pcl.

2019-Present

- Anti-Corruption Committee Member, Delta Electronics (Thailand) Pcl

2015-Present

- Sustainability Development Committee Member, Delta Electronics (Thailand) Pcl.

Mr. Chen Chin-ming

Age : 49 Years

Shareholding in the Company

As of 31 Dec 19

-None-
(0% of the voting rights)

Position

Education/

Training

- Chief Information Officer (CIO)
- EMBA, National Taipei University of Technology, Taiwan
- EMBA of Information Management, National Taiwan University of Science and Technology
- Industrial Management, National United University

Work Experience

Listed Company

2011-Present

- Chief Information Officer (CIO), Delta Electronics (Thailand) Pcl.

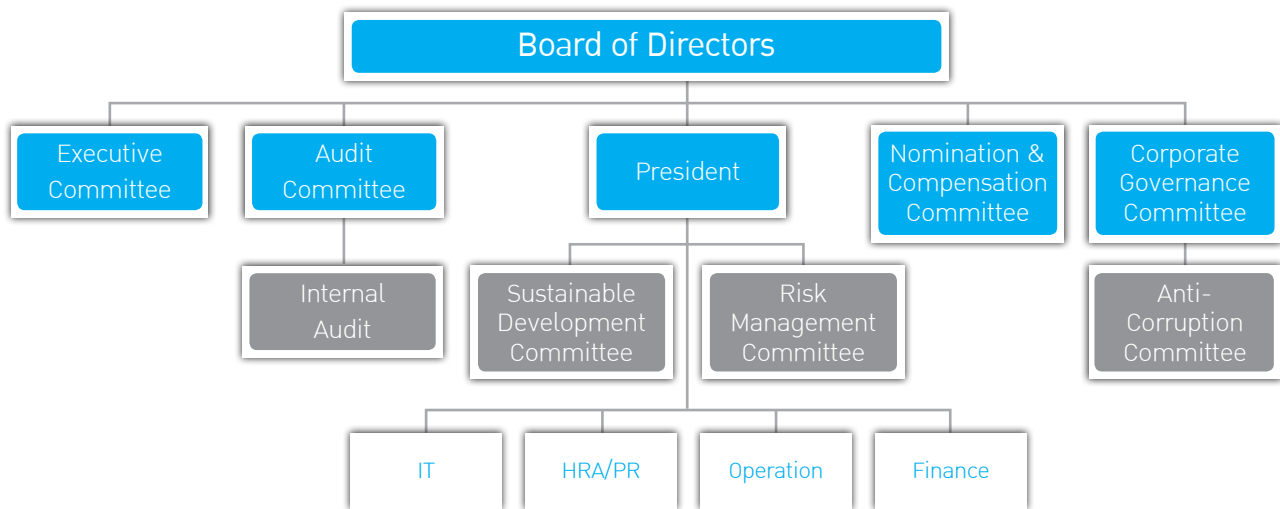


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Delta Electronics (Thailand) Public Company Limited

Managerial Structure

The company's managerial structure as of 31 December 2019



Board of Directors

The company's Board of Directors is now composed of 9 members, 3 executive directors, 6 non-executive directors. As reported in the Ministry of Commerce's certification dated December 16, 2019, list of the members of the Board of Director is shown below.

Name	Position	Appointment Date	Attendance Meeting
1. Mr. Ng Kong Meng	Chairman of the Board	3 May 1990	6/6
2. Mr. Cheng Ping*	Director**	24 Jun 2019	3/3
3. Mr. Ko Tzu-shing*	Director**	24 Jun 2019	3/3
4. Mr. Chang Tsai-hsing*	Director**	24 Jun 2019	3/3
5. Mr. Anusorn Muttaraid	Director	22 Aug 1994	6/6
6. Mr. Chu Chih-yuan	Independent Director	30 Apr 1988	6/6
7. Mr. Boonsak Chiempricha	Independent Director	5 Apr 2016	6/6
8. Dr. Witoon Simachokedee	Independent Director	30 Mar 2015	6/6
9. Mrs. Tipawan Chayutimand	Independent Director	2 Apr 2018	6/6

Ms. Wilailak Funghanakun is Company Secretary and Secretary to the Board of Directors

* Executive director

** Having been appointed by the EGM No.1/2019 held on June 24, 2019

Authorized Directors

The following 5 directors are authorized to act on behalf of the company under following conditions, "Mr. Ng Kong Meng or Mr. Chang Tsai-hsing or Mr. Anusorn Muttaraid or Mr. Cheng Ping or Mr. Ko Tzu-shing, any two of these five directors jointly sign and affixes the Company seal."

Scope of Responsibilities of the Board of Directors

- To supervise the directors and executives to perform their duties in the best interests of the shareholders (fiduciary duty) by observing the following four main practices:
 - Performing its duties with responsibility and all due circumspection and caution (duty of care).
 - Performing its duties with faithfulness and honesty (duty of loyalty).



- 1.3 Performing its duties in compliance with laws, objectives, the Company's Articles of Association, the resolutions of the Board of Directors and resolutions of Shareholders' Meetings (duty of obedience).
- 1.4 Disclosing information to shareholders accurately, completely, and transparently with verifiability and timeliness. (duty of disclosure)
2. To determine the vision, mission, objectives and target of the Company and review them every year and communication across the organization to drive the same direction.
3. To supervise and support the innovation of social and environmental responsibility including ensure that the management adheres to the Company's mission "To provide innovative, clean and energy-efficient solutions for a better tomorrow" in operation.
4. To consider and approve the main plan for setting the policy, strategies, annual business plan, the budget of the Company. To ensure that it is in line with the Company's objectives and targets with suitable allocation of resources and the use of technology innovation.
5. To monitor and supervise the management to implement the Company's strategy and follow up on operation results performed and report to the Board of Directors regularly to ensure that operations are in line with policies, plan and the budget.
6. To consider and approve the policy on corporate governance, Code of Conduct, the anti-corruption policy has been written in a way that is appropriate to the operation of all levels of employees and promotes awareness by communication and follow-up.
7. To supervise and monitoring IT management, risks and the implementation of the IT security system.
8. To supervise having good internal control system that suitable and assigned the Audit Committee to monitor the internal control regularly. Assess the effectiveness and adequacy of internal control over time and reports to the Board of Directors. To communicate and encourage employees at all levels to have a sense of ethics, moral and ethical conduct on corporate governance and anti-corruption policy.
9. To specifying risk management policies, process, report and overseeing to ensure effective risk management systems together with reviewing and assessing the systems periodically and in the wake of a change in risk levels and cover all risks.
10. To Supervise the Company having a sufficient system to ensure that the Company complies with the Securities and Exchange Act and other securities and exchange laws e.g. SEC rules and regulations and the SET regulations. This includes any law governing the Company's business such as: regulations concerning the entry into connected transactions and regulations concerning the substantial acquisition of assets It also complies with the laws relating to the business of the Company, the Articles of Association, resolutions of the shareholders' meeting, policies or guidelines.
11. The Board should consider its responsibilities in the context of the Company's shareholder structure and relationships, which may impact the management and operation of the Company.
12. Monitoring and managing any potential conflicts of interest between the Company, the Management, the Board of Directors, or shareholders as well as overseeing to prevent misuse of the Company's assets and involve with into inappropriate transactions with related parties according to laws and other regulations.
13. To arrange for the preparation and submission of the audited balance sheet and profit/loss statement at the end of each accounting period to the shareholders' meeting for its consideration and approval.
14. To monitor the adequacy and timeliness of the Company's disclosure of information. Information technology is used to disseminate information. It also regulates the management to have a unit or an investor relations officer to communicate with shareholders and other stakeholders, such as investors, analysts, to be equally appropriate.
15. To authorize any other person to perform any action on behalf of the Board of Directors under its supervision, or to grant the power-of-attorney to such a person to perform any action as the Board may think fit. The Board of Directors has the sole discretion to revoke or modify the power-of-attorney as they may think fit.



For this purpose, no authorization will enable a grantee under power-of-attorney to consider and approve a transaction which may cause a conflict of interest between himself, any related person or interested person as one party and the Company as the other party, unless it is granted following approved policies and criteria previously set out by the Board of Directors.

Responsibilities of the Chairman of the Board

1. To be the leader to oversee, monitor, and ensure that the operations are performed by the Board of Directors, executive committee and sub-committee to ensure the objective and plan achievement.
2. To ensure that all directors contribute to the Company's ethical culture and good corporate governance.
3. To consider the agenda of the Board of Directors, and may discuss with the Executive Chairman and supervise the important matters to be included in the agenda.
4. To act as the Chairman of the Board of Directors' meeting and the Shareholders' meeting, allocate sufficient time to carefully consider key issues and encourage directors to exercise discretion, comment freely.
5. To have a casting vote in case the Board of Directors' meeting has a tie vote
6. To promote a culture of openness and debate through ensuring constructive relations between executive and non-executive directors, and between the Board and management.
7. Perform the Chairman's duty as specified by law.

Management Team

The management team of the company consists of 5 members as follows;

Name	Position
1. Mr. Hsieh Shen-yen	President
2. Mr. Chang Tsai-hsing	Vice President of South East Asia and India Region
3. Mr. Yu Po-wen	Chief Financial Officer
4. Mr. Vichai Saksuriya	Operation Vice President
5. Mr. Chen Chin-ming	Chief Information Officer

Scope of Responsibilities of the President:

1. To manage, control and responsible for the operation of the company in accordance with the directions set out in the company's budget as approved by the Board of Directors and/or the executive committee of the company including taking care, advising and improving the operation continuously.
2. To propose policies, strategy of the company and of the business unit of the company to the Board of Directors for acknowledgement and approval and to be responsible for applying such strategy with its operation.
3. To be jointly responsible with the executive committee for preparation of the annual budget and the operational plan of the company, reviewing the annual budget quarterly and proposing the amended budget to the Board of Directors.
4. To report the operational result to the Board of Directors quarterly.
5. To have the authorization to approve the payment in accordance with the Approval Authorization Instruction of the company, which had already been copied to all directors for consideration. However, with respect to the matters other than the normal course of business, the president shall have the authorization to approve such payment only upon receipt of the Board's approval
6. Undertakes its duties and responsibilities to ensure that systems are established, supports are provided and supervision of good corporate governance and anti-corruption is carries out to ensure that all employees and concerned parties' practices are fully in compliance with policy. Also include reviews on suitability of the systems and measures to accommodate changes in business, regulations and Law requirements.



7. To be eligible in appointing and managing any working groups or any persons for benefit of the company and efficient management, transparency, or empowering to any person or assigning any person to do any specific tasks in such authorization complies must be within the scope of the power-of-attorney and/or regulations, notifications or orders as determined or approved by the Board of Directors and/or the company.

For this purpose, no authorization will be enable the president to approve the transaction which may cause a conflict of interest between himself/his assignee and any related person (as defined in the SEC Notification) as the one party and the company or its subsidiary as the other party, unless it is granted in accordance with the company's normal course of business as clearly identified.

8. To do any acts as assigned by the Board of Directors.

Company Secretary

The Board of Directors appointed Ms. Wilailak Funghanakun the Company Secretary. The main responsibilities are: to prepare meetings, inform and advise on relevant law and regulations, take care of the Board's activities, and coordinate to ensure that the Board's resolutions are put into practice. All are to facilitate efficiency of the Board's administration in order to comply with good corporate governance principle and other responsibilities as required by law. In the year 2019, the Company Secretary attended the work related training courses as follows:

- ASEAN CG Scorecard Coaching
- Road to Certify CAC No. 3/2019
- 2019 Advances for Corporate Secretaries

Remuneration of Director and Management

The Board of Directors has assigned the Nomination and Compensation Committee to determine and propose the remuneration of directors, sub-committee members, the President and Management and to ensure that the remuneration is transparent, in line with the strategic plan and long-term goals of the Company. The remuneration for the Board of Directors and sub-committee, requires approval from the shareholders' meeting. The following are some key guidelines:

1. Policy and Guidelines for Director and Sub-Committee Remuneration
 - 1.1 Remuneration package must be reasonable in order to attract and retain competent directors. Major factors to determine director remuneration include:
 - Scope of work and responsibilities
 - Current market rate
 - The Company's overall performance
 - Others factors specified by the Compensation Committee or the Board
 - 1.2 Chairman of the Board and chairman of Sub-committees would receive higher remuneration in accordance with their responsibilities
 - 1.3 Non-executive directors would receive a competitive remuneration which would be higher than that of executive director. This is to attract knowledgeable and capable persons to be non-executive director or independent director
 - 1.4 Remuneration may be entirely fixed or partially fixed with some variable amount such as meeting allowance or other incentives
2. Policy and Guidelines for Top Executive's Remuneration
 - 2.1 The nomination & compensation committee is assigned to determine that the compensation principle and structure for the President and the Executive level (11 and up) is in accordance with policies made by the Board of Directors and in line with the Company's operating result and individual performance.
 - 2.2 Remuneration packages must be reasonable in order to attract, retain and motivate executives to do their best at work.
 - 2.3 The nomination & compensation committee must define and propose Key Performance Indicators (KPI), to assess performance of the executives, to the Board for approval before the end of each fiscal year.



- 2.4 Compensation including annual salary increment, bonus and other compensation (if any) of the management is to be considered by the President based on each individual KPI achievement.
- 2.5 Consideration to adjust remuneration or annual salary will depend upon KPI achievement and other accomplishments. Determination of remuneration should take into account the current market rate. Company sponsored market survey or consultancy from human resource professionals may be used for the committee's consideration.

Remunerations of Directors and Management in 2019 are listed as follows;

1. Remuneration

1.1 Remuneration of Directors

The Annual General Meeting of Shareholders approved the remuneration of the directors for the year 2019 with details shown below;

(Unit: Baht)	Annual Remuneration	Attendance Fee
Chairman of the Board	1,650,000	10,000
Non-Executive Director	1,150,000	10,000
Executive Director	500,000	-
Independent Director/AC Chairman	1,250,000	10,000
Independent Director/NCC Chairman	1,250,000	10,000
Independent Director/Audit Committee	1,150,000	10,000

Remark : 1. Meeting attendance fee are for Chairman of the Board, Non - Executive Director and Independent Director for their participation in every committee meeting and Shareholders' meeting

2. Other remuneration : None

The remuneration of the directors for the year 2019 as follow;

Name of Director	Remuneration		Meeting fee		Other		Total Amount	
Unit : Baht	2019	2018	2019	2018	2019	2018	2019	2018
Mr. Ng Kong Meng	1,650,000	1,650,000	80,000	70,000	-	-	1,730,000	1,720,000
Mr. Cheng Ping*	-	-	-	-	-	-	-	-
Mr. Ko Tzu-shing*	-	-	-	-	-	-	-	-
Mr. Chang Tsai-hsing*	-	-	-	-	-	-	-	-
Mr. Anusorn Muttaraid	1,150,000	500,000	140,000	-	-	-	1,290,000	500,000
Mr. Chu Chih-yuan	1,150,000	1,150,000	160,000	150,000	-	-	1,310,000	1,300,000
Mr. Boonsak Chiempricha	1,250,000	1,250,000	120,000	110,000	-	-	1,370,000	1,360,000
Dr. Witoon Simachokedee	1,250,000	1,250,000	120,000	100,000	-	-	1,370,000	1,350,000
Mrs. Tipawan Chayutimand	1,150,000	1,150,000	120,000	80,000	-	-	1,270,000	1,230,000
Mr. Wang Ming-cheng**	287,500	1,150,000	50,000	80,000	-	-	337,500	1,230,000
Mr. Hsieh Shen-yen**	125,000	500,000	-	-	-	-	125,000	500,000
Mr. Hsieh Heng-hsien**	287,500	1,150,000	30,000	60,000	-	-	317,500	1,210,000
Total	8,300,000	9,750,000	820,000	650,000	-	-	9,120,000	10,400,000

Remarks : The company has no other remuneration such as bonuses, pension and other benefits

* Having been appointed by the 2019 EGM held on June 24, 2019

** Appointed until June 24, 2019

1.2 Remuneration of the Management

Remuneration of the 5 members of the management team including salary and bonus in 2019 amounted to 46,623,525 baht as compared to that of last year (2018) of 41,775,360 baht.



2. Other remuneration - None –

Share/warrant holdings of Directors

Name of Director	Holding DELTA (Shares)					
	Self			Spouse & Minor child		
	31 Jan 20	31 Jan 19	Inc (Dec)	31 Jan 20	31 Jan 19	Inc (Dec)
Mr. Ng Kong Meng	80,000	-	80,000	-	-	-
Mr. Cheng Ping	-	-	-	-	-	-
Mr. Ko Tzu-shing	-	-	-	-	-	-
Mr. Chang Tsai-hsing	-	-	-	-	-	-
Mr. Anusorn Muttaraid	-	-	-	-	-	-
Mr. Chu Chih-yuan	-	-	-	-	-	-
Mr. Boonsak Chiempricha	-	21,000	(21,000)	-	-	-
Dr. Witoon Simachokedee	-	-	-	-	-	-
Mrs. Tipawan Chayutimand	-	-	-	-	-	-
Mr. Yu Po-wen	-	-	-	-	-	-
Mr. Vichai Saksuriya	42,100	22,100	20,000	-	-	-
Mr. Chen Chin-ming	-	-	-	-	-	-

Human resource

In 2019, the company and its subsidiaries had a total number of employees of 15,250 and the total remuneration including salary, bonus and provident fund paid to employees was Baht 8,447 million. In Thailand, there were 11,297 employees with Baht 5,375 million paid for remuneration including salary, bonus and provident fund. Employees in Thailand are divided as follows.

<u>Bangpoo Plant, Samutprakarn</u>	<u>No. of Employees (31 Dec 19)</u>
• Plant 1	853
• Plant 3	826
• Plant 5	6,470
<u>Wellgrow Plant, Chachoengsao</u>	
• Plant 6	3,148
Total	<u>11,297</u>

Human resource development

The company committed and gave priority to develop its personnel in terms of both education and quality. There was cooperative program with various educational institutions to enhance employees' knowledge continuously.

❖ Educational Support Project

- Program to improve potential of employees, in particular on English, Chinese and Thai language to employees and foreigner executives by Huachiew Chalermprakiet University to enhance knowledge and skill on language communication for daily life to employees.
- Annual scholarships to employees and their children who have outstanding academic performance

❖ Human Resource Development

The company has policy to provide training courses for both new-comers exist employees with clear written scheme of each training course. These training courses aim to continuously develop employees' performance in the view of their efficiency as well as quality ie Six Sigma, Kaizen and Energy Management System. In 2019, the company's internal training courses hours can be projected as followings:

- Consolidated training hours 50,906 hours had scheduled for 2,298 staffs; average 22.15 hours/ person
- Consolidated training hours 110,266 hours had scheduled for 8,999 operators; average 12.25 hours/ person



Corporate Governance

The Board of Directors realizes the importance of operating company business under good corporate governance. The company corporate governance policy has been prepared and implemented since 2007 and review the content at least once a year. In 2019, Board of Directors Meeting No.6/2019 held on October 28, 2019 approved the amendment of the company's Code of Conduct in line with the latest Delta Group Code of Conduct and revised the anti-corruption policy to be in line with the amendment of Code of Conduct and Private Sector Collective Action Against Corruption. Both updated Code of Conduct and Anti-Corruption Policy has been reviewed by Corporate Governance Committee in details before submitted to the Board's approval. Further details of the company's Code of Conduct and Anti-Corruption Policy can be found on the company website and internally on the Delta intranet for guideline to the directors, management and employee.

Our commitment and strict compliance with good corporate governance has earned the company high evaluation grades and awards in 2019 as follows;

- Best Sustainability Excellence Award at the SET Sustainability Awards 2019.
- Silver Award in the S&P Global's Sustainability Yearbook 2020 in ITC industry
- FTSE4Good Emerging Index, rating by FTSE Russell for the 3rd consecutive year
- Thailand Sustainability Investment (THSI) 2019 from The Stock Exchange of Thailand for the 5th consecutive year.
- "Excellent" grade on the 2019 Corporate Governance Rating Survey (CGR) conducted by Thai Institute of Directors Association (IOD) for the 4th consecutive year.
- "Excellent" grade for the standard of its annual general meeting of shareholders (AGM Assessment) conducted in the year 2019 from the Thai Investors Association for the 5th consecutive year.
- ESG100 for 2019, rating by Thaipat Institute for the 5th consecutive year.
- 2019 CSR-DIW Continuous Awards from the Department of Industrial Works (DIW), Ministry of Industry for the 8th consecutive year.

The implementation of our good corporate governance policy during the year 2019 can be summarized as follows.

1. Rights of Shareholders

The company acknowledges and emphasizes our shareholders' rights with a policy to support, promote and facilitate every shareholder, including institutional investors. This policy is to ensure that shareholders are entitled to all basic legal rights and obtain adequate business information, including updated important information, via the SET and the company's website. In addition, all shareholders, including institutional shareholders, are encouraged to participate and vote in the shareholders meeting regarding matters that may affect their rights and interests. The company shall not obstruct or cause obstacles to communication opportunities among shareholders. When a shareholders agreement is to be executed by any shareholder, the company shall endeavor to ensure that such shareholders agreement will not materially affect the company or other shareholders.

The company generally holds an Annual General Meeting of Shareholders (AGM) once a year, within four months from the end of each fiscal year. In 2019, the AGM was held on April 2, 2019 and the Extraordinary General Meeting of Shareholders (EGM) was held on June 24, 2019, at the company head office located at Bangpoo Industrial Estate, Samutprakarn province. The meeting was conducted in accordance with Delta good governance principles.

In addition to the above mentioned fundamental rights, the company supports and facilitates the shareholders' rights as follows:

Prior to the Meeting

A Record Date was used to determine the shareholders who were entitled to attend the meeting. The company entrusted Thailand Securities Depository Co., Ltd. (TSD), who acted as registrar, to send out invitations for the meeting in both Thai and English together with other supporting information and documents to all shareholders on March 15, 2019, prior to the AGM date. At the same time, it announced the AGM meeting on a Thai daily newspaper for three consecutive days and at least three days before the meeting date. All meeting related documents were also made available to the shareholders on the company website for 30 days in advance (from March 1, 2019). All information was made available and easily accessible to provide shareholders adequate time to review the agenda. The meeting invitation clearly indicated the matters to be tabled at the meeting, for acknowledgment, approval or consideration. In addition, it enclosed the Board's opinions and supporting documents to ensure that shareholders had sufficient information to consider all issues. To be well prepared for the meeting day, the company provided a list of necessary documents that attendees were required to present to identify themselves and a proxy form (as outlined by the Ministry of Commerce) to facilitate shareholders who could not attend the meeting and thus wished to appoint as proxy an Independent director or another representative.

In addition, the company informed and invited institutional investors to join the meeting and facilitated them by arranging proxy and related document collection in the case of nonparticipation.

On the Meeting Date

The company provided shuttle services near The Stock Exchange of Thailand building for shareholders who wished to attend the Meeting. On the meeting day, attendance registration commenced not less than one hour before the meeting began. Shareholders who arrived late were allowed to vote for the remaining agenda and constituted part of the quorum, starting from the agenda item for which they were in attendance, unless stated otherwise. A barcode system was used to facilitate attendance registration and vote count. Duty stamps were made available to shareholders without charge.

In the meeting, all nine directors of the Board were in attendance. As in the previous year, the Chairman of the Board, Chairman of Audit Committees, the President and other key management members such as Chief Financial Officer (CFO) and the external auditor were present to listen to the shareholders' opinions or suggestions and also answer any questions. The company implemented its registration and vote count systems which could display results immediately. Before the meeting started, the company announced the number of shareholders who attended the meeting in person and by proxy and clarified the voting procedures and vote count method. With regard to the voting criteria, each share is eligible for one vote and an ordinary resolution requires the majority of votes (except when voting on a special resolution, the meeting must comply with the company's Articles of Association and/or relevant laws). Votes are not allowed for shareholders who have interests related to any particular agenda item. For the election of directors, individual votes are required. In order to expedite the voting process, only the ballots voting for objections and abstentions were collected and deducted from the total votes of shareholders who attended the meeting and were eligible to vote. With regards to the agenda on compensation to directors, the company notified shareholders the amount that each director received in the form of remuneration and meeting allowances.

There was no any objection or request for re-inspection from shareholders on such arrangements. The meeting proceeded according to the agenda with no additional item without prior notification to shareholders. The preliminary voting results were reported openly at the meeting. A representative from, the Hunton Andrews Kurth, was appointed to help inspect the vote count. During the meeting, shareholders were allowed to voice their opinions and raise questions during appropriate times. In fact, shareholders were permitted to submit their questions by e-mail to info@deltathailand.com, mail or fax before the meeting date. The company disseminated an invitation to shareholders to send their questions or opinions on the company website from 16 November–31 December 2018. Generally, the company secretary will review and gather the questions before submission to the Board of Directors for their consideration. However, in the meeting,



the Board principally attends to the questions that relate to the company's operations or are considered to cause material impact on the operating results. There were no questions proposed in the 2019 Annual General Meeting of Shareholders.

After the Meeting Date

Meeting minutes recorded every resolution and showed the number of approval, objection abstention and voided ballot votes for each agenda point. Questions, responses and opinions which arose during the meeting were documented for future examination. A report of the meeting was disclosed on the SET and the company's website within 14 days after the meeting date (Please find further details in the 2019 Minutes of Annual General Meeting of Shareholders posted on the company website)

2. Equitable Treatment of Shareholders

With consideration for all shareholders to equally enjoy basic rights, the company encourages the equitable treatment of shareholders as follows:

Appoint a proxy to attend and vote at the meeting

If the shareholder is unable to attend the meeting, the shareholder may give a proxy to a person or to the company's nominated independent directors to attend the meeting and vote on his/her behalf. This is done by completing and sending to the company a proxy form enclosed with the invitation for the meeting or by downloading the proxy form from the company website.

Proposing additional agenda and nominating directors

In addition, the company opened the floor for shareholders to propose additional agenda items and to nominate candidates to be directors of the company in advance. Procedures and details were disclosed on the company website www.deltathailand.com/en/shareholder-meeting during 16 November - 31 December 2018. Generally, the company secretary will review and gather the additional agenda items and director nominations before submission to the Board of Directors for consideration. In 2019, no shareholders exercised their right to propose agenda items or nominate directors. The company provided the opportunity to shareholders to submit proposals for the upcoming 2020 Annual General Meeting of Shareholders during the period of 20 November-31 December 2019.

3. Role of Stakeholders

Delta has contributed extensively to the rights of all stakeholder groups such as shareholders, customers, employees, business partners, competitors, creditors and society in accordance with laws or agreements with the company. The company has opened various channels to accept suggestions or complaints from all stakeholders. The company also has policy and guidelines on how to treat each specific stakeholder group as follows;

Shareholders:

The company aims to bring long-term sustainable growth to its business, thereby enhancing the company's value and ultimately providing favorable returns to its shareholders and consistent paid dividends at a satisfactory rate. In fact, from 2010 to 2019, dividend payout ratio averaged over 50% of net profits per annum.

Customers:

The company is committed to its mission of providing products, services and solutions under short to long-term contracts that fulfill customer's requirements. In addition, the company has a policy to produce quality products in accordance with international standards, fairly, considering impact on health and safety. In order to gain customer's confidence and satisfaction.

The company has established a Customer Satisfaction Survey and the Customer Feedback Process. The results are improved development and satisfaction for our customers in the long term, including keeping customer confidential information.

Employees:

The company treats employees fairly, respect of human rights, competitive compensation, take care of health & safety at work, equal career opportunities are provided on the basis of aptitude and capability. Domestic and international trainings are organized regularly to enhance their skills. The relevant policies have been determined as follows.

- Working Safety, Health, Hygiene & Environment Policy
- Remuneration and Welfare Policy
- Labor Relations Policy
- Human Resources Management Policy
- Misconduct, Harassment and Unfair Treatment Policy
- Antitrust Law and Competition Law Policy
- Human Rights Policy
- Employment Policy

(for details of the above policies, please see www.deltathailand.com/en/corporate_governance_policy.php, www.deltathailand.com/en/about_human.php and www.deltathailand.com/en/related-documents)

Business Partners:

The company will respect the rights of its business partners and treat them equally and fairly while performing its duties of fair procurement according to agreement or agreed conditions. To provide business partners training, developing potential, enhancing production and service standards in line with applicable law and standards, and supervising business partners to respect human rights, social and environmental responsibilities including treat their employees, staff, and workers fairly. Finally, monitoring and evaluation partners to develop a sustainable business with related guidelines as follows;

- Supplier Social Responsibility Management Measure
- Supplier's RBA Code of Conduct Agreement
- Responsible Minerals Initiatives (RMI) Agreement

(for details of the above policies, please see the company's website: www.deltathailand.com/en/related-documents)

The company has held the 2019 Delta Annual Partner Meeting to recognize our vendors for improving quality and maintaining their standard of services and products. The company has a policy to arrange this partner meeting every year.



Annual Partner Meeting 2019 at the company head office in Bangpoo Industrial Estate, December 13, 2019

Competitors:

The company has a policy of promoting free competition under fair rules which are also respected on a professional basis under the rules of sound competition defined in the company's Code of Conduct and Antitrust Law and Competition Law Policy.

Creditors:

The company will strictly comply with agreements and agreed on conditions. In the case of non-compliance with any conditions, it shall inform creditors promptly in order to jointly solve problems in a reasonable manner. The company will conduct business with efficiency and effectiveness to maintain sustainable growth and financial stability and ensure creditor confidence. During the past year, the company and its subsidiaries have had a good relationship with financial institutions in full compliance with borrowing obligations, both in terms of debt repayment and other agreed conditions.



Society and Environment:

The company is committed to conducting business according to our Corporate Social Responsibility Policy cover to governance, regulator and environment. The policy shall provide guidelines for the directors, management and employees to operate business ethically with transparency, compliance with regulations, accountability and respect for human rights and the fair treatment to all stakeholders. The company shall support activities and promote employee participation. This includes building a good relationships with the surrounding communities to promote sustainable quality social and environment.

As a global corporate citizen, we support international standards such as the Responsible Business Alliance (RBA), the Universal Declaration of Human Rights (UDHR), the International Labor Office Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy and Global Reporting Initiative (GRI). Please find further information regarding activities with stakeholders in the Sustainability Development Report section

Anti-Corruption and Bribery Policy

The company has established a policy to prevent the company's directors, management and employees from acting or consenting, directly or indirectly, in any form of corruption. This Anti-Corruption Policy has been adopted to benefit stakeholders and the company's business operations by setting a clear business operation direction consistent with the company Corporate Governance, Code of Conduct, rules, regulations and related laws. The company is henceforth committed to integrity and fairness for sustainable development.

The Board of Directors has approved the adoption of an Anti-Corruption Policy in order to establish principles, set practice guidelines, arrange communication and provide training in the area of anti-corruption and signed on declaration of intent in establishing Thailand's Private Sector Collective Action against Corruption (CAC) on 16 July 2018 and submitted Self-Evaluation Tool for Countering Bribery to the CAC Board on 12 December 2019 for certification.

This year the company also launched the Anti-Corruption commitment program to ensure that employees are aware of their duties and responsibilities and perform their jobs with honesty and integrity. All employees were required to sign the Anti-Corruption Commitment on-line.

The company initiated an agreement between the purchasing department and suppliers named The Procurement and Supplier Covenants in 2001 and later changed to Integrity Undertaking to build a healthy procurement system and avoid the negative influence of human factors on normal business. The agreement is an acknowledgment by both parties to do business with integrity and without bribery or any unwarranted returns. During the Delta Annual Partner Meeting 2019, the company covered the topic of anti-corruption to educate suppliers about our anti-corruption policies and stance against corruption. As well as inviting business partners to participate in symbolic expression in combating corruption together.



This year the company seeks cooperation from suppliers not to send any gift/gratuity to company management, employees or their family member during New Year and other festival occasions.

Company open channels for all stakeholders' suggestions and complaints via whistleblow@deltathailand.com. More details on policy and practice guidelines can be found on the company website www.deltathailand.com/en/about_anti-corruption



Intellectual Property and Copy Rights Policy

The company realizes the importance of intellectual property and copyrights. Therefore, the company prohibits all employee from obtaining trade secrets or confidential information of other parties through espionage, theft, coercion, enticement or other illicit means; or in any way stealing or plagiarizing papers, works, research reports, patents, proprietary technology, design drawings or other technological findings that result in the infringement of intellectual property rights.

Whistle Blowing and Complaints

The company has a policy to support and encourage employees and stakeholders to make complaints about misconduct. With the policy, complainants can provide information concerning wrongful acts including any unlawful activity or any behavior against the company rules and/or Code of Conduct to the management or Board of Directors. This is to ensure the company's transparent and efficient operations. The company has established the following communication channels to allow all employees and stakeholders to provide feedback or file complaints concerning this issue.

- Communication channel for Delta employees
 - (1) Head of the unit where the employee belongs to
 - (2) Email: HR.GRIEVANCE.SEA@deltaww.com
 - (3) Suggestion box
- Communication channel for other stakeholders
 - (1) Opinion Box (PO Box 50, Bangpoo, Samutprakarn 10280);
 - (2) Email: whistleblow@deltathailand.com

Depending on the relevance of the complaints, the Board's Secretary will gather and submit the complaints to the Executive Committee, the Audit Committee or the Board. The details of the complaint will be kept confidential in order to avoid an infringement of privacy.

At the Board of Directors Meeting No. 1/2020, the company secretary informed the meeting that in the year 2019, the company did not receive any complaints for code of conduct, anti-corruption, anti-trust and fair competition.

4. Disclosure and Transparency

The company has a policy to disclose data and information accurately, adequately and in a timely manner to allow stakeholders the opportunity to know about our operating performance, financial position, key developments and important information such as financial statements, annual report and disclosure Form 56-1, in both Thai and English language. Such information is available on the websites of relevant authorities such as the Stock Exchange of Thailand (SET) and the Securities Exchange Commission (SEC) as well as on the company's website www.deltathailand.com. Interested persons may telephone or email the company to request for more information at info@deltathailand.com. The company also has an investor relations unit to provide information to shareholders, investors, securities analysts and other parties, which can be reached at ir@deltathailand.com.

The company has organized a quarterly press conference to announce and explain each quarter's consolidated financial data, business performance and future plans to securities analysts, reporters and general investors. The meeting is also a chance for stakeholders to meet with our top management and build confidence in the company. Analyst meetings are arranged every quarter. In addition, private meetings upon investor's requests are also arranged by our Investor Relations unit to establish a better understanding of the company's operation and its business strategies. The company arranged factory visits for both local and overseas institutional investors to promote understanding of the processes in our company.



The IR manager represents our management in regional conferences several times a year to provide updated information on the company's operation and business outlook. In 2019, the company organized various activities as followed;

Meeting with Foreign Investors	30 Times	Meeting with Local Investors	2 Times
Meeting with Analyst	20 Times	International Roadshow	3 Times
Opportunity Day organized by SET	4 Times	Conference Call	4 Times

Prevention of Conflict of Interest

In general practice, decision making by the directors and executives must ultimately be done in a way that benefits the company. In the case of a conflict of interest, the directors or executives shall submit the issue to the Board or the shareholders' meeting to consider the necessity of executing such a transaction and the potential impact on the company if the matter approved. At the time of voting on the issue, a person with a conflict of interest not allowed to vote. In accordance with the recent Securities and Exchange Act, the directors and executives of the company have filed both their personal and their related persons' report on personal interests regarding the company, with an extra copy for the Chairman and Audit Committee Chairperson of the company, through the company's secretary. Such reports are required to be updated annually and submitted to the company.

In addition, the company also deals with related party transactions as regulated by the Capital Market Supervisory Board and also disclosed inter-transactions with its affiliates in the company's financial statements and in the annual information disclosure form (Form 56-1).

Major Connected Transactions

On August 1st, 2018, the company received Letter of Intention from Delta Electronics International (Singapore) Pte. Ltd. ("DEISG") stating that they would like to make a Conditional Voluntary Tender Offer ("CVTO") to acquire all of the ordinary shares of the company in the aggregated number of 1,247,381,614 shares or the percentage of 100 of the total number of paid-up ordinary shares of the company or equivalent to 100 percent of its total voting rights, at the offering price of Baht 71 (seventy one) for each ordinary shares.

DEISG does not hold any number of shares of the company but its Related Persons under Section 258 of the Securities and Exchange Act B.E. 2535 (as amended) ("Related Parties under Section 258") hold the number of 261,112,590 shares or the percentage of 20.93 of the total number of paid-up ordinary shares of the company; therefore, DEISG and its Related Parties under Section 258 hold the total number of not exceeding 261,112,590 shares or totaling 20.93 percent of paid-up ordinary shares of the company.

The company received the Conditional Voluntary Tender Offer Form (Form 247-4) from DEISG, with a tender period from 26 February 2019 to 1 April 2019, totaling 25 working day at the bid price of 71.00 baht per share. After closed acquisition, the number of securities held by DEISG included persons in the same group, any related parties under Section 258, and the persons in the same group are as below;

Name	Number of shares	Percentage in comparison with the total number of outstanding shares of the business	Percentage in comparison with the total voting rights of the business
Delta Electronics International (Singapore) Pte., Ltd. (DEISG)	534,479,306	42.85	42.85
- Delta Electronics Inc.	69,128,140	5.54	5.54
- Delta International Holding Ltd	191,984,450	15.39	15.39
Total	795,591,896	63.78	63.78



5. Responsibilities of the Board

Structure of the Board

Board of Directors

The Board of Directors comprises of nine directors; three of whom is executive directors. The remaining Six are non-executive directors, including four independent directors, and comprise over one-third of the Board. Qualifications of independent directors have been set to meet the SEC criteria. The Board of Directors will review the structure, proportion of independent directors as well as Board diversity and director qualifications to align with the company business operations that proposed by the Nomination and Compensation Committee on a yearly basis.

Currently, the Chairman of the Board and the President positions are held by two individuals with clearly separated responsibilities. The roles and responsibilities of the Board and management are also clearly defined so as to ensure management transparency. (Please find the Board member's details and scope of duties in the Managerial Structure section).

Sub-Committee

The Board of Directors appointed sub-committees to help study, scrutinize, and to give opinions on various matters. At present, there are six sub-committees under the Board of Directors totally four committees including Executive Committee, Audit Committee, Nomination and Compensation Committee and Corporate Governance Committee, under the President two committees including Risk Management Committee and Sustainable Development Committee with details as described below.

- **Executive Committee**

The Executive Committee of the company consists of **six** members as follows;

Name	Position
1. Mr. Hsieh Shen-yen	Executive Committee Chairman
2. Mr. Chang Tsai-hsing	Executive Committee Member
3. Mr. Yu Po-wen	Executive Committee Member
4. Mr. Vichai Saksuriya	Executive Committee Member
5. Mr. Sim Kuik Keong	Executive Committee Member
6. Mr. Chung Chia-long	Executive Committee Member

Scope of Responsibilities of Executive Committee

1. To operate and manage the business of the company in compliance with the company's objectives, Memorandum of Association, policies, regulations, notifications, orders as well as the resolution of the Board of Directors and/or shareholders' meeting.
2. To establish policies, business plan, directions, strategies, budget and the main organization structure and authority of each department within the company including the organization chart in order to propose to the Board of Directors for its consideration and approval as well as to monitor and follow up the results of company operations to be in accordance with policies.
3. To be eligible to do the following bank transactions and to report these transactions to the Board of Directors at the next board meeting following execution.
 - (a) Open or close bank accounts.
 - (b) Enter into any contract which is part of the company's normal course of business and/or any other transactions with banks or other financial institution for a total combined amount not exceeding USD 50 million or the equivalent in any other currencies per bank. In cases where there is a need to use any company assets as collateral to support banking facilities, approval by the Board of Directors must be obtained.
 - (c) Issue corporate guarantee to support banking facilities granted to subsidiaries for a total amount not exceeding USD 50 million or the equivalent in any other currencies per company.
 - (d) Renew banking facilities without any limit.



4. To be eligible to approve investment in subsidiary companies for amounts not exceeding USD 5 million or the equivalent in any other currencies per company, per project. Approvable aggregate investment amount, after combining all investments, will not exceed USD 20 million or equivalent in any other currencies within a calendar year. Such investment transactions are required to be reported to the Board of Directors at the next board meeting.
5. To be eligible to appoint, promote, transfer or discharge directors and/or executives of subsidiary companies.
6. To authorize any one or more persons to perform any action under the supervision of the Executive Committee, or grant the power-of-attorney to such person(s) to perform any action within the specified time as the Executive Committee may see fit. However, the Executive Committee has sole discretion to revoke or modify such designated person or power-of-attorney as they may see fit.

For this purpose, no authorization will enable a member of the Executive Committee under the power-of-attorney and/or their sub power-of-attorney to approve a transaction which may cause a conflict of interest between such power-of-attorney or any related person (as defined in the SEC Notification) as the one party and the company or its subsidiary as the other party. An exception would be if it is granted in accordance with the company's normal course of business as clearly defined.

7. To perform any other duties assigned by the Board of Directors.

• Audit Committee

The Audit Committee of the company consists of three members and all members are independent directors. Term of office shall follow the annual director election and qualifications and responsibilities of the Committee are prescribed by the SET. The list of Audit Committee members is shown below.

Name	Position
1. Mr. Boonsak Chiempricha	Audit Committee Chairman
2. Mr. Chu Chih-yuan	Audit Committee member
3. Mrs. Tipawan Chayutimand	Audit Committee member

Remark: All Audit Committee member are director who knowledgeable and experienced in reviewing the company's financial statements

Qualifications of the Audit Committee:

1. All members must be independent directors.
2. Not a director who is authorized by the Board of Directors to make decisions relating to the operations of the company, its parent company, its subsidiary, its associated company, its parallel subsidiary company or a person with a potential conflict of interest.
3. Not a director of a parent company, subsidiary or parallel subsidiary company which is a listed company.
4. Have duties and responsibilities according to the SET's rules.
5. Have sufficient knowledge and experience to perform his/her duties as a member of the Audit Committee.
At least one member of the Audit Committee must have sufficient knowledge and experience to review the reliability of the financial statements.
6. Be appointed by the Board or shareholders meeting.

Scope of Responsibilities of Audit Committee:

1. To review the company's financial reporting to ensure that it is accurate and disclosure is adequate;
2. To review that the company employs appropriate and an efficient internal control system and internal audit. To determine the independence of the internal audit unit as well as to approve the appointment, transfer and dismissal of the chief of the internal audit unit or any other unit in charge of the internal audit;

3. To review that the company complies to the law on securities and exchange, the regulations of the SET and other laws related to the company business;
4. To consider the capability and independence of an external auditor and propose an external auditor to be appointed as the company's auditor with an included audit fee. To attend a non-management meeting with the auditor at least once a year;
5. To review any related transactions or transactions that may lead to conflicts of interests to ensure that they comply with the SEC laws and regulations, are reasonable and yield the highest benefit for the company;
6. To report the governance activities of the Audit Committee in the company annual report, which must be signed by the chairman of the Audit Committee. The report must consist of at least the following information:
 - (a) An opinion on the accuracy, completeness and reliability of the company financial reports.
 - (b) An opinion on the adequacy of the company's internal control system.
 - (c) An opinion on the company's compliance with related laws i.e. the Securities and Exchange Act, the SET regulations, or laws relating to company business.
 - (d) An opinion on the suitability of the external auditor.
 - (e) An opinion on the related transactions or transactions that may lead to conflicts of interest.
 - (f) The number of Audit Committee meetings and attendance of such meetings by each committee member.
 - (g) An overall opinion or comment regarding the Audit Committee's performance of duties as specified in the audit committee charter.
 - (h) Other transactions that the Audit Committee believes should be known to shareholders and general investors, under the scope of duties and responsibilities assigned by the company Board of Directors.
7. To do any other agreed upon matters assigned by the Board of Directors.

• Nomination and Compensation Committee

The Nomination and Compensation Committee (NCC) consists of three members, two independent directors and one non-executive director. Term of office shall follow the annual director election. The member list of the Compensation Committee is shown below.

Name	Position
1. Dr. Witoon Simachokedee	Nomination and Compensation Committee Chairman (independent director)
2. Mr. Anusorn Muttaraid	Nomination and Compensation Committee Member
3. Mr. Chu Chih-yuan	Nomination and Compensation Committee Member (independent director)

Scope of Responsibilities of Nomination and Compensation Committee:

1. Appraise the performances of the President and Executives in Level 11 and up annually.
2. Determine the remuneration and package structure of the company directors and sub-committee members with fair and reasonable principles and submit it to the Board of Directors and shareholders for approval. This would include monthly remuneration, meeting allowance, annual bonus and other financial and non-financial benefits.
3. Determine the remuneration policy and package structure of the company's president and Executives in Level 11 and up with fair and reasonable principles and submit it to the Board of Directors for approval. This includes short- term and long-term remuneration such as salary, annual bonus and other financial or non-financial benefits.
4. Review the remuneration policy of directors, committee President and Executives in Level 11 and up based on personal performance, the company's performance and best practice in the market and/or among listed companies in Thailand's stock exchange.



The Committee shall have the following duties and responsibilities regarding nomination:

5. Define the qualifications of that the Board members, Sub-committee and Top management must have and aid in identifying and attracting qualified candidates for the Board of Directors' consideration.
6. Assess the structure, size and composition of the Board of Directors/Sub-committee and recommend any improvements to the Board of Directors.
7. Conduct an annual evaluation of the performance and achievements of the Board of Directors, Sub-committee and individual members and report the evaluation to the Board of Directors.
8. Assist in the establishment of a succession plan and/or talent management pool development in order to fulfill the requirements for medium to top key management positions.
9. Perform any other duties assigned by the Board. The Nomination and Compensation Committee may seek advice or opinion from relevant independent professionals as necessary and appropriate to perform the assigned job. The Committee may also need to attend company sponsored training or seminar to enhance knowledge and capability in performing their job.

• Corporate Governance Committee

The Corporate Governance Committee consists of three members. Term of office shall follow the annual director election. The member list of the Compensation Committee is shown below.

Name	Position
1. Mr. Hsieh Shen-yen	Corporate Governance Committee Chairman
2. Mr. Chang Tsai-hsing	Corporate Governance Committee Member (executive director)
3. Mr. Anusorn Muttaraid	Corporate Governance Committee Member

Scope of Responsibilities of the Corporate Governance Committee:

1. To consider and review whether the company's Corporate Governance policy, Code of Conduct and Anti-corruption policy are appropriate and adequate and to regularly update.
2. To promote and supervise Corporate Governance policy, Code of Conduct and Anti-corruption policy to all executives and employees for clear understanding and actual implementation.
3. Promotes and provides advice for the company on participating in the Corporate Governance related assessment or rating to continuously develop and enhance the company's Corporate Governance standard.
4. Reviews the Corporate Governance Committee Charter regularly.
5. Responsible for other tasks assigned by the Board of Directors.

• Risk Management Committee

The Risk Management Committee consists of 10 members as follows;

Name	Position
1. Mr. Hsieh Shen-yen	Risk Management Committee Chairman
2. Mr. Anusorn Muttaraid	Risk Management Committee Member
3. Mr. Vichai Saksuriya	Risk Management Committee Member
4. Mr. Sim Kuik Keong	Risk Management Committee Member
5. Mr. Yu Po-wen	Risk Management Committee Member
6. Mr. Fann Chao-ching	Risk Management Committee Member
7. Mr. Chen Chin-ming	Risk Management Committee Member
8. Mr. Basile Margaritis	Risk Management Committee Member
9. Mr. See Kai Mun	Risk Management Committee Member
10. Mr. Tam Chung-l	Risk Management Committee Member



Scope of Responsibilities of the Risk Management Committee:

1. Establish risk management procedures.
2. Implement risk management and delegate risk management to respective managers.
3. Develop and review strategic risk management plans.
4. Report to the Board or the Audit Committee quarterly, annually and/or any time that is necessary as assigned by the Board.
5. Monitor and continuously improve risk management.
6. The committee may seek advice from relevant professional consultants in certain cases.

• Sustainable Development Committee

The Sustainable Development Committee consists of five members as follows

Name	Position
1. Mr. Hsieh Shen-yen	Sustainable Development Committee Chairman
2. Mr. Anusorn Muttaraid	Sustainable Development Committee Member
3. Mr. Yu Po-wen	Sustainable Development Committee Member
4. Mr. Vichai Saksuriya	Sustainable Development Committee Member
5. Mr. Chen Chin-ming	Sustainable Development Committee Member

Scope of Responsibilities of the Sustainable Development Committee:

1. The Committee shall annually review the Sustainable Development Policy and associated frameworks, processes and practices of the company and make appropriate recommendations to the Board.
2. The Committee shall ensure that the company is taking the appropriate measures to undertake and implement Sustainable Development projects successfully and shall monitor the Sustainable Development Policy from time to time.
3. The Committee will coordinate with the company for implementing programs and executing initiatives as per Sustainable Development policy and shall review the performance of each Sustainable Development project at least once per quarter.
4. The Committee shall provide counsel and support appropriate resources and persons to promote the sustainable development strategy to the entire organization in the same direction.
5. The Committee may form and delegate authority to subcommittees or working groups when appropriate.
6. The Committee shall review and reassess the adequacy of its responsibilities annually and recommend any proposed changes to the Board for approval.

Selection of Directors and Independent Directors

The Board of Directors assigned the Nomination and Compensation Committee to search, select and nominate qualified candidates to be a director or member of any committee. The committee selections are considered on the basis of whether that person is knowledgeable and experienced in areas such as accounting, finance, management, strategy and possess individual skill and expertise in line with the company's business and strategies without restrictions on gender, race or nationality. This is in order to have board diversity and a solid company structure to achieve business objectives under management according to the principles of good corporate governance standards. Currently, the company has provided the opportunity to the shareholder to nominate candidates to be company directors with basic qualifications set forth on the company website. The Board will consider and approve the selected candidate by majority votes of the board meeting. After selection, the Board shall nominate such candidate to the shareholders' meeting for approval.



- **Qualifications of a Director**

1. A director shall have qualifications and shall not have characteristics prohibited in the law on public limited companies, or characteristics indicating a lack of appropriateness in respect to trust in managing a business with public shares as specified in the notification of SEC.
2. Professional ethics and excellent career profile.
3. Knowledge or experience in business administration, especially in electronics; telecommunications, finance and accounting or any other areas, as the board deems appropriate.
4. Able to participate in all Board meetings and shareholders' meetings (except in the case of an emergency).
5. Other qualifications that the Board may later consider appropriate or are required by law.

- **Qualifications of Independent Director**

Qualifications of an independent director (ID) have been defined based on the requirements of the Office of Securities and Exchange Commission as follows:

1. Not holding shares exceeding 1% of the total voting right shares of the company, its parent company, its subsidiary, its associated company. A person with a potential conflict of interest with any shares held by Related Persons taken into account.
2. Not being nor having been an executive director, employee, officer, monthly paid advisor or controlling person of the company, its parent company, its subsidiary, its associated company, its parallel subsidiary company. A person with a potential conflict of interest with the company. An exception would be if he/she has no such status for at least two years before becoming an independent director.
3. Not a person related by blood or by registration under the law as father, mother, spouse, sibling or child. This includes the spouse of a child of an executive, major shareholder, controlling person, or person who will be nominated to be an executive or controlling person of the company or its subsidiary.
4. Not having nor having had any business relationship with the company, its parent company, its subsidiary, its associated company. A person with a potential conflict of interest that may interfere with his/her use of independent discretion. This includes not being nor having been a major shareholder, a director who is not an independent director, or an executive of a person who has a business relationship with the company, its parent company, its subsidiary, its associated company. A person with a potential conflict of interest. An exception would be if he/she has no such status for at least two years before becoming an independent director. Details of business relations are summarized as follows:

- 4.1 Professional advisor

- 4.1.1 An auditor for any related case.

- 4.1.2 Advisor (such as legal advisor, financial advisor, appraiser) for transactions with a value of over 2 million Baht per year.

- 4.2 Other business relationship

- 4.2.1 Scope of business covers normal business transactions, rental or lease of immovable property transactions, asset or service transactions, and financial assistance transactions.

- 4.2.2 Having business relationships with either the transaction value of 20 million Baht or more, or 3% or more of its net tangible assets, whichever is lower (including transactions with the same person within 6 months).

- 4.2.3 The Board of Directors may exempt any transaction by an independent director with a unanimous resolution which exceeds the above value if the case is deemed to be necessary, appropriate and irregular. In such a case, the business transaction is required to be disclosed in the registration statement (Form 56-1) and the annual report. If the independent director will be re-appointed for another term, such relationship or transaction must also be disclosed in the notice of meetings.

5. Not a director who is not appointed as a representative to safeguard the interests of the company's directors, majority shareholders or shareholders who are related to the company's major shareholders.



6. Having any other characteristics which make it impossible to express an independent opinion with regards to the company's operations.
7. An independent director who satisfies the qualifications specified in 1 to 6 above may be empowered by the Board to make decisions in normal business operations, provided that the decision process is collective.

Directorship

- **Appointment of Directors**

After the Nomination and Compensation Committee considers and selects a qualified director, they will propose the candidate to the Board of Directors. After that, the Board of Directors will nominate the candidate to the shareholders' meeting for approval based on the Article of Association of the company. An appointment of a director is made through a majority of the votes of the shareholders attending the meeting and casting their votes. One share shall count for one vote and each shareholder shall exercise all the votes he has to appoint the nominated person or nominated persons to be a director on a person-by-person basis or en-bloc basis. Shareholders cannot divide votes for any person. The person obtaining the most votes in descending order shall be elected as directors equal to the number of directors required. In the event that persons receiving votes in respective order receive equal votes and the number of position exceed the positions required, the Chairman of the meeting shall have a casting vote.

- **Dismissal of Directors**

The meeting of shareholders may pass a resolution to remove any director, prior to retirement by rotation, by a vote of not less than three-fourths (3/4) of the number of shareholders attending the meeting with voting rights and who hold shares in aggregation of over half of total shares held by attending shareholders with voting rights.

- **Director's Term of Office**

At the annual general meeting of shareholders, one-third of the directors or close to one-third must vacate their office. A director who vacates their office by rotation is eligible for re-election. The meeting of shareholders may pass a resolution to remove any director prior to retirement by rotation with a vote by no less than three-fourths (3/4) of the number of shareholders attending the meeting who have the right to vote and hold shares in aggregate of no less than half of the total voting shares held by attending shareholders. Shareholders may limit the number of terms which an individual may serve as an independent director to a maximum of three consecutive terms.

- **The Board of Directors' Authorization**

The Board of Directors is empowered to authorize various matters in accordance with the scope of authority stipulated by law, the company's Articles of Association and the shareholders' meeting resolutions. Such matters include defining and reviewing corporate vision, operating strategies, operating plans, risk management policy, annual budget and business plans, and medium-term business plan. Added to this, is the defining of target operating results, following up and assessing operating results and overseeing capital expenditure, merger and acquisition, corporate spin-off and joint venture deals.

- **The Orientation for New Director**

The company set up an orientation for new directors which includes a briefing on the company business, on top of its operations, and plant visits conducted by Management. Subsequently, the summary of the Board of Directors' roles and responsibilities, the listed company director's handbook and the company's information will be presented in detail by the Corporate Secretary.

- **Directorship in other Companies**

To ensure the director's efficient performance and compliance with Corporate Governance Principles, the Board of Directors requires that



1. Apart from the company, each director may retain the office of director in a maximum of three other listed companies.
2. The President is not permitted to be the director of other listed companies except the director of subsidiaries. Moreover, before participating as a board director of any other company the President must first seek approval from the Board of Directors.

The company's executive directors and top management are encouraged to be the directors of subsidiaries to ensure the group's work efficiency and policy consistency.

The Board's Meeting

The company schedules the Board meeting at least four times a year or on a quarterly basis with minimum of attendance for all members of the Board of Director at least 90%. An extraordinary meeting may be arranged when there is an issue to consider. Regular meeting dates will be set in advance for the entire year at least seven days prior to the meeting date (not less than five days). The company will send out invitation letters with the agenda to all directors. In case of emergency, the invitation letters may be sent less than seven days prior to the meeting. Each director is free to propose items for the agenda. The company secretary has the duty to arrange the meeting, take care and give suggestions to ensure that the meeting is in compliance with all relevant laws and regulations. Minutes of the meeting will be put in writing and those endorsed by the Board will be kept as evidence at the company's office.

Meeting Attendance of directors in 2019 was as follows;

Unit: Times

Name	Board of Directors	Audit Committee	Nomination Compensation Committee	Corporate Governance Committee	Executive Committee	AGM/ EGM
No. of total meetings held	6	4	4	2	4	2
Mr. Ng Kong Meng	6/6	n/a	n/a	n/a	n/a	2/2
Mr. Cheng Ping	3/3	n/a	n/a	n/a	n/a	1/1
Mr. Ko Tzu-shing	3/3	n/a	n/a	n/a	n/a	1/1
Mr. Chang Tsai-hsing	3/3	n/a	n/a	2/2	2/2	1/1
Mr. Anusorn Muttaraid	6/6	n/a	4/4	2/2	2/2	2/2
Mr. Boonsak Chiempricha	6/6	4/4	n/a	n/a	n/a	2/2
Mr. Chu Chih-yuan	6/6	4/4	4/4	n/a	n/a	2/2
Dr. Witoon Simachokedee	6/6	n/a	4/4	n/a	n/a	2/2
Mrs. Tipawan Chayutimand	6/6	4/4	n/a	n/a	n/a	2/2

The Quorum for Voting

The Board of Directors considered additional policy concerning the quorum for voting at the Board of Director's meeting by requiring the quorum be not less than two-thirds of the total number of directors. However, the meeting quorum is still required to comply with the company's Articles of Association that state that at the meeting of the Board of Directors there shall be not less than one half of the total number of directors attending in order to constitute a quorum.

The Meeting without Attendance of Management

The independent directors may hold a meeting without the attendance of management as it sees appropriate. Normally, meetings of the Audit Committee is held without executive participation. The company's auditor generally attends the Audit Committee meeting on a quarterly basis when reviewing financial statements. In some circumstances, the Audit Committee may request an executive to clarify an issue as it sees fit.



Assessment of the Board of Director and Sub-Committee

The Board generally arranges five assessment forms once a year, namely; Assessment of the Board, Assessment of Individual Directors (self-assessment), Executive Committee's self-assessment, Audit Committee's self-assessment, Nomination and Compensation Committee's self-assessment and Corporate Governance Committee's self-assessment. Upon completion of the mentioned assessments, the Evaluation Forms will be submitted to the Company Secretary team for tabulation and the results will be presented to the Nomination and Remuneration Committee together with agreed action plans to address the gaps, if any, for deliberation and onward submission to the Board.

The assessments forms stipulate the percentages that correspond to the level of performance achieved in each of area as detailed below.

Over 85%	=	Excellent
Over 75%	=	Very good
Over 65%	=	Good
Over 50%	=	Fair
Below 50%	=	Need improvement

Board of Director Self-Assessment

- Overall Board Self-Assessment consists of 6 items as below;
 - 1) Board structure and qualifications
 - 2) Roles, duties and responsibilities of the board
 - 3) Board meetings
 - 4) Duties of directors
 - 5) Relationship with management
 - 6) Director's self-improvement and management training

The results indicated excellent/ most suitable overall performance, with an average score of 98.2%.

- Individual Board Self-Assessment consists of 3 items as below;
 - 1) Board structure and qualifications
 - 2) Board meetings
 - 3) Roles, duties and responsibilities of the board

The results indicated excellent/ most suitable overall performance, with an average score of 98.2%.

Sub-Committee Self-Assessment

- Executive Committee consists of 2 items as below;
 - 1) Committee structure and qualifications
 - 2) The committee meeting

The results indicated excellent/ most suitable overall performance, with an average score of 93.3%.

- Audit Committee Assessment consists of 5 items as below;
 - 1) Understanding
 - 2) Work Performance
 - 3) Meeting
 - 4) Self-development
 - 5) Performance evaluation

The results indicated excellent/ most suitable overall performance, with an average score of 98.1%.



- Nomination & Compensation Committee Assessment consists of 4 items as below;
 - 1) Committee structure and qualifications
 - 2) The committee meeting
 - 3) Assumption of responsibility for content of the published report
 - 4) Gives priority and devotes sufficient time

The results indicated excellent/ most suitable overall performance, with an average score of 99.1%.
- Corporate Governance Committee Assessment consists of 4 items as below;
 - 1) Committee structure and qualifications
 - 2) The committee meeting
 - 3) Assumption of responsibility for content of the published report
 - 4) Gives priority and devotes sufficient time

The results indicated excellent/ most suitable overall performance, with an average score of 100.0%.

Performance Assessment of the President

The Board assigns the Nomination and Compensation Committee to determine and propose Key Performance Indicators (KPI) of the President. The KPI must be approved by the Board and be reviewed annually.

Training for the Board and Management

The company has a policy to encourage directors, executives and the company secretary to continuously train on good corporate governance. Training is both organized internally or externally by relevant institutions such as the SET, the SEC and the Thai Institute of Directors Association (IOD).

In 2019, Mrs. Tipawan Chayutimand attended Director Certification Program (DCP 283/2019), Thai Institute of Directors Association (IOD).

Succession plan/ Talent Pool Management

The company adopts Talent Pool Management for succession planning as it not only offers flexibility in recruiting suitable personnel but also supports a dynamic business strategy rather than a traditional plan that tends to be more biased towards specific individuals. With talent pool management, candidates can be selected from both internal and external sources. This project has continued to show progress in obtaining sufficient qualified candidates.



2019 DET Talent Development Managerial Training held on September 28, 2019



Supervision of Subsidiary and Associated companies

The Board of Directors has assigned the Executive Committee to supervise the operations of subsidiary and associated companies. The Executive Committee has a certain authority to make investments in subsidiaries and associates and may assign some directors or top executives of the companies and/or appoint some local personnel to participate in the Board of Directors or management of its subsidiaries or associates to support management and determine business policies and direction. After appointment, the Executive Committee will report such appointment to the Board of Directors for their acknowledgment. However, if the investment amount exceeds the granted authority, the Executive Committee is required to seek for Board's approval.

Further supervision and monitoring are done through the implementation of Enterprise resource planning (ERP) solutions, which effectively gathers and provides important information including finance, accounting and other data, to support the management, controlling and monitoring of subsidiaries and associates operations. Furthermore, the Treasury and Investment Section of the company also actively participates in monitoring and supporting the sourcing of funds, capital increase and reduction. It seeks approval from the Executive Committee or Board of Directors for these transactions. Almost all of the companies in the Delta group are wholly owned subsidiaries so there would be no connected transactions occurring. In case that there might be some transactions with other related companies in Delta group, the subsidiaries have been instructed that prior approval from the company's Executive Committee or Board of Directors is required and relevant SET or SEC's requirements must also be complied with.

Insider Information Policy

Under the company's policy, insider information is restricted to executives from the middle to the top levels. All employees are prohibited from taking the company's documents or information for personal use, or to bring them outside the company. Use of inside information without permission or that leads to any damage is deemed serious wrongful conduct with regards to the equitable treatment and protection of shareholders. The policy and prohibition of usage of inside information for securities trading are formally written in the company's Code of Conduct Guideline to ensure employee's awareness. This also includes the prohibition of trading activity by a director within one month prior to the public announcement of the company's operating results through the SET.

Moreover, The company has a policy that its directors and executives must disclose information on the securities held by themselves (including their spouses and minor children) to the Office of the Securities and Exchange Commission (the Office of the SEC) within 3 days after the change of ownership of securities has taken place and inform the company's secretary to report the Board of Directors accordingly. In 2019, there was no offense by directors, management or employees concerning insider information.

Audit Fee

- **Fee for audit**

The audit fee paid in the year 2019 to the company auditor was Thai Baht 4,910,000, excluding all actual out of pocket expenses (the Audit fee in 2018 was Thai Baht 4,910,000 and actual out of pocket amount Thai Baht 268,375). In addition, 4 subsidiaries paid their audit fees to the same auditing firm for a total amount of Thai Baht 1,485,000

The company and some of its subsidiaries hire the same international audit firm and the rest of our subsidiaries employ alternative audit firms. Selection criteria of Delta auditors are principally based on the auditor's service quality and charge rate.

- **Other Fee**

- None -



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Delta Electronics (Thailand) Public Company Limited

Sustainable Development Report

As one of the largest electronics manufacturing companies in Thailand, Delta Electronics (Thailand) Public Company Limited understands that our actions will have direct and indirect impact in the communities around us and the enterprises that engaged with us. Guided by our founding mission, “to provide innovative, clean energy-efficient solutions for a better tomorrow”, Delta has been conducting our business based on the principle of sustainable development (SD). At Delta we strive to create minimal negative impact and positive contribution to the environment, society and economy. We believe that ethical business practices can result in a stronger foundation for a long lasting company.

Since Delta Thailand’s establishment in 1988, we have thrived on the challenges of discovering innovative solutions that help to reduce carbon footprint like Delta power supplies and thermal management solutions that reduce energy wastage with market leading efficiency. As the negative impact of climate change becomes more apparent, Delta’s environmentally friendly product and solution offerings like our electric vehicle charging products are also growing. Delta business strategy is based on sustainable development principles with products and solutions that address global megatrends, good corporate governance standards recognized by the industry and authorities and meaningful actions for environment conservation and community development. As a result, Delta Thailand is able to offer good returns for our stakeholders while creating positive impact for the environment and society. This can be seen below in our SD centric business development strategy outline.



The year 2019 continues to be a challenging one for the global economy due to the ongoing trade tensions. However, it was also a year with two important milestones reached for our SD team. Not only did Delta Thailand won the Best Sustainability Excellence Award organized by SET, we were ranked number two on the globally recognized Dow Jones Sustainability Index (DJSI) assessment.



Consequently Delta Thailand was awarded the prestigious S&P Global Silver Class distinction for excellent sustainability performance. We are the only Thailand-based company in the Sustainability Yearbook 2020 “Electronic Equipment, Instruments & Components” sector. Delta Thailand values the comprehensiveness of the questionnaires and guidelines for DJSI assessment submission more than the ranking. Our SD team has been leveraging on the reporting process to continuously gauge the effectiveness of our SD projects for continuous improvement.

Emerging Risks

Delta Thailand has positioned our products and solutions to address global megatrends. To counter emerging risks, we take mitigating actions and create proactive strategies to bolster our company’s long-term resilience. We seek to manage risks through informed decision making, foresight and agility and to forge a business that will benefit society far into the future.

Delta Thailand’s Risk Management Committee (RMC) reports risk management progress to the President. The risk management result will be reported to Audit Committee or the Board at least twice a year. RMC’s 2018 survey results from Delta Thailand major entities including Delta Thailand, India and Slovakia were reported to the Board of Director on 18 February 2019. In addition, from both internal and external stakeholder engagement, the committee has revisited the risks on key megatrends to ensure Delta’s megatrends centric products and solutions are still on the right track. Below illustration identifies both the risks and opportunities.



Emerging Risk	Raised issue	Delta material issue	Potential impact - Negative + Positive ? Unknown	Mitigating actions	Opportunity
Rapid urbanization and Climate change	<ul style="list-style-type: none"> • Demand ramp up • Material (+manufacturing factor) shortage 	<ul style="list-style-type: none"> • Eco-efficient operation • Economic performance • Innovation management • Supply Chain management • Norm of Transparency 	<ul style="list-style-type: none"> + Demand ramp-up in energy-efficient and clean energy products and solutions. - Increased in power demand - Increase in local electricity intensity - Increase in fossil fuel used to generate electricity - Higher production cost - Natural resource scramble - Flood way blockage - Customer's higher expectation on ESG-related information ? Difference of governmental policies to face ? Difference in supply and demand behavior 	<ul style="list-style-type: none"> • Develop Supply chain in emerging market • Energy intensity reduction projects • Delta Smart Manufacturing • Renewable energy generate from Delta solar roof top • Eco-friendly and ethical supply chain • Green product design • Business contingency and recovery plan established • Build up awareness of Energy and environment conservation • Brand development to seize future market • Review hazardous substance banned in production process • Public disclosure of hazardous substance management policy, GHG inventor and CSR in supply chain information. • Set up emergency and recovery plan • Watch up meteorological and PM 2.5 statistics • Utilize Delta Uno pollution sensor and Delremo, green energy solutions, as key component to help OHSAS work. • Expand GHG inventory coverage to subsidiary plant in Slovakia 	<ul style="list-style-type: none"> • Growth in Power Electronics, Automation and infrastructure solutions. • Value-added products through substitute and recycled material development • Growth in Power Electronics, Automation and infrastructure solutions.
	<ul style="list-style-type: none"> • Air pollution 	<ul style="list-style-type: none"> • Occupational Health and Safety 	<ul style="list-style-type: none"> - Operation lost time - Employee health and safety 		<ul style="list-style-type: none"> • Realize new demand in pollution sensor products. • More frequent customer and public sectors engagement on EV-relate and renewable energy product
Shift in global economic power	<ul style="list-style-type: none"> • Public policy change • Fluctuated exchange rate in subsidiary sites • Trade war impact on operation, supply chain and customer finance performance • Tax • Corruption 	<ul style="list-style-type: none"> • Supply chain management • Economic performance • Norm of transparency 	<ul style="list-style-type: none"> ? High competition of supply chain in emerging market - Raw material scarcity - Intellectual information and confidentiality break-in effort ? Difference of governmental policies to face ? Difference in supply and demand behavior ? More queries on ESG question from new investors in emerging market 	<ul style="list-style-type: none"> • Boost up ethic in supply chain • Systematic risk management • Material localization • Promote circular economic in supply chain • Publicize supplier standard requirement • Delta's presence in emerging markets • Concentrate IT security policy and practice • Public disclosure of hazardous substance management policy, GHG inventor and CSR in supply chain information. 	<ul style="list-style-type: none"> • Additional business opportunity in emerging market.





Emerging Risk	Raised issue	Delta material issue	Potential impact - Negative + Positive ? Unknown	Mitigating actions	Opportunity
Demographic and social change	<ul style="list-style-type: none"> Labor welfare at subsidiary plants in India 	<ul style="list-style-type: none"> Eco-efficient operation Innovation management 	<ul style="list-style-type: none"> - Skilled labor force shortage due to aging population and new industries flourishing (e.g. AI and programming) ? Faster turnover of product life cycle. + Higher expectation / requirements on responsible product & services esp. in ESG aspect. 	<ul style="list-style-type: none"> Delta's focus on automation and energy management solutions resolve aging workforce problems Maintain comparable research & development infrastructure Green design & green supply chain development On-line communication channel development Build up awareness of Energy conservation Brand development to seize future market Develop green supply chain 	<ul style="list-style-type: none"> Growth in Power Electronics, Automation and infrastructure solutions. Value-added products and solutions through eco-friendly supply chain.
Technological breakthroughs		<ul style="list-style-type: none"> Eco-efficient operation Innovation maintaining Supply chain management 	<ul style="list-style-type: none"> - IoT application to home appliances/devices - Adoption of Industry 4.0 - Information security : Hacking frequency increases + Higher power and capacity demand for datacenters + Higher expectation / requirements on responsible product & services esp. in ESG aspect. ? Faster turnover of product life cycle. 	<ul style="list-style-type: none"> IT Security Standard and practice promotion. Delta SMART manufacturing and automation solutions Green design & green supply chain development Public ESG info used for investment decision Build up awareness of Energy conservation Brand development to seize future market Maintain R&D investment at approx. 5% to revenue 	<ul style="list-style-type: none"> Growth in Power Electronics, Automation and infrastructure solutions.

For the completed SD report 2018, please download at https://www.deltathailand.com/en/pdf/sustainable/SDR2018_EN.pdf

Sustainability Development Implementation

The company operates SD with emphasize on issues affecting its stakeholders in accordance with the principles set by the Stock Exchange of Thailand as listed below.

1. Corporate Governance

The Board of Directors of Delta Electronics (Thailand) Public Company Limited recognizes and continues carry business operation with good corporate governance in an attempt to promote sustainable growth and development. Details of these policies can be found on the company's website www.deltathailand.com, and on its Intranet. Commitment and strict compliance to the good corporate government policy made the company rated "Excellent" on the 2019 Corporate Governance Rating Survey for the 4th consecutive year, conducted by Thai Institute of Directors Association (IOD) in collaboration with The Securities and Exchange Commission (SEC) and The Stock Exchange of Thailand (SET). Details of the company's corporate governance policies are disclosed on the company's website www.deltathailand.com/en/corporate-governance-policy and report on compliance with good corporate governance each year are also published in the company's annual reports.

2. Corporate Ethics

The company operates business in an ethical, transparent and responsible manner. In this regards, the Board of Directors has developed the company's Code of Conduct, in which integrates the Responsible Business Alliance (RBA) formerly the EICC, as an operational standards for its directors, management and employees to follow. The company's Code of Conduct has been published on its Intranet and company's website www.deltathailand.com/en/Code_of_Conduct. New employees will receive training to understand company's Code of Conduct. Human Resources Department is responsible for ensuring that all employees are aware of and comply with the company's Code of Conduct while Internal Audit Department is responsible for monitoring and reporting significant non-compliance incidents to the company's management.

Additionally, the company has established the following communication channels to allow all stakeholders to provide their feedback or file complaints concerning this issue

- Communication channels for employees
 - (1) Head of the unit where the employee belongs to
 - (2) Email: HR.GRIEVANCE.SEA@deltaww.com
 - (3) Suggestion box
- Communication channels for other stakeholders
 - (1) Opinion Box (PO Box 50, Bangpoo, Samutprakarn 10280);
 - (2) Email: Whistleblow@deltathailand.com

Incident reports and complaints are collected by the company's Secretary and escalated to the company's management or Audit Committee or Board of Directors for further investigation on a case by case basis.

The details of the complaint will be kept confidential in order to avoid an infringement of privacy.

At the Board of Directors Meeting No. 1/2020, the company's Secretary informed the meeting that in the year 2019, no complaint about code of conduct, anti-corruption and anti-trust or fair competition.

3. Anti-corruption

To affirm the company's genuine commitment to transparent and auditable business dealings, in the meeting of the company's Board of Directors No.4/2013 held on 6 November 2013, the company approved in principle an anti-corruption measures and assigned the company's Audit Committee to establish or review policy, set procedures and follow-up mechanism in accordance with the anti-corruption policy. The company's Board of Directors approved signing participation with the Thailand's Private Sector Collective Action Coalition against Corruption. The company has officially declared intention to operate business with integrity and indicate intention to against all kinds of corruptions. The employee will not only be trained on operational code of conducts but also this anti-corruption policy. In 2019, the company submitted Self-Evaluation Tool for Countering Bribery to the CAC Board for certification on 12 December 2019.

4. Human rights protection

The company sets policy in regards to respect human rights by defining wrong doing practices and mistreatment. It has introduced a non-discrimination policy which governs equitable treatment towards all genders, races, physical disabilities including immunodeficiency, HIV/AIDS and tuberculosis (TB). The company strictly acts on this policy which has been announced on the Intranet and the company's website www.deltathailand.com/en/human-rights and made known to employees by means of training so that all employees adopt a positive attitude towards their co-workers with respect and equitable. There is mechanism available for feedback and filing complaints concerning human rights issues. To date, no complaint has been filed.

The ongoing war in the Democratic Republic of the Congo which appeared to be deteriorating is believed to be majority funded by mining of precious metals including tantalum, gold, zinc, and tungsten. Those rare metals are key raw materials for production of electronic devices. Given their availability in the country of human rights violations such as Congo and Rwanda, they are consequently known as Conflict Minerals/Metals. The company realizes the importance of human rights and therefore responds to such conflicts by examining the sources of minerals and seeks for procurement from location outside the conflict areas. The company laid out Conflict Minerals/Metals-free Policy to address prohibits usage of minerals from the Democratic Republic of the Congo and adjoining countries, either directly or indirectly which is defined as an agreement on Responsible Minerals Initiatives (RMI) Agreement (more details please see www.deltathailand.com/en/related-documents). Implementation of this policy had also been extended to all supply chains. All Suppliers were required to sign up for acknowledgement on the "Minerals/Metals Source Survey" and "Declaration on Non-use of Conflict Minerals/Metals". The signing is hold as part of managerial process of company's business.

5. Equitable treatments to employees

Occupational health, safety and work environment

Safety, occupational health and work environment are equally importance among other operational business goals of the company. Management of each division will be responsible for keeping effective implementation of this policy. Every operational unit is to be assessed of impact and its staff is to be consistently trained.

An environmental committee is also established to ensure compliance of occupational health and safety in accordance with the Standards of environmental management system - ISO14001 and Standards of occupational health and safety – OHSAS18001. The company has been certified with these two standards consecutive years.

Promoting Zero Accident campaign in workplace is one of the key goals that the company aims to achieve and consistently perform towards. In 2019, there are 45 injury cases, from 49 cases in 2018. The company strives to reduce accidents to zero to meet our "Zero Accident" campaign.

Although work-related accidents are on a downward trend, the company still actively runs a Safety Week event in a bid to achieve zero accident. This event promotes and educates employee to have safety awareness through a variety of activities such as drawing contests and quizzes.





Safety Week 2019 at Bangpoo Industrial Estate plant

Employee Welfare

The company set up a welfare committee to take care the benefits of employees. Labor Relations policy is also established to ensure fair treatment to all employees. As concrete evidence of its achievement, the company has been awarded Outstanding Entrepreneur on Labor Relations and Labor Welfare Awards for ten consecutive years from Department of Labor Protection and Welfare, Ministry of Labor.

- **Breastfeeding Corner**

As 84% of the company's employees are female, it pays special attention to pregnant employees by setting up working corners for pregnant staff and providing them with antenatal training. Breastfeeding corner was established in 2008 to facilitate expressing and storing breast milk during work hours. This is regarded as a way to improve the quality of life of the company's employees and their families.

- **Happy Workplace**

The company involves in various activities to help promote well-being and quality of life for employees. For example, the company has participated in the "Happy 8 Workplace" program initiated to help create balance family life, work and social life to employees. The program has been carried in coordination with the Thai Health Promotion Foundation and the Association of Thai Electrical & Electronic Industries. This program has positively enhanced quality of life of employees and, as a results, the company had been selected by the program's runner to supervise another four operational agents. The company had also been recognized as role model for another work place to adopt "Happy 8 Workplace" program.

6. Responsibility to consumers

The company strives to bring the highest level of satisfaction to its customers by offering high quality products and impressive services. In this connection, the company applies various international standards to its operations to raise consumer confidence and it is certified to a number of internationally-recognized standards as follows;

- ISO9001 – International Standard of quality management system
- IATF16949 - International Automotive Task Force
- TL9000 - International Standard of quality management system for telecommunications Industry
- ISO/IEC17025 - Standard of quality laboratory system
- IEC-61340-5-1 and ANSI / ESD S20.20 - Standards of Electrostatic Discharge Control Program
- Authorised economic operator (AEO) Certificate - European commission declared by The Customs department, Thailand
- ISO/IEC 27001 - Information security management certification
- ISO 13485 - Quality management system for medical device
- IECQ QC 080000 - Hazardous Substance Process Management System



The company also concerns about consumer safety and has in place procedures to properly manage environmental-related substances to control and prevent the use of hazardous chemicals in production processes. This effort is to assure consumers that the company's products contain no toxic substances that are harmful to them.

The company actively communicates with customers of every segment to ensure maximum reach as well as help fulfill their needs. Customers can learn more about the company and the products from www.deltathailand.com. Feedback can also be emailed to info@deltathailand.com as displayed on the company's website. Feedback and comments will be presented to the company's management for analysis and solution findings for further development.

7. Environmental Protection

The company also focuses on importance in setting up an environmental management system in order to drive business operation on the back of PDCA principle (Plan / Do / Check / Action). The system determines to cope with various context of social and environmental management that employees at all level can continue applying as part of their daily activities. At present, the company has been certified with various standards, both national and international level, as follows;

- ISO14001 – Standard of Environmental Management System
- ISO14067 – Standard of Product Carbon Footprint Assessment
- ISO14064-1 – Standard of Management System for Quantification and Reporting of Greenhouse Gas Emissions.
- IECQ QC08000 - Standard of Hazardous Substance Process Management
- ISO50001 – Standard of Energy Management System
- OHSAS18001 - Standard of Occupational Health and Safety Management

The company is the first in Thailand to be certified ISO14064-1 and ISO50001 and the first factory in Thailand to receive the LEED (Leadership in Energy and Environmental Design) Gold Certification in the EBOM (Existing Buildings: Operations and Maintenance) category, developed by the non-profit U.S. Green Building Council (USGBC).

Delta participated in the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) also known as COP24 Katowice 2018, Katowice, Poland.

Delta has joined the activity as part of the corporate effort to reduce the impact of global warming according to our commitment to the UN SDG17-Partnership for the Goals. The company will incorporate the latest data and technology for our SD strategy and environmental activity development. Delta's motto: Smarter. Greener. Together. underpins our successful implementation of green building solutions and sustainable development strategy. We remain committed to the standards in order to further enhance our competencies towards businesses of the future.

The company has organized Education Week 2019 with activities and energy conservation drawing competitions to raise environmental and energy efficiency awareness among employees.



Education Week 2019 at Bangpoo Industrial Estate plant



Green Industry

The company has participated in Ministry of Industry's "Green Industry" program to showcase its serious commitment to following environmentally-friendly practice by shaping up its production and environmental management processes to be greener as well as displaying greater social responsibility internally and externally throughout its supply chain to arrive at sustainable development. The company's two plants at Bangpoo Industrial Estate and Wellgrow Industrial Estate are certified to Green Culture, Level 4. The company has also received a number of awards and certification relating to environmental management and will keep improving its operations to reach the levels of Green Culture and Green Network.

The company promotes and supports production operation under Green Label standards that emphasizes environmentally-friendly processes embracing waste management, pollution reduction and efficient usage of resources. Production activities are recorded and measured for a monthly assessment on environmental impact. Employee training is also arranged to enrich knowledge of employees. The company's products and packaging are unique and comply with international environmental standards, such as EU RoHS (Restriction of Hazardous Substances) and WEEE (Waste Electrical and Electronic Equipment). Those measures provide guidelines to control pollution and waste from electronic products. On company's products, there are labels informing environmental certification obtained such as Energy Star and 80 PLUS.

Energy Management

The company valued energy conservation and promoted efficient usage of resources and therefore established an energy management policy with commitment for ongoing elaboration and communication to employee at all levels within organization. The company outlined procedures to monitor, follow-up, improve all the related projects, and sponsored training for employees to obtain more knowledge and be aware of importance of energy conservation. Some energy management concepts have been implemented for improving air conditioning system and lighting system. Solar panels have been installed to generate electricity for usage inside factories and this program has been carried on with gradual development.

Delta received 1st Runner Up for the ASEAN Energy Award 2019 in the ASEAN Energy Efficiency and Conservation Best Practices category and the Green Building sub-category. This is the first time for Delta to win the prestigious regional award from the ASEAN Centre for Energy (ACE) and received the Thailand Energy Award 2019 in three categories: Creative Energy, Energy Conservation: Green Building and Designated Factory. This is the 4th year for Delta to win the award from the Ministry of Energy in recognition of factories, buildings and individuals that demonstrate responsible use of energy resources for sustainable development



1st Runner Up for the ASEAN Energy Award 2019 in the ASEAN Energy Efficiency and Conservation Best Practices category and the Green Building sub-category



Thailand Energy Award 2019



8. Participation in community or social development

The company has been involved in various joint-community development projects to promote activities among educations, religion related, public health and other community developments such as signing MOU with the University, the objective is to train advanced industrial automation skills for students through Delta Industrial Automation laboratories that Delta provides to universities to help develop student's working skills. As well as providing training for transferring knowledge to teachers and students. After the training, the Delta Automation Academy certification will be given to the participants. Currently, there are 6 participating universities which are Chulalongkorn University, Kasetsart University, King Mongkut's Institute of Technology Ladkrabang, King Mongkut's University of Technology North Bangkok, King Mongkut's University of Technology Thonburi and Burapha University, which has just signed a memorandum of cooperation in December 2019.



Delta Automation Academy certification ceremony 2019 at King Mongkut's University of Technology Thonburi



Delta an MOU with Buraphu University for partnership and collaboration to develop the Factory of Engineering student's skills in automation systems, and IoT at the Delta Industrial Automation Lab

9. Innovations and its dissemination

One of the company's missions is "to provide innovative, clean and energy-efficient solutions for a better tomorrow." Therefore, the company works to develop clean and energy-efficient products. Its key lines of green products are listed below.



1. Products of energy-efficient or reduce losing of energy – such as high efficiency power supplies with energy efficiency of 90% especially telecom power supplies energy efficiency of 98%, and other products such as power supplies for automotive and DC fans.
2. Energy saving solutions products which most are parts or industrial automation of add-on devices that help the equipment to efficiently use energy
3. Clean energy products or product that reduces environmental impact such as solar inverters, EV charger and inverters for wind turbines

These three product lines are not only create economic growth to the company as being key revenue generator, they are also conserve environment

Dissemination of innovations

The company is the first in Thailand certified ISO50001 standard on energy management and has continually successful in carrying out energy conservation campaigns in the factories. It also organized Delta sharing to disseminate to communities, schools and institutions to knowledge about energy conservation innovations, best practices and latest technologies which can be applied in different organizations and communities.



Communities, schools and institutions visit Delta

More information please find 2019 Sustainability Development Report or www.deltathailand.com/en/download-sd-report



Internal Control

The Company set up its Internal Audit Department under the supervision of the Audit Committee since 1999 to handle internal audit matters and review its own performance. The Internal Audit has been supporting by and reporting to Audit Committee whom was assigned by the Board of directors to take account of internal audit in order to evaluate company's sufficiency and efficiency of its internal control systems including managing any possible risk which may affect the firm. Presently, the internal audit function leads by Ms. Neythiya Peethong. For the time being, the Company's internal control system is up to a satisfactory level.

The Company realizes the importance of the risk management which may influence to the business operations, from the organization's both internal and external factors. Since 2010 the Company has organized the Risk Management Committee (RMC) to monitor the organization's risk management to achieve goals according to the organization's acceptance level. RMC then sets a policy on risk management in order the Company can operate well in the long term for the benefit of all stakeholders.

For better Corporate Governance, the Audit Committee proposed "Whistle – Blow Misconduct Claim Process" to the Board of Director in 2012 and proposed to set up Anti – Corruption policy and include specified terms / procedures in the Company's Code of Conduct in 2013. The policy and regulation has been implemented and updated continuously to in line with the regulation of the Securities and Exchange Commission of Thailand (SEC).

According to the Board of Director Meeting No.1/2020 held on 17 February 2020, the Audit committee reported the audit result and evaluation that current company's internal control system is sufficient and efficient.



Related Party Transactions

The company and its subsidiaries still need to do the business with the related parties in the future as it is considered normal course of business. Moreover, supports from the group's network help strengthen the company's business and improve its competitiveness in the world market and will utmost benefit the company. The company shall comply with rules, regulations and notifications of the Capital Market Supervisory Board and other relevant authorities re Connected Transactions and also adequately disclose the transaction in the company's quarterly and annual financial statements.

Procedures for related party transactions

Procedures for related party transactions are principally based on the notification of the Capital Market Supervisory Board re Connected Transactions. According to the said notification, business transactions are generally classified into 6 major categories:

1. Normal business transactions
2. Supporting normal business transactions
3. Rent or lease of immovable property (< 3 years)
4. Sale/purchase of asset or service
5. Offer or receipt of financial assistance
6. Transactions other than 1-5

Procedures for each business category are established and summarized as follows;

1. In case of normal business and supporting normal business transactions, the Board of Directors has approved in principle that such transactions can be done under normal/general business terms and conditions which the company and/or its subsidiaries performs with other general parties without any control or influences from the related parties.
2. In case of other business categories, the related party transactions shall be classified by its transaction size and are required to follow below procedures.
 - Small sized transaction, being the transaction with the size of not more than THB 1 million or 0.03% of net tangible assets (NTA), whichever is higher, requires the management's approval.
 - Medium sized transaction, being the transaction with the size of greater than THB 1 million but less than THB 20 million, or greater than 0.03% but less than 3% of NTA, whichever is higher (except Item 5: Financial assistance that its size is less than THB 100 million or 3% of NTA, whichever is lower), requires board of directors' approval and information disclosure.
 - Large sized transaction, being the transaction with the size of THB 20 million and higher or 3% of NTA and higher, whichever is higher (except Item 5: Financial assistance that its size is equal to THB 100 million and higher or 3% of NTA or higher, whichever is lower), requires board of directors' approval, shareholders' approval and information disclosure.

For other details and definitions, the company will perform according to the relevant notification as mentioned above.

Related Party Transaction Control

For regular transaction which most of transactions are among the company's group, the company's management will set pricing policy to ensure buying and selling price based on market price or normal trading conditions. In case, of any irregular transaction, the company's Chief Financial Officer (CFO), for the company's management, will conduct the transactions with the company secretary's collaboration to ensure the implementation of transaction in line with related policies and regulations.

However, the connected transaction which is not based on the general trade conditions may lead to conflict of interest and must be reviewed and considered by the Audit Committee prior to being proposed to the Board or shareholders for approval.

In addition, the Audit Committee generally reviews and discusses about the related party transactions with the company's external auditor in order to help protect conflicts of interest and see if the related party transactions are adequately and properly disclosed.

The company and its subsidiaries have engaged into business transactions with their related companies in Delta group. The major transactions and reasons for having such related party transactions can be summarized as follows.

1. Sales of goods/raw materials

In order to manage trade constraints in certain countries for either the company or its customers e.g. local content requirements, Delta group has established its trade network in local area for better service to customers as well as to enhance its business opportunities in those countries. The transactions are made based on certain trade agreement or with reference to market price. Sales of raw material are normally due to the urgent need of some raw materials from the related companies and the selling prices are based on the market price or cost of the materials sold.

2. Purchase of goods/raw materials

Currently Delta Thailand has also expanded its trade network through its subsidiaries which are located in major regions. To offer a full range of products, those subsidiaries may have to purchase some products from related companies to serve their clients. However, the transactions are made based on certain trade agreement which may also include their operating costs, or with reference to market price.

Delta group has set up material network in order to create bargaining power for better price and availability for the group members. Purchase price of raw material is generally charged based on cost plus other actual out of pocket expenses such as insurance, freight and others. Handling fee is charged based on value of purchase/sale transaction and considered general business condition.

3. Commissions

Since various services are generally required to serve the global clients, the company needs to offer such services to customers in the area where they are located in. This makes Delta group to establish business network which enables the company to have customer relations offices worldwide to provide effective marketing and after sales services to its clients at the competitive costs. Commissions are normally charged based on transaction size (e.g. sales or purchase amount) and considered general business condition.

4. Service fee

Currently the operations of the company's subsidiaries have covered in several regions, especially Europe. Some related companies, therefore, occasionally request for supports to provide some services such as reworking, tooling service and others. Service fees are generally based on the estimated man hour used for each service.

5. Design and Engineering Cost

To support its expanding operations, Delta entered into research and development service agreements with subsidiaries and associated companies that provide design and engineering services for some of the company's products and technical support for customers. These companies have specific expertise in designing Delta products and charge service fees equal to the local operational costs incurred on product research and development plus margin on the arm's length basis.



The Audit Committee Report

The Audit Committee consists of three independent directors in 2019: Mr. Boonsak Chiempricha as a chairman, Mr. Roger Chu and Mrs. Tipawan Chayutimanta as Committee member with the Internal Audit Manager as its secretary.

During the year 2019, the Audit Committee held 4 meetings and Mr. Boonsak Chiempricha, Mr. Roger Chu and Mrs. Tipawan Chayutimanta attended all 4 meetings.

The Audit committee performed its work during the year according to the Audit Committee Charter, which complies with the guidelines of the Stock Exchange of Thailand. The Audit Committee also fulfilled the matters assigned by the Board of Directors which can be summarized as follows:

1. Reviewed the quarterly and year-end financial statements independently with the external auditors to ensure that the financial statements and the disclosures were accurate, appropriate, and reliable, and then submitted them to the Board of Directors. The Audit Committee also received reports from the external auditor that there was no any irregularity that should be investigated.
2. Reviewed and evaluated the company internal control whether it is adequate and appropriate. The committee has not been reported that the company internal control has any significant deficiency.
3. Reviewed the risks and the risks management of the company so that all the risks were properly managed.
4. Reviewed and approved the annual internal audit plan, acknowledged the internal audit reports and having some suggestions to the Management, also evaluated the performance of the Internal Audit Manager as well.
5. Acknowledged with some suggestions the semi-annual compliance report and the progress of tax assessments.
6. Reviewed the related party transactions or the conflict of interest transactions together with the external auditors that these transactions were reasonable, proper and fully disclosed, including reviewing the internal control of these transactions
7. Completed the Audit Committee self-assessment for 2019
8. Considered the proficiency and the independence of the external auditor and propose to the Board of Directors including the audit fee in order to propose for approval in the Annual General Shareholder Meeting. The Audit Committee proposed to reappoint EY Office Limited as the Company's auditor for the accounting period ended December 31st, 2019 by Mr. Preecha Arunnara C.P.A. Registration No. 5800, or Mr. Narong Puntawong C.P.A. Registration No. 3315, or Miss Supanee Triyanantakul C.P.A. Registration No. 4498 from EY Office Limited with the audit fee of Baht 6,395,000 for DET group and Baht 4,910,000 for separated of financial statement DET plus some out-of- pocket expenses.

In summary, the Audit Committee performed its duties as specified in the charter with high caliber, prudence and adequate independence. In the opinion of the committee, Delta's financial reports were accurately prepared in all material aspects under generally accepted accounting principles. Delta commanded adequate risk management practices, appropriate internal control and internal audit systems, compliance with good corporate governance, legislation, requirements, and obligations relevant to its businesses.

Mr. Boonsak Chiempricha
Audit Committee Chairman



The Nomination and Compensation Committee Report

The Nomination and Compensation Committee (NCC) has performed duties pursuant to the good corporate governance principles and the Nomination and Compensation Committee Charter specified by the company. Such duties included recruitment, selection and recommendation of the knowledgeable, competent and qualified candidates suitable for the position of director and top management. This Committee is also responsible for proposing fair and transparent compensation policy and payment guidelines including other benefits to the Board of Directors and the sub-committee by taking into consideration the best interests of all parties which match the performance of the company and the economic environment.

The Nominating and Compensation Committee consists of 3 member: Dr.Witoon Simachokedee as Chairman, Mr.Anusorn Muttaraid, Mr.Chu, Chih-yuan as committee members and Ms.Wilawan Srinak as Secretary.

During 2019, the Committee convened four meetings in which important matters and constantly reported the meeting result including comments and suggestions to the Board of Directors for consideration as can be summarized as follows:

1. The Committee has monitoring and reviewing the KPIs of DET President during the year 2019.
2. The Committee has considered proposing to the Annual General of Shareholder Meeting to consider 3 directors, Mr. Hsieh Shen-yen, Mr. Anusorn Muttaraid and Mr. Boonsak Chiempricha who will be retiring to resume director who will be retired by rotation return to continue being the director for another term because they have the qualification, knowledge, capability and experience in the business related to the company's operation that can develop the company well.
3. The compensation to directors was considered within the same budget which is considerably reasonable compared to the responsibilities and other companies in same or similar industry.

The Nomination and Compensation Committee has performed duties with care, transparency and fairness in accordance with the corporate governance, and above of all, benefit of the company and the stakeholders is highly concerned.



Dr. Witoon Simachokedee

Nomination and Compensation Committee Chairman



The Corporate Governance Committee Report

The Corporate Governance Committee of four directors in 2019 as follows;

Mr. Wang Ming-cheng	Chairman of Corporate Governance Committee (from 2018 till Jun 2019)
Mr. Hsieh Shen-yen	Committee member (from 2018 till Jun 2019)
	Chairman of Corporate Governance Committee (from Jun 2019 - present)
Mr. Chang Tsai-hsing	Committee member (from Jun 2019 - present)
Mr. Anusorn Muttaraid	Committee member (from 2018 - present)

The Company Secretary serves as secretary to the committee

The Board of Directors commits to conducting transparent business operations with integrity and accountability, which it considers as key to the company's sustainable business growth and corporate best practice acceptable to stakeholders. The Corporate Governance Committee has the duty to set Delta's Corporate Governance (CG) policies that cover the entire organization and to ensure that CG procedures or systems support the company's long-term success.

The Corporate Governance Committee held two meeting in 2019 for the following major tasks.

1. Establishing the Anti-corruption committee
2. Raising awareness of the Code of Conduct and Anti-Corruption Policy among employees by implementing the Anti-corruption commitment self-declaration
3. Reviewing the new revision of the Code of Conduct, Anti-corruption Policy and Procedures and Giving and Receiving of Gifts and Entertainment Policy
4. Supervise the assessment submission of the Private Sector Collective Action Coalition Against Corruption (CAC).

Delta's Corporate Governance Committee commits to improving its efficiency in steering the company's CG, social responsibility and sustainable development practices and to serving the best interest of all stakeholders.



Mr. Hsieh Shen-yen
Corporate Governance Committee Chairman

Management's Discussion and Analysis

The following Management's Discussion and Analysis should be read in conjunction with the consolidated financial statements and financial statements notes. If not defined otherwise, all financial information presented in this document are in Thai Baht. The company presented financial statements in accordance with the Thai Financial Reporting of Thailand (TFRS) which is adjusted to conform to International Financial Reporting Standards (IFRS). All financial information to be discussed further herein is for the fiscal year ending 31 December 2019, 2018, and 2017 and has been prepared on a consolidated basis.

Consolidated financial information		2019	2018	2017
Total assets	million baht	45,958	48,201	46,154
Total liabilities	million baht	12,952	14,260	13,680
Total shareholders' equity	million baht	33,006	33,941	32,474
Registered capital	million baht	1,259	1,259	1,259
Paid-up capital	million baht	1,247	1,247	1,247
Key financial ratios				
Liquidity ratios				
Current ratio	times	2.99	3.07	3.09
Quick ratio	times	2.04	2.22	2.35
Cash ratio	times	0.45	0.37	0.38
Receivable turnover	times	4.81	4.82	4.70
Average collection period	days	75	75	77
Inventory turnover	times	4.42	4.78	4.90
Average inventory turnover period	days	81	75	74
Account payable turnover	times	5.66	5.69	5.49
Average payment period	days	67	66	71
Cash Conversion Cycle	days	89	84	80
Financial data and profitability ratios				
Sales revenues	million baht	51,172	53,067	49,224
% Change	(%)	(3.6%)	7.8%	5.0%
Gross profit	million baht	10,474	12,123	12,547
Gross profit margin	(%)	20.47%	22.84%	25.49%
Operating expense (including Research and Development)	million baht	8,180	7,378	6,976
Operating expenses (including Research and Development) to sales	(%)	16.00%	13.90%	14.17%
Operating profit margin	(%)	4.48%	8.94%	11.32%
Other income to total revenues	(%)	1.35%	1.52%	2.11%
Net profit	million baht	2,952	5,126	4,929
% Change of net profit	(%)	(42.42%)	4.00%	(10.64%)
Net profit margin	(%)	5.77%	9.66%	10.00%
Net profit to total revenues	(%)	5.69%	9.51%	9.80%
Return on Equity	(%)	8.82%	15.44%	15.32%



Consolidated financial information		2019	2018	2017
Efficiency Ratios				
Return on Assets	(%)	6.27%	10.87%	10.68%
Return on fixed assets	(%)	46.78%	82.27%	89.99%
Asset turnover	times	1.10	1.14	1.09
Financial Policy Ratios				
Debt to Equity	times	0.40	0.42	0.42
Interest coverage	times	3,095.00	545.41	222.73
Dividend payout	(%)	76.07%*	55.96%	55.68%

* Pending approval from the 2020 annual general meeting of shareholders

Operating results for the year 2019, 2018, and 2017

Unit: Baht million

	2019	%	2018	%	Increased (Decrease)	%	2017	%	Increased (Decrease)	%
Revenue and services income	51,171.6	100.00	53,066.6	100.00	(1,895.0)	(3.57)	49,224.0	100.00	1,947.6	3.96
Cost of sales and services	40,697.1	79.53	40,944.0	77.16	(246.9)	(0.60)	36,677.3	74.51	4,019.8	10.96
Gross profit	10,474.5	20.47	12,122.7	22.84	(1,648.2)	(13.60)	12,546.7	25.49	(2,072.2)	(16.52)
Operating expenses	8,180.5	15.99	7,378.3	13.90	802.1	10.87	6,975.7	14.17	1,204.7	17.27
Operating profit	2,294.0	4.48	4,744.3	8.94	(2,450.3)	(51.65)	5,571.0	11.32	(3,277.0)	(16.52)
Other income	725.1	1.42	870.6	1.64	(145.5)	(16.72)	1,120.2	2.28	(395.1)	(35.27)
Other expenses	46.8	0.09	270.5	0.51	(223.7)	(82.69)	207.2	0.42	(160.4)	(77.41)
Finance cost	1.8	0.00	9.4	0.02	(7.6)	(80.51)	19.6	0.04	(17.8)	(90.65)
Profit before income tax	2,970.4	5.80	5,335.0	10.05	(2,364.6)	(44.32)	6,464.3	13.13	(3,493.9)	(54.05)
Income tax expenses	18.8	0.04	208.6	0.39	(189.8)	(91.00)	1,535.5	3.12	(1,516.7)	(98.78)
Net profit for the period	2,951.7	5.77	5,126.4	9.66	(2,174.8)	(42.42)	4,928.8	10.01	(1,977.2)	(40.11)

Breakdown of sales revenues by business group

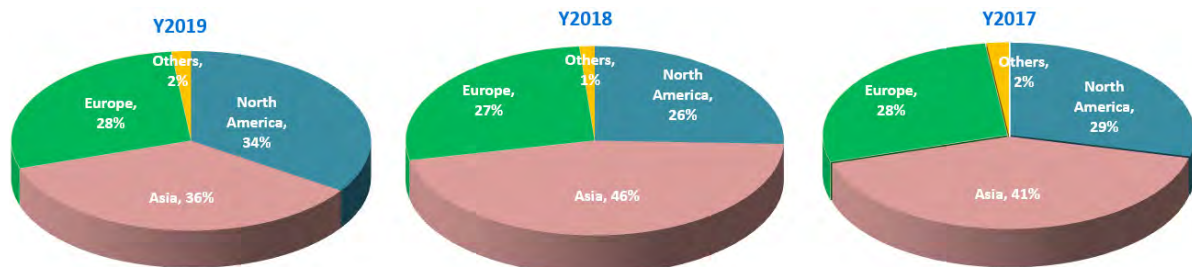
Product Group	2019		2018		2017	
	revenue	%	revenue	%	revenue	%
Power Electronics Group	32,296	63.1%	34,404	64.8%	31,051	63.1%
Infrastructure Group	16,587	32.4%	16,394	30.9%	16,153	32.8%
Automation Group	2,120	4.2%	1,826	3.5%	1,809	3.7%
Others	168	0.3%	443	0.8%	211	0.4%
Total Sales Revenues	51,172	100.0%	53,067	100.0%	49,224	100.0%

- Note**
- Power electronics segment is a business segment which designs, manufactures, and sales of power supplies applied to computer, server, office automation equipment, household electric appliances and automotive electronic products. The main products are DC-DC Converter, Power supply for Computer & Server, Custom Design product, Automotive electronic product, Fan and thermal product, Adaptor product for industrial and private consumer, Solenoid and EMI filters etc.
 - Infrastructure segment is a business segment which designs, manufactures, and installations of information and communication technology infrastructure and energy system infrastructure. The main products are Telecommunication system, Renewable energy, Energy storage and High power etc.
 - Automation segment is a business segment which designs, manufactures, and installations of industrial and building automation. The main products are Machine automation, Industrial motion system, Smart sensor system and Lighting automation for building etc.



In 2019, the consolidated sales revenues amount 51,172 million baht slightly decreased 3.6% from 2018 and increased 4.0% from 2017. This was mainly due to the decline in sales of the Power Electronic business group, especially sales of power supplies for the automotive (Electric Vehicle Solutions) sector which dropped down 23.0% from the of previous year.

Sales revenues breakdown by geographic location

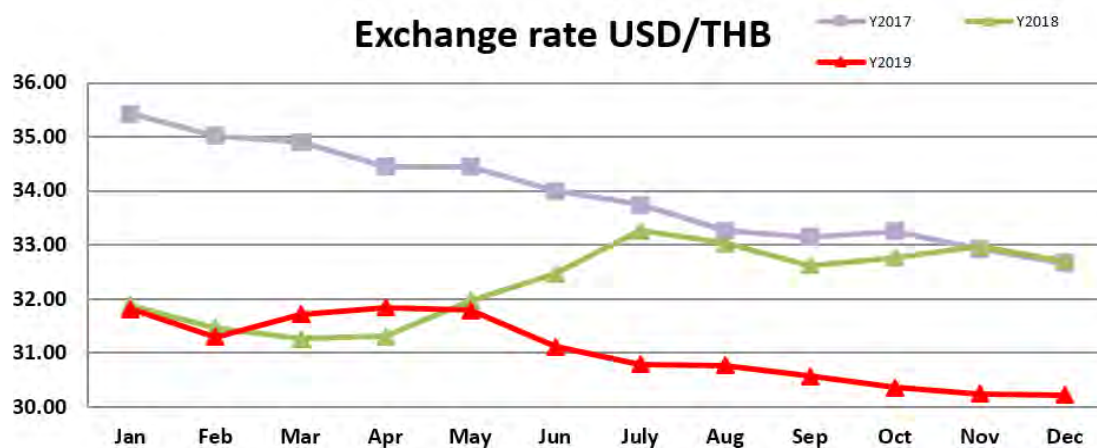


In 2019, sales revenues in the Asia market still represented the highest proportion, 36% of total sales, even though it was a decrease from the contribution of 46% in 2018. This was followed by the North America markets which increased from 26% to be 34% in total sales, while Europe markets maintained 27%-28% with no change.

Other income

Other income worth 725 million baht in 2019 consists of the following key items;

- Interest income of 238 million baht, decrease about 2.4 million baht from 2018 due to some of maturity fixed deposit was transfer to saving account and increase about 45 million baht from 2017 in relation to the increase in FED interest rate from 0.75% in 2017 to be 1.50% in 2018 and 1.75% in 2019.
- Foreign exchange gains were worth 33 million baht, down 143 and 31 million baht from 2018 and 2017 respectively following the appreciation trend in 2017, depreciation trend in 2018 and appreciation trend once again in 2019. However, the company has no policy to speculate on the exchange rate but continues its prudent policy in the full hedging on net position of each currency's exposure to minimize potential impact from exchange rate fluctuation.



Source : Bank of Thailand



Cost of sales and expenses

Cost of sales

In 2019, cost of sales accounted for 79.5% of total sales, higher than that of 2018 and 2017 of 77.2% and 74.5%, respectively. Product mix differentiation (the slowdown of Automotive sector and the startup of Network Switch line) and the Thai Baht appreciation against the USD together with the increase in depreciation caused by investments in new machineries for replacements and the launch of production automation under the Delta Smart Manufacturing scheme are three major factors which impacted to this lower gross margin in 2019. However, The company believes that this investment would be a key factor for competitiveness enhancement in the long run.

Selling and administrative expenses

Selling and administrative expenses (including research and development – R&D) in 2019 went up 10.9% from 2018. The cause was the enhancement of the R&D team in German, due to Electric Vehicle business growth in Europe, went up 17.3% from 2018 which resulted in the company entering into an Intellectual Property & Technology License Agreement with one related company, in order to enhance the capability to develop new products and catch up with technology changes and dynamic marketing.

On the other hand, the company is setting up new companies for research & development of Electric Vehicles in the USA and Industrial Electric Vehicles in UK in order to ensure that the company can maintain sustainability growth in the long term.

Net profit

The company's operating margin in 2019 was 4.5%, a drop from 8.9% in 2018 and 11.3% in 2017 respectively. The cause was the above mentioned higher cost of production and R&D expenses. Consequently, net profit in 2019 was 5.8% or 2,952 million baht compared to 9.7% and 10.0% in 2018 and 2017 respectively. Earnings per share was 2.37 baht in 2019 compare to 4.12 baht in 2018 and 3.95 baht in 2017 respectively.

Assets and Liabilities

Assets

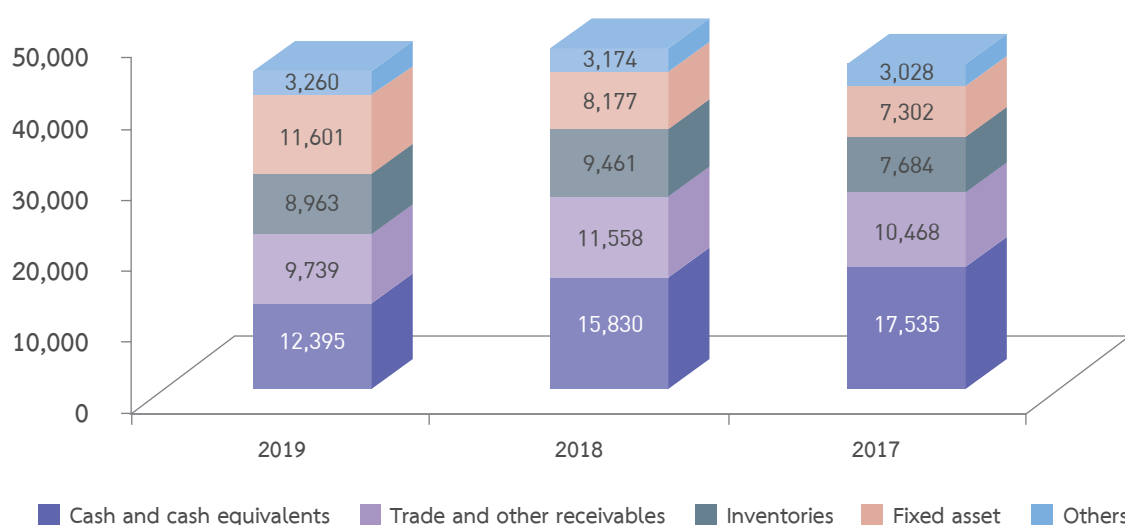
As of 31 December 2019, the company had total assets worth 45,958 million baht, a decrease of 4.7% from 2018 and 0.1% from 2017 respectively. Return on asset was 6.3% in 2019 compared to 10.9% and 10.7% in 2018 and 2017 respectively. This resulted from the above mentioned higher Cost of Goods Sold and R&D expenses.

Major assets and the changes in the assets are summarized as follows;

	31 December 2019	31 December 2018	31 December 2017	2019 VS 2018 Increase [Decrease]	2018 VS 2017 Increase [Decrease]
Cash and cash equivalents	12,394	15,608	17,320	(20.6%)	(28.4%)
Current investments	2	223	215	(99.2%)	(99.2%)
Trade and other receivables	9,739	11,558	10,468	(15.7%)	(7.0%)
Inventories	8,964	9,461	7,684	(5.3%)	16.7%
Investments in associated	464	536	593	(13.4%)	(21.7%)
Consolidation goodwill	418	438	450	(4.7%)	(7.1%)
Property, plant and equipment	11,600	8,177	7,302	41.9%	58.9%
Other assets	2,378	2,200	1,985	8.1%	19.8%
Total Assets	45,958	48,201	46,018	(4.7%)	(0.1%)



Breakdown of assets in 2019, 2018 and 2017



- **Cash and bank deposits (Including current investments)** as of 31 December 2019, amounted to 12,395 million baht, a decrease of 21.7% and 29.3% from 2018 and 2017 respectively. This is in relation to the significant investment amount in land, building and machinery totaling 5,312 million baht, mainly made in India and Thailand.
- **Net trade receivables** as of 31 December 2019, of 9,739 million baht decreased 15.7% and 7.0% from 2018 and 2017 respectively. This is the result of the decline of long credit term branded business. At the same time, the company and its subsidiaries recorded allowance for doubtful accounts totaling 62 million baht due to one of the branded business customers having a delayed payment.
- **Inventories** as of 31 December 2019, amounted to 8,964 million baht, a decrease of 5.3% from 2018 and increase of 16.7% from 2017. This reflected dynamic inventory strategy resulting from demand over supply in the electronic commodity market in 2018. At the same time, the company and its subsidiaries recorded inventory provision totaling 217 million baht. The major increase was from Thailand and India
- **Property, plant and equipment** amounted to 11,600 million baht, an increase of 41.9% from 2018 and 58.9% from 2017 respectively. The company and its subsidiaries have invested in a Research & Development center and new factory in India and invested in machinery and equipment for replacements and improvement of production capacity and efficiency aiming for production automation in Thailand under the “Delta Smart Manufacturing” scheme.

Liabilities and Liquidity

As of 31 December 2019, the Company’s total liabilities amounted 12,952 million baht, a decrease of 9.2% from 2018 and 4.4% from 2017 respectively. The Debt to Equity ratio of 0.40 times in 2019, a drop from 0.42 in 2018 and 2017, is at a level signifying reasonable capital structure and low financial risk.



Breakdown of major liabilities

	31 December 2019	31 December 2018	31 December 2017	2019 VS 2018	2018 VS 2017
				Increase (Decrease)	Increase (Decrease)
Bank overdrafts and short-term	0	0	229	N/A	N/A
Trade and other payables	10,151	11,801	10,480	(14.0%)	(3.1%)
Liabilities and provision from tax asset	290	296	695	(2.0%)	(58.3%)
Other current liabilities	398	261	296	52.6%	34.3%
Provision for long-term employee	1,427	1,234	1,337	15.7%	6.8%
Other non-current liabilities	686	668	507	2.7%	35.3%
Total liabilities	12,952	14,260	13,544	(9.2%)	(4.4%)

Return on equity

As of 31 December 2019, shareholders' equity amounted to 33,006 million baht, a drop of 2.8% from 2018 but an increase of 1.6% from 2017, in relation to the high investment during the year. At the same time, return on equity in 2019 dropped to 8.8%, compared to 15.4% in 2018 and 15.3% in 2017 respectively which resulted from the above mentioned issues.

Responsibility of the Board of Directors to the Financial Statements

The Board of Directors of Delta Electronics Public Company Limited is responsible for the financial statements of the Company and its subsidiaries which have been prepared in accordance with Thailand's generally accepted accounting standards. The appropriate accounting policies are applied consistently with adequate disclosure of material information in the notes to the financial statements.

The Board of Directors has assigned the Audit Committee which is composed of all independent directors to review the quality of financial statements and the effectiveness of the internal control system to ensure that accounting records are booked properly and accurately in order to safeguard the Company's assets. The opinions of the Audit Committee have been reported in the annual report. Furthermore, the Company's external auditor has also provided their opinions on the financial statements of the Company and its subsidiaries in the auditor's report which has also been disclosed in the annual report.



Ng Kong Meng (James)

Chairman of the Board

On behalf of Board of Directors



Independent Auditor's Report

Delta Electronics (Thailand) Public Company Limited and its subsidiaries

Opinion

I have audited the accompanying consolidated financial statements of Delta Electronics (Thailand) 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 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 Delta Electronics (Thailand) 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 Delta Electronics (Thailand) Public Company Limited and its subsidiaries and of Delta Electronics (Thailand) 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.

Key audit matters and how audit procedures respond to each matter are described below.

Revenue recognition

Revenue from sales of goods is one of the Company's significant accounts because the amounts of revenue recorded would directly affect the Company's profit or loss for the year. Moreover, the Company has a large number of customers with a variety of different commercial terms. There are therefore risks with respect to the amount and timing of revenue recognition. For this reason, I have paid particular attention to the Company's recognition of revenue from sales of goods in order to ensure that the revenue is recorded correctly and in accordance with the relevant accounting standards.

I have examined the Company's revenue recognition by gaining an understanding and evaluating the effectiveness of the Company's internal controls with respect to revenue cycle. On a sampling basis, I also examined supporting documents for sales transactions occurring during the year and near the end of the accounting period. In addition, I reviewed credit notes issued by the Company to its customers after the period-end and performed analytical review procedures on the sales account to identify possible irregularities in sales transactions throughout the period.

Provision for diminution in value of inventory

Estimating the net realisable value of inventory, as disclosed in the Note 10 to the financial statements, is an area of significant management judgement, and the inventories of the Company are high technology products, which become obsolete faster than some other products. 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 Company's internal controls relevant to the determination of provision for diminution in the value of inventory by making enquiry of responsible executives, gaining an understanding of the controls and selecting representative samples to test the operation of the designed controls and I also assessed the method and the assumption applied by management in determining such provision by 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. In addition, I compared the data on inventory aging and inventory movement to identify product lines with indicators of lower than normal inventory turnover. I also compared details of net amount that an entity expects to realise from the sale of inventory after the date of the financial statements with the cost of inventory for each product line.

Impairment of goodwill and patents

As at 31 December 2019, the Company and its subsidiaries had goodwill and patents amounting to Baht 418 million and Baht 245 million, respectively. I have focused on the consideration of the impairment of the goodwill and patents because the assessment of impairment of goodwill and patents is a significant accounting estimate requiring the management to exercise a high degree of judgement in identifying the cash generating units, estimating the cash inflows that are



expected to be generated from that group of assets in the future, and setting an appropriate discount rate. There is thus a risks with respect to the amounts of goodwill and patents.

In auditing the impairment of goodwill and patents, I assessed the identified cash generating units by gaining an understanding of and testing the key assumptions applied by the management in preparing estimates of the cash flows expected to be realised from the group of assets and the discount rate applied, making enquiry of responsible executives and comparing details with sources of information about the Group and the industry.

Other Matter

The consolidated financial statements of Delta Electronics (Thailand) Public Company Limited and its subsidiaries (the Group) and the separate financial statements of Delta Electronics (Thailand) Public Company Limited for the year ended 31 December 2018 were audited by another auditor of our office who expressed an unmodified opinion on those financial statements, under his report dated 18 February 2019.

Other Information

Management is responsible for the other information. The other information comprise 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.
- 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.

Preecha Arunnara

Preecha Arunnara

Certified Public Accountant (Thailand) No. 5800

EY Office Limited

Bangkok: 17 February 2020



Statement of financial position

As at 31 December 2019

(Unit: Baht)

		Consolidated financial statements		Separate financial statements	
	Note	2019	2018	2019	2018
Assets					
Current assets					
Cash and cash equivalents	7	12,393,643,138	15,607,754,313	6,233,096,752	9,752,995,934
Current investments	8	1,698,291	222,745,162	-	-
Trade and other receivables	9	9,739,299,430	11,558,015,847	9,467,964,951	11,047,646,030
Inventories	10	8,963,489,681	9,460,866,572	5,745,784,778	5,807,619,466
Other current assets	11	1,280,764,440	1,059,026,514	307,190,209	325,764,679
Total current assets		32,378,894,980	37,908,408,408	21,754,036,690	26,934,026,109
Non-current assets					
Deposits at bank with restrictions		49,713,553	55,047,683	-	-
Investments in associated companies	12	464,294,219	536,334,270	-	-
Investments in subsidiary companies	13	-	-	14,085,115,632	11,881,691,992
Investment properties	14	218,445,219	236,735,082	-	-
Property, plant and equipment	15	11,402,815,640	7,956,876,239	6,647,546,003	4,787,400,380
Land-use rights	16	197,730,522	220,027,996	-	-
Goodwill	17	417,964,026	438,413,314	-	-
Other intangible assets	18	413,753,297	476,225,161	633,148	1,515,126
Deferred tax assets	28	259,680,778	238,845,682	-	-
Other non-current assets		154,992,772	133,778,872	3,417,111	2,574,605
Total non-current assets		13,579,390,026	10,292,284,299	20,736,711,894	16,673,182,103
Total assets		45,958,285,006	48,200,692,707	42,490,748,584	43,607,208,212

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



Statement of financial position (continued)

As at 31 December 2019

(Unit: Baht)

		Consolidated financial statements		Separate financial statements	
	Note	2019	2018	2019	2018
Liabilities and shareholders' equity					
Current liabilities					
Trade and other payables	19	10,150,827,571	11,801,450,727	8,473,884,409	9,276,651,365
Income tax payable		50,621,512	56,428,557	-	-
Short-term provisions	22	92,157,542	13,391,589	-	-
Liabilities and provision from tax assessments	33.3. 1	239,367,866	239,367,866	239,367,866	239,367,866
Other current liabilities	20	305,402,832	247,144,817	110,487,997	105,822,206
Total current liabilities		10,838,377,323	12,357,783,556	8,823,740,272	9,621,841,437
Non-current liabilities					
Deferred tax liabilities	28	114,013,746	144,452,338	-	-
Provision for long-term employee benefits	21	1,427,499,000	1,234,247,093	444,707,410	281,663,011
Long-term provisions	22	381,380,726	499,042,845	288,553,746	279,255,110
Other non-current liabilities		190,672,127	24,246,913	1,085,000	1,240,400
Total non-current liabilities		2,113,565,599	1,901,989,189	734,346,156	562,158,521
Total liabilities		12,951,942,922	14,259,772,745	9,558,086,428	10,183,999,958
Shareholders' equity					
Share capital					
Registered					
1,259,000,000 ordinary shares of Baht 1 each		1,259,000,000	1,259,000,000	1,259,000,000	1,259,000,000
Issued and fully paid					
1,247,381,614 ordinary shares of Baht 1 each		1,247,381,614	1,247,381,614	1,247,381,614	1,247,381,614
Share premium		1,491,912,500	1,491,912,500	1,491,912,500	1,491,912,500
Surplus on business combination under common control					
		(1,004,027,399)	(1,004,027,399)	-	-
Retained earnings					
Appropriated - Statutory reserve	23	125,900,000	125,900,000	125,900,000	125,900,000
Unappropriated		34,359,240,011	34,432,010,815	30,067,468,042	30,558,014,140
Other components of shareholders' equity		(3,210,182,797)	(2,356,674,090)	-	-
Equity attributable to owners of the Company		33,010,223,929	33,936,503,440	32,932,662,156	33,423,208,254
Non-controlling interests of the subsidiary		(3,881,845)	4,416,522	-	-
Total shareholders' equity		33,006,342,084	33,940,919,962	32,932,662,156	33,423,208,254
Total liabilities and shareholders' equity		45,958,285,006	48,200,692,707	42,490,748,584	43,607,208,212

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



Statement of comprehensive income

For the year ended 31 December 2019

(Unit: Baht)

		Consolidated financial statements		Separate financial statements	
	<u>Note</u>	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Profit or loss:					
Revenues					
Sales		50,442,231,875	52,427,893,198	40,083,739,037	40,115,801,600
Service income		729,378,299	638,753,472	38,164,553	8,611,939
Other income					
Interest income		237,881,712	240,298,988	95,527,873	125,240,590
Gain on exchange		33,449,768	176,496,546	92,429,033	235,038,615
Others		428,881,444	401,062,272	333,583,660	282,290,188
Total revenues		51,871,823,098	53,884,504,476	40,643,444,156	40,766,982,932
Expenses					
Cost of sales		40,150,630,485	40,289,266,369	31,581,614,290	30,382,509,942
Cost of services		546,481,523	654,704,408	22,554,782	3,977,931
Selling and distribution expenses	25	3,734,355,349	3,787,772,564	2,698,062,090	2,619,345,672
Administrative expenses		1,732,913,722	1,561,394,629	989,297,471	880,283,971
Research and development expenses	26	2,713,199,840	2,095,731,980	2,800,489,702	2,061,861,162
Other expenses		46,819,035	203,935,959	132,303,253	256,350,881
Total expenses		48,924,399,954	48,592,805,909	38,224,321,588	36,204,329,559
Profit before share of profit from investments in associated companies, finance cost and income tax expenses					
Share of profit from investments in associated companies	12	24,849,891	52,731,053	-	-
Profit before finance cost and income tax expenses		2,972,273,035	5,344,429,620	2,419,122,568	4,562,653,373
Finance cost		(1,836,483)	(9,421,057)	-	-
Profit before income tax expenses		2,970,436,552	5,335,008,563	2,419,122,568	4,562,653,373
Income tax expenses	28	(18,774,548)	(185,083,854)	-	-
Income tax expenses resulting from tax assessments	33.3.1	-	(23,485,937)	-	(23,485,937)
Profit for the year		2,951,662,004	5,126,438,772	2,419,122,568	4,539,167,436

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



Statement of comprehensive income (continued)

For the year ended 31 December 2019

(Unit: Baht)

		<u>Consolidated financial statements</u>		<u>Separate financial statements</u>	
	<u>Note</u>	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Other comprehensive income:					
<i>Other comprehensive income to be reclassified to profit or loss in subsequent periods:</i>					
Exchange differences on translation of					
financial statements in foreign currency - net of income tax		(793,488,536)	(986,006,687)	-	-
Share of other comprehensive income from investments					
in associated companies - net of income tax	12	(25,024,541)	9,950,084	-	-
Other comprehensive income to be reclassified to profit or loss in subsequent periods - net of income tax					
		(818,513,077)	(976,056,603)	-	-
<i>Other comprehensive income not to be reclassified to profit or loss in subsequent periods:</i>					
Actuarial gains (losses) - net of income tax					
		(163,750,063)	40,964,635	(40,687,554)	-
Share of other comprehensive income from investments					
in associated companies - net of income tax	12	(34,995,630)	20,090,769	-	-
Other comprehensive income not to be reclassified to profit or loss in subsequent periods - net of income tax					
		(198,745,693)	61,055,404	(40,687,554)	-
Other comprehensive income for the year		<u>(1,017,258,770)</u>	<u>(915,001,199)</u>	<u>(40,687,554)</u>	<u>-</u>
Total comprehensive income for the year		<u>1,934,403,234</u>	<u>4,211,437,573</u>	<u>2,378,435,014</u>	<u>4,539,167,436</u>
Profit attributable to:					
Equity holders of the Company		2,959,960,371	5,137,028,684	<u>2,419,122,568</u>	<u>4,539,167,436</u>
Non-controlling interests of the subsidiary		<u>(8,298,367)</u>	<u>(10,589,912)</u>		
		<u>2,951,662,004</u>	<u>5,126,438,772</u>		
Total comprehensive income attributable to:					
Equity holders of the Company		1,942,701,601	4,222,064,654	<u>2,378,435,014</u>	<u>4,539,167,436</u>
Non-controlling interests of the subsidiary		<u>(8,298,367)</u>	<u>(10,627,081)</u>		
		<u>1,934,403,234</u>	<u>4,211,437,573</u>		
Earnings per share					
30					
Basic earnings per share					
Profit attributable to equity holders of the Company		<u>2.37</u>	<u>4.12</u>	<u>1.94</u>	<u>3.64</u>

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





Statement of changes in shareholders' equity

For the year ended 31 December 2019

(Unit: Baht)

Consolidated financial statements											
	Equity attributable to shareholders of the Company										
	Other components of shareholders' equity										
	Other comprehensive income										
	Issued and fully paid share capital	Share premium	Surplus on business combination under common control	Retained earnings		Exchange differences on translation of financial statements in foreign currency	Share of other comprehensive income from investments in associated companies	Total other components of shareholders' equity	Total equity attributable to owners of the Company	Equity attributable to non-controlling interests of the subsidiary	Total shareholders' equity
Appropriated				Unappropriated							
Balance as at 31 December 2017	1,247,381,614	1,491,912,500	(1,004,027,399)	125,900,000	31,998,257,047	(1,461,409,748)	60,664,323	(1,400,745,425)	32,458,678,337	15,043,603	32,473,721,940
Profit for the year	-	-	-	-	5,137,028,684	-	-	-	5,137,028,684	(10,589,912)	5,126,438,772
Other comprehensive income for the year	-	-	-	-	40,964,635	(985,969,518)	30,040,853	(955,928,665)	(914,964,030)	(37,169)	(915,001,199)
Total comprehensive income for the year	-	-	-	-	5,177,993,319	(985,969,518)	30,040,853	(955,928,665)	4,222,064,654	(10,627,081)	4,211,437,573
Dividend paid (Note 24)	-	-	-	-	(2,744,239,551)	-	-	-	(2,744,239,551)	-	(2,744,239,551)
Balance as at 31 December 2018	1,247,381,614	1,491,912,500	(1,004,027,399)	125,900,000	34,432,010,815	(2,447,379,266)	90,705,176	(2,356,674,090)	33,936,503,440	4,416,522	33,940,919,962
Balance as at 31 December 2018	1,247,381,614	1,491,912,500	(1,004,027,399)	125,900,000	34,432,010,815	(2,447,379,266)	90,705,176	(2,356,674,090)	33,936,503,440	4,416,522	-
Profit for the year	-	-	-	-	2,959,960,371	-	-	-	2,959,960,371	(8,298,367)	2,951,662,004
Other comprehensive income for the year	-	-	-	-	(163,750,063)	(793,488,536)	(60,020,171)	(853,508,707)	(1,017,258,770)	-	(1,017,258,770)
Total comprehensive income for the year	-	-	-	-	2,796,210,308	(793,488,536)	(60,020,171)	(853,508,707)	1,942,701,601	(8,298,367)	1,934,403,234
Dividend paid (Note 24)	-	-	-	-	(2,868,981,112)	-	-	-	(2,868,981,112)	-	(2,868,981,112)
Balance as at 31 December 2019	1,247,381,614	1,491,912,500	(1,004,027,399)	125,900,000	34,359,240,011	(3,240,867,802)	30,685,005	(3,210,182,797)	33,010,223,929	(3,881,845)	33,006,342,084

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

Statement of changes in shareholders' equity (continued)

For the year ended 31 December 2019

(Unit: Baht)

	Separate financial statements				
	Issued and fully paid share capital	Share premium	Retained earnings		Total shareholders' equity
			Appropriated	Unappropriated	
Balance as at 31 December 2017	1,247,381,614	1,491,912,500	125,900,000	28,763,086,255	31,628,280,369
Profit for the year	-	-	-	4,539,167,436	4,539,167,436
Other comprehensive income for the year	-	-	-	-	-
Total comprehensive income for the year	-	-	-	4,539,167,436	4,539,167,436
Dividend paid (Note 24)	-	-	-	(2,744,239,551)	(2,744,239,551)
Balance as at 31 December 2018	1,247,381,614	1,491,912,500	125,900,000	30,558,014,140	33,423,208,254
Balance as at 31 December 2018	1,247,381,614	1,491,912,500	125,900,000	30,558,014,140	33,423,208,254
Profit for the year	-	-	-	2,419,122,568	2,419,122,568
Other comprehensive income for the year	-	-	-	(40,687,554)	(40,687,554)
Total comprehensive income for the year	-	-	-	2,378,435,014	2,378,435,014
Dividend paid (Note 24)	-	-	-	(2,868,981,112)	(2,868,981,112)
Balance as at 31 December 2019	1,247,381,614	1,491,912,500	125,900,000	30,067,468,042	32,932,662,156

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



Cash flow statement

For the year ended 31 December 2019

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Cash flows from operating activities:				
Profit before tax	2,970,436,552	5,335,008,563	2,419,122,568	4,562,653,373
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:				
Depreciation	1,628,364,995	1,240,888,458	1,332,987,656	985,335,302
Amortisation	104,980,164	92,172,978	881,978	1,656,950
Recording of allowance for doubtful accounts (reversal)	61,936,537	26,679,294	(25,194,400)	15,965,990
Reduction of inventory to net realisable value	480,133,680	477,922,143	328,152,744	294,615,802
Reversal of the reduction to net realisable value of the obsolete and damaged inventories	(263,311,297)	(173,722,988)	(122,736,270)	(88,332,151)
Increase in provision for long-term employee benefits	185,130,052	63,741,232	144,174,989	28,676,290
Recording of the increase in provisions	138,714,289	106,283,110	44,726,852	49,218,437
Share of profit from investments in associated companies	(24,849,891)	(52,731,053)	-	-
Loss from disposal/written-off of property, plant and equipment	7,639,441	91,119,480	14,158,219	88,046,510
Loss from write-off of other intangible assets	1,854,733	106,732	-	-
Reversal of the allowance for impairment loss on assets	(85,951,413)	(9,343,900)	(85,951,413)	(9,343,900)
Unrealised gain on exchange	(33,004,292)	(12,516,029)	(25,001,622)	(46,395,785)
Interest income	(237,881,712)	(240,298,988)	(95,527,873)	(125,240,590)
Interest expenses	1,836,483	9,421,057	-	-
Profit from operating activities before changes in operating assets and liabilities	4,936,028,321	6,954,730,089	3,929,793,428	5,756,856,228
Decrease (increase) in operating assets:				
Trade and other receivables	1,635,272,953	(976,234,162)	1,644,310,304	(1,888,787,990)
Inventories	280,554,508	(2,081,061,464)	(143,581,786)	(1,378,107,808)
Other current assets	(268,333,222)	(386,011,949)	(21,394,531)	(145,890,999)
Other non-current assets	(12,611,963)	(8,376,248)	(842,506)	(1,041,597)
Increase (decrease) in operating liabilities:				
Trade and other payables	(1,671,811,335)	1,355,155,293	(821,099,626)	1,379,873,482
Other current liabilities	69,451,902	(16,496,421)	4,623,313	28,565,754
Provision for long-term employee benefits	(69,816,748)	(71,104,387)	(21,818,144)	(18,404,253)
Provisions	(28,952,408)	(24,912,432)	(23,012,474)	(11,018,456)
Other non-current liabilities	166,425,214	19,006,188	(155,400)	74,914
Cash flows from operating activities	5,036,207,222	4,764,694,507	4,546,822,578	3,722,119,275
Cash received from interest income	232,433,411	259,484,631	96,729,623	147,972,403
Cash paid for interest expenses	(1,702,135)	(9,211,820)	-	-
Cash paid for income tax resulting from tax assessments	-	(401,423,774)	-	(401,423,774)
Cash paid for corporate income tax	(101,317,104)	(210,393,423)	(593,192)	(1,828,555)
Net cash flows from operating activities	5,165,621,394	4,403,150,121	4,642,959,009	3,466,839,349

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



Cash flow statement (continued)

For the year ended 31 December 2019

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Cash flows from investing activities:				
Decrease (increase) in deposits at bank with restrictions	5,334,130	(8,534,599)	-	-
Decrease (increase) in current investments	221,046,871	(7,286,539)	-	-
Increase in investments in subsidiary company	-	-	(2,203,423,640)	(1,204,057,104)
Increase in investments in associated company	-	(95,236,596)	-	-
Dividend received from investments in associated company	-	41,114,952	-	-
Cash received from capital reduction in associated company	161,325,677	-	-	-
Acquisition of property, plant and equipment	(5,311,611,605)	(2,252,725,119)	(3,123,405,530)	(1,646,839,675)
Proceeds from disposal of property, plant and equipment	46,726,360	60,881,769	2,065,445	994,211
Increase in investment properties	(13,773,958)	(55,885,253)	-	-
Increase in land-use rights	-	(4,041,439)	-	-
Increase in other intangible assets	(75,844,926)	(50,986,457)	-	-
Net cash flows used in investing activities	<u>(4,966,797,451)</u>	<u>(2,372,699,281)</u>	<u>(5,324,763,725)</u>	<u>(2,849,902,568)</u>
Cash flows from financing activities:				
Decrease in bank overdrafts and short-term loans				
from financial institutions	-	(228,666,054)	-	-
Dividend paid	(2,868,981,112)	(2,744,239,551)	(2,868,981,112)	(2,744,239,551)
Net cash flows used in financing activities	<u>(2,868,981,112)</u>	<u>(2,972,905,605)</u>	<u>(2,868,981,112)</u>	<u>(2,744,239,551)</u>
Decrease in translation adjustments	<u>(578,671,939)</u>	<u>(773,092,191)</u>	<u>-</u>	<u>-</u>
Net decrease in cash and cash equivalents before effect from currency translation	<u>(3,248,829,108)</u>	<u>(1,715,546,956)</u>	<u>(3,550,785,828)</u>	<u>(2,127,302,770)</u>
Effect from currency translation of cash and cash equivalents	34,717,933	3,423,507	30,886,646	(5,387,547)
Net decrease in cash and cash equivalents	<u>(3,214,111,175)</u>	<u>(1,712,123,449)</u>	<u>(3,519,899,182)</u>	<u>(2,132,690,317)</u>
Cash and cash equivalents at beginning of year	<u>15,607,754,313</u>	<u>17,319,877,762</u>	<u>9,752,995,934</u>	<u>11,885,686,251</u>
Cash and cash equivalents at end of year	<u>12,393,643,138</u>	<u>15,607,754,313</u>	<u>6,233,096,752</u>	<u>9,752,995,934</u>
	-	-	-	-
Supplemental disclosures of cash flows information				
Non-cash transaction				
Transfer advance payment for land-use rights to land-use rights	-	170,716,392	-	-
Transfer investment properties to property, plant and equipment	1,642,976	10,823,008	-	-
Receivable from capital reduction in associated company	-	161,325,677	-	-

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



Notes to consolidated financial statements

For the year ended 31 December 2019

1. General information

Delta Electronics (Thailand) Public Company Limited (“the Company”) is a public company incorporated and domiciled in Thailand. The registered office of the Company is at 714 Moo 4, Tambon Prakasa, Amphur Muangsamutprakarn, Samutprakarn.

The Group is principally engaged in the manufacture and distribution of electronic products, together with related research and development.

On 22 February 2019, the Company received the Conditional Voluntary Tender Offer for all ordinary shares of the Company from a related company, Delta Electronics International (Singapore) Pte. Ltd., On 2 April 2019, this company notified the Company that the result of the tender offer was that it had acquired 42.85% of the Company’s share capital. Due to the tender, Delta Electronics Inc. which is the parent company of Delta Electronics International (Singapore) Pte. Ltd., directly and indirectly holds 63.78% of the Company’s ordinary shares, making Delta Electronics Inc. the Company’s parent company.

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

- 2.2.1 The consolidated financial statements include the financial statements of Delta Electronics (Thailand) 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 Percent	2018 Percent
DET International Holding Limited	Holding business	The Cayman Islands	100	100
Delta Green Industrial (Thailand) Company Limited	Manufacture and trading of electronic products	Thailand	100	100
Delta Energy Systems (Singapore) Pte. Ltd.	Holding business and trading of electronic products	Singapore	100	100

The subsidiaries which the Company owns through DET International Holding Limited are as follows:

Company's name	Nature of business	Country of incorporation	Percentage of indirect shareholding	
			2019 Percent	2018 Percent
DET Logistics (USA) Corporation	Trading of electronic products	USA	100	100
Delta Electronics (Slovakia) s.r.o.	Manufacture and trading of electronic products	Slovakia	100	100
Delta Energy Systems (Germany) GmbH	Research, development, marketing and trading of electronic products	Germany	100	100



Company's name	Nature of business	Country of incorporation	Percentage of indirect shareholding	
			<u>2019</u> Percent	<u>2018</u> Percent
Delta Energy Systems Property (Germany) GmbH (owned by Delta Energy Systems (Germany) GmbH)	Property rental	Germany	100	100
Delta Energy Systems (India) Pvt. Ltd.	Manufacture and trading of electronic products	India	100	100
Delta Energy Systems (Romania) S.R.L.	Research and development of electronic products	Romania	100	100

The subsidiaries which the Company owns through Delta Energy Systems (Singapore) Pte. Ltd. are as follow:

Company's name	Nature of business	Country of incorporation	Percentage of indirect shareholding	
			<u>2019</u> Percent	<u>2018</u> Percent
Delta Electronics (Australia) Pty. Ltd.	Marketing and after sales services	Australia	100	100
Delta Greentech (Netherlands) Cooperaties UA	Holding business	The Netherlands	100	100
Delta Greentech (Netherlands) B.V. (owned by Delta Greentech (Netherlands) Cooperaties UA)	Holding business	The Netherlands	100	100
Delta Energy Systems LLC (owned by Delta Greentech (Netherlands) B.V.)	Trading of electronic products	Russia	100	100
Eltek s.r.o. (owned by Delta Greentech (Netherlands) B.V.)	Manufacture and trading of electronic products	Slovakia	100	100
Delta Electronics (Automotive) Americas Inc. (owned by Delta Greentech (Netherlands) B.V.)	Research and development of electronic products	USA	100	100
Delta Power Solutions (India) Pvt. Ltd.*	Manufacture, research and development and trading of electronic products	India	-	100
Delta Electronics India Pvt. Ltd.	Manufacture, research and development and trading of electronic products	India	100	100
Delta Electronics (Myanmar) Co., Ltd.	Manufacture and trading of electronic products	Myanmar	100	100
Delta PBA Engineering Solutions Co., Ltd.	Manufacture, assembly and provision of automation	Thailand	51	51
Delta Energy Systems (UK) Limited	Research and development of electronic products	Scotland	100	100

* Completely merge to another subsidiary in India, Delta Electronics India Pvt. Ltd., on 14 February 2019.

- 2.2.2 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.
- 2.2.3 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.
- 2.2.4 The financial statements of the subsidiaries are prepared using the same significant accounting policies as the Company.
- 2.2.5 The assets and liabilities in the financial statements of overseas subsidiary companies are translated to Baht using the exchange rates 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.



- 2.2.6 Material balances and transactions between the Group have been eliminated from the consolidated financial statements.
- 2.2.7 Non-controlling interests represent the portion of profit or loss and net assets of the subsidiaries that are not held by the Company and are presented separately in the consolidated profit or loss and within equity in the consolidated statement of financial position.
- 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 period, the Group has adopted the revised (revised 2018) and new financial reporting standards and interpretations which are effective for fiscal years 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 Group's 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 Group's financial statements.

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

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 Group 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 sale 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 and price promotions to customers.

Rendering of services

Revenue from installation, repair and other services is recognised at a point in time upon completion of the service.

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 on 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 and other receivables

Trade and other receivables 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

Finished goods and work in process are valued at the lower of cost (under the first-in, first-out method) and net realisable value. The cost of inventories is measured using the standard cost method, which approximates actual cost and includes all production costs and attributable factory overheads.

Raw materials are valued at the lower of cost (under the first-in, first-out method) and net realisable value and are charged to production costs whenever consumed. The cost of inventories is measured using the standard cost method, which approximates actual cost.

4.5 Investments

- a) Investments in associated companies are accounted for in the consolidated financial statements using the equity method.
- b) Investments in subsidiary companies are accounted for in the separate financial statements using the cost method net of allowance for impairment loss (if any).

On disposal of an investment, the difference between net disposal proceeds and the carrying amount of the investment is recognised in profit or loss.

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).

Depreciation of investment properties is calculated by reference to their costs on the straight-line basis over estimated useful lives of 3-32 years. Depreciation of the investment properties is recognised in profit or loss.

On disposal of investment properties, the difference between the net disposal proceeds and the carrying amount of the asset is recognised in profit or loss in the period when the asset is derecognised.

4.7 Property, plant and equipment/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:

Building	10 - 50 years
Land improvement	5 - 10 years
Machinery and equipment	3 - 7 years
Molds	2 - 5 years
Installation	5 - 15 years
Furniture, fixtures and office equipment	5 - 7 years
Computer	3 - 5 years
Motor vehicles	5 years

Depreciation is recognised in profit or loss.

No depreciation is provided for land and asset under installation and under construction.

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 profit or loss when the asset is derecognised.



4.8 Land-use rights/Amortisation

Land-use rights is stated at cost less accumulated amortisation. Amortisation of land-use rights is calculated by reference to its cost on a straight-line basis over the land-use rights period, which is 99 years.

The amortisation expense is charged to profit or loss.

4.9 Intangible assets

Intangible assets acquired through business combination are initially recognised at their fair value on the date of business acquisition while intangible assets acquired in other cases are recognised at cost. Following the initial recognition, the 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 they 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 profit or loss

A summary of the intangible assets with finite useful lives is as follow:

	<u>Useful lives</u>
Patents	20 years
Computer software	3 years
Customer relationship	10 years

4.10 Goodwill

Goodwill is initially recorded at cost, which equals to the excess of cost of business combination over the fair value of the net assets acquired. If the fair value of the net assets acquired exceeds the cost of business combination, the excess is immediately recognised as gain in profit or loss.

Goodwill is carried at cost less any accumulated impairment losses (if any). Goodwill is tested for impairment annually and when circumstances indicate that the carrying value may be impaired.

For the impairment testing, goodwill acquired in a business combination is allocated to each of the Group's cash-generating units (or group of cash-generating units) that are expected to benefit from the synergies of the combination. The Group estimates the recoverable amount of each cash-generating unit (or group of cash-generating units) to which the goodwill relates. Where the recoverable amount of the cash-generating unit is less than the carrying amount, an impairment loss is recognised in profit or loss. Impairment losses relating to goodwill cannot be reversed in future periods.

4.11 Related party transactions

Related parties comprise individuals or enterprises that control, or are controlled by, the Group, whether directly or indirectly, or which are under common control with the Group.

They also include associated companies, and individuals or enterprises which directly or indirectly own a voting interest in the Group that gives them significant influence over the Group, key management personnel and directors with authority in the planning and direction of the operations of the Group.

4.12 Long-term leases

Leases of property, plant or equipment which transfer substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalised at the lower of the fair value of the leased assets and the present value of the minimum lease payments. The outstanding rental obligations, net of finance charges, are included in long-term payables, while the interest element is charged to profit or loss over the lease period.

Leases of property, plant or equipment which do not transfer substantially all the risks and rewards of ownership are classified as operating leases. Operating lease payments are recognised as an expense in profit or loss on a straight line basis over the lease term.



4.13 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 recognised in profit or loss.

4.14 Impairment of assets

At the end of each reporting period, the Group performs 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. The Group also carries out annual impairment reviews in respect of goodwill. 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.

In determining value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs to sell, an appropriate valuation model is used. These calculations are corroborated by a valuation model that, based on information available, reflects the amount that the Group could obtain from the disposal of the asset in an arm's length transaction between knowledgeable, willing parties, after deducting the costs of disposal.

An impairment loss is recognised in profit or loss.

In the assessment of asset impairment if there is any indication that previously recognised impairment losses may no longer exist or may have decreased, the Group estimates the asset's recoverable amount. A previously recognised impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognised. The 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 profit or loss.

4.15 Employee benefits

Short-term employee benefits

Salaries, wages, bonuses and contributions to the social security fund are recognised as expenses when incurred.

Post-employment benefits

Defined contribution plans

The Group and its employees have jointly established the provident fund. The fund is monthly contributed by employees and by the Group. The fund's assets are held in a separate trust fund and the contributions of the Group are recognised as expenses when incurred.

Defined benefit plans

The Group has obligations in respect of the severance payments, it must make to employees upon retirement under labor law. The Group treats these severance payment obligations as a defined benefit plan.

The obligation under the defined benefit plan is determined by a professionally qualified independent actuary based on actuarial techniques, using the projected unit credit method.

The liabilities under the defined benefit plan consist of the present value of the defined benefit obligation less fair value of plan assets.



Net interest recognised in profit or loss consists of the interest cost on the defined benefit obligation net with the interest income on plan assets which calculated using the same rate as the discount rate applying for the post-employment benefit obligation.

Actuarial gains and losses from defined benefit plans and return of plan assets net from interest income on plan assets are recognised immediately in other comprehensive income.

Past service costs are recognised in profit or loss on the earlier of the date of the plan amendment or curtailment and the date that the Group recognised restructuring-related costs.

4.16 Provisions

Provisions are recognised when the Group has a present obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

4.17 Research and development expenses

The Group records research and development costs as expenses when incurred.

4.18 Income tax

Income tax expense represents the sum of corporate income tax currently payable and deferred tax.

Current tax

Current income tax is provided in the accounts at the amount expected to be paid to the taxation authorities, based on taxable profits determined in accordance with tax legislation.

Deferred tax

Deferred income tax is provided on temporary differences between the tax bases of assets and liabilities and their carrying amounts at the end of each reporting period, using the tax rates enacted at the end of the reporting period.

The Group recognises deferred tax liabilities for all taxable temporary differences while it recognises deferred tax assets for all deductible temporary differences and tax losses carried forward to the extent that it is probable that future taxable profit will be available against which such deductible temporary differences and tax losses carried forward can be utilised.

At each reporting date, the Group reviews and reduces the carrying amount of deferred tax assets to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised.

The Group records deferred tax directly to shareholders' equity if the tax relates to items that are recorded directly to shareholders' equity.

4.19 Forward currency contracts

Forward currency contracts are initially recognised at fair value on the date that the forward currency contracts are entered into. Any forward currency contracts, which relate to a recognised asset or liability, are subsequently remeasured at their fair value. Gains or losses arising from changes in the fair value of the forward currency contracts are recognised in the profit or loss.

4.20 Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between buyer and seller (market participants) at the measurement date. The Group applies a quoted market price in an active market to measure its assets and liabilities that are required to be measured at fair value by relevant financial reporting standards. Except in case of no active market of an identical asset or liability or when a quoted market price is not available, the Group measures fair value using valuation technique 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 categorise 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 Group determines whether transfers have occurred between levels within the fair value hierarchy for assets and liabilities held at the end of the reporting period that are measured at fair value on a recurring basis.

5. Significant accounting judgements and estimates

The preparation of financial statements in conformity with financial reporting standards at times requires management to make subjective judgements and estimates regarding matters that are inherently uncertain. These judgements and estimates affect reported amounts and disclosures; and actual results could differ from these estimates. Significant judgements and estimates are as follows:

Leases

In determining whether a lease is to be classified as an operating lease or finance lease, the management is required to use judgement regarding whether significant risk and rewards of ownership of the leased asset has been transferred, taking into consideration terms and conditions of the arrangement.

Allowance for doubtful accounts

In determining an allowance for doubtful accounts, the management needs to make judgement and estimates based upon, among other things, debt collection history, aging profile of outstanding debts and the prevailing economic condition.

Allowance for diminution in value of inventory

The determination of allowances for diminution in the value of inventory, requires management to make judgements and estimates. The allowance for reduce cost to net realisable value is estimated based on the selling price expected in the ordinary course of business less the estimated costs to complete the sales; and provision for obsolete, slow-moving and deteriorated inventories that is estimated based on the approximate aging of each type of inventory.

Allowance for impairment loss of investments

The Company treats investment in subsidiaries in the separate financial statements as impaired when there has been a significant or prolonged decline in the fair value below their cost or where other objective evidence of impairment exists. The determination of what is “significant” or “prolonged” requires judgment of the management.

Property plant and equipment/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 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.

Goodwill and intangible assets

The initial recognition and measurement of goodwill and intangible assets, and subsequent impairment testing, require management to make estimates of cash flows to be generated by the asset or the cash generating units and to choose a suitable discount rate in order to calculate the present value of those cash flows.

Deferred tax assets

Deferred tax assets are recognised only to the extent that it is probable that taxable profit will be available against which these deferred tax assets can be utilised. Significant



management judgement is required to determine the amount of deferred tax assets that can be recognised, based upon the likely timing and level of estimate future taxable profits.

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.

Tax assessments

The Group has contingent liabilities as the result of tax assessments. The management was required to exercise judgement to assess the results of the tax assessments and estimate the liabilities that might be incurred as at the end of the reporting period.

6. Related party transactions

During the years, the Group 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.

	Consolidated financial statements		Separate financial statements		Transfer pricing policy
	2019	2018	2019	2018	
Transactions with the parent company*					
Purchase of goods and raw materials	424	405	-	-	With reference to market price
Royalty paid (Note 25)	1,215	1,257	1,215	1,257	Contract price
Services paid	93	98	93	98	Contract price
Transactions with subsidiary companies					
(eliminated from the consolidated financial statements)					
Sales of goods and raw materials	-	-	15,689	14,690	With reference to market price
Purchase of goods and raw materials	-	-	677	172	With reference to market price
Commission paid	-	-	220	182	Contract price
Design and engineering fee paid (Note 26)	-	-	1,924	1,381	Contract price
Distribution fee paid	-	-	103	98	Contract price
Administrative expenses	-	-	87	-	Contract price
Transactions with associated companies					
Sales of goods and raw materials	15	439	11	23	With reference to market price
Commission paid	46	32	33	32	Contract price
Transactions with related companies					
Sales of goods and raw materials	6,025	6,692	1,942	2,755	With reference to market price
Purchase of goods and raw materials	3,519	3,878	719	486	With reference to market price
Commission paid	524	415	521	415	Contract price
Design and engineering fee paid	11	53	-	-	Contract price
Commission received	77	67	-	-	Contract price
Services income	130	154	-	-	Contract price
Other income	12	34	11	7	Contract price

* As mentioned in Note 1 to the financial statement, Delta Electronic Inc. has change status to the Company's parent company on 2 April 2019.

The balances of the accounts as at 31 December 2019 and 2018 between the Company and those related companies are as follows:



	(Unit: Million Baht)			
	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
<u>Trade receivables, related parties (Note 9)</u>				
Parent company*	36	16	31	7
Subsidiary companies	-	-	4,827	5,236
Associated companies	10	8	4	1
Other related companies (under common control)	1,197	1,517	428	670
Total trade receivables, related parties	1,243	1,541	5,290	5,914
<u>Other receivables, related parties (Note 9)</u>				
Parent company*	1	-	1	-
Subsidiary companies	-	-	29	3
Associated companies (Note 12)	-	161	-	-
Other related companies (under common control)	24	-	24	-
Total other receivables, related parties	25	161	54	3
<u>Amounts due from related parties (Note 9)</u>				
Subsidiary companies	-	-	3	4
Total amounts due from related parties	-	-	3	4
<u>Trade payables, related parties (Note 19)</u>				
Parent company*	86	109	2	2
Subsidiary companies	-	-	342	103
Associated companies	1	3	-	-
Other related companies (under common control)	766	856	192	141
Total trade payables, related parties	853	968	536	246
<u>Other payables, related parties (Note 19)</u>				
Parent company*	158	531	157	531
Subsidiary companies	-	-	361	270
Associated companies	12	3	10	3
Other related companies (under common control)	126	36	126	28
Total other payables, related parties	296	570	654	832
<u>Accrued expenses, related parties (Note 19)</u>				
Parent company*	90	94	90	94
Other related companies (under common control)	107	43	107	43
Total accrued expenses, related parties	197	137	197	137

* As mentioned in Note 1 to the financial statement, Delta Electronic Inc. has change status to the Company's parent company on 2 April 2019.

Directors and management's benefits

During the year ended 31 December 2019 and 2018, the Group had employee benefit expenses of their directors and management as below.

	(Unit: Million Baht)			
	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Short-term employee benefits	104	124	54	56
Post-employment benefits	27	7	25	5
Termination benefits	-	4	-	-
Total	131	135	79	61



7. Cash and cash equivalents

	Consolidated		(Unit: Million Baht)	
	financial statements		Separate	
	2019	2018	2019	2018
Cash on hand	-	1	-	1
Current accounts	1,058	794	2	2
Saving accounts	8,405	10,586	6,231	9,750
Fixed deposits with maturity not over 3 months	2,931	4,227	-	-
Total	12,394	15,608	6,233	9,753

As at 31 December 2019, the above bank deposits in saving accounts and fixed deposits carried interests between 0.00 and 8.25 percent per annum (2018: between 0.00 and 8.25 percent per annum) (The Company only: between 0.00 and 1.20 percent per annum, 2018: between 0.00 and 1.20 percent per annum).

8. Current investments

As at 31 December 2019 and 2018, the balance of current investments represents fixed deposits with maturity over 3 months of the subsidiary companies.

9. Trade and other receivables

	Consolidated		(Unit: Million Baht)	
	financial statements		Separate	
	2019	2018	2019	2018
<u>Trade receivables, related parties</u> (Note 6)				
Aged on the basis of due dates				
Not yet due	1,232	1,484	4,134	5,180
Past due				
Up to 3 months	10	21	1,148	698
3 - 6 months	1	19	3	18
6 - 12 months	-	17	5	18
Total	1,243	1,541	5,290	5,914
<u>Trade receivables, unrelated parties</u>				
Aged on the basis of due dates				
Not yet due	6,963	8,140	3,326	4,207
Past due				
Up to 3 months	934	1,126	388	497
3 - 6 months	93	143	2	15
6 - 12 months	153	25	1	3
Over 12 months	48	43	-	3
Total	8,191	9,477	3,717	4,725
Total trade receivables	9,434	11,018	9,007	10,639
Less: Allowance for doubtful accounts	(188)	(126)	(4)	(29)
Total trade receivables - net	9,246	10,892	9,003	10,610
<u>Other receivables</u>				
Amounts due from related parties (Note 6)	-	-	3	4
Other receivables - related parties (Note 6)	25	161	54	3
Other receivables - unrelated parties	468	505	408	431
Total other receivables	493	666	465	438
Trade and other receivables - net	9,739	11,558	9,468	11,048



10. Inventories

(Unit: Million Baht)

Consolidated financial statements						
	Cost		Reduce cost to net realisable value		Inventories-net	
	2019	2018	2019	2018	2019	2018
Finished goods	4,546	3,612	(457)	(481)	4,089	3,131
Work in process	996	1,083	-	-	996	1,083
Raw materials	3,725	4,687	(923)	(682)	2,802	4,005
Goods in transit	1,076	1,242	-	-	1,076	1,242
Total	10,343	10,624	(1,380)	(1,163)	8,963	9,461

(Unit: Million Baht)

Separate financial statements						
	Cost		Reduce cost to net realisable value		Inventories-net	
	2019	2018	2019	2018	2019	2018
Finished goods	2,989	2,246	(176)	(128)	2,813	2,118
Work in process	778	847	-	-	778	847
Raw materials	2,492	3,095	(578)	(421)	1,914	2,674
Goods in transit	241	169	-	-	241	169
Total	6,500	6,357	(754)	(549)	5,746	5,808

Details movement of the reduction of inventories to net realisable value are as follows:

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Balance at beginning of year	(1,163)	(859)	(549)	(342)
Increase during the year	(529)	(489)	(328)	(295)
Reversal of the reduction to net realisable value of the obsolete and damaged inventories written off during the year	263	174	123	88
Reversal during the year	49	11	-	-
Balance at end of year	(1,380)	(1,163)	(754)	(549)

11. Other current assets

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Input tax refundable	304	275	91	99
Advance payments	666	511	141	132
Prepaid expenses	200	118	32	10
Prepaid tax	52	29	-	-
Forward contracts receivable (Note 34)	34	76	33	76
Others	25	50	10	9
Total other current assets	1,281	1,059	307	326



12. Investments in associated companies

12.1 Details of associates

Company's name	Nature of business	Country of incorporation	Consolidated financial statements				(Unit: Million Baht)	
			Shareholding percentage		Cost			Carrying amounts based on equity method
			2019 (%)	2018 (%)	2019	2018		
Delta Electronics (Switzerland) AG (owned by Delta Greentech (Netherlands) B.V.)	Holding business, trading, research and development of electronic products	Switzerland	49	49	287	287	432	448
Delta Greentech Electronics Industry LLC (owned by Delta Greentech (Netherlands) B.V.)	Marketing and distribution of electronic products	Turkey	49	49	117	117	99	118
Translation adjustment					(60)	(26)	(67)	(30)
Total					344	378	464	536

12.2 Share of comprehensive income and dividend received

During the year, the Company has recognised its share of profit (loss) and share of other comprehensive income from investments in associated companies in the consolidated financial statements as follows:

Associates	Consolidated financial statements				(Unit: Million Baht)
	For the year ended 31 December		Share of other comprehensive income from investments in associated companies		
	Share of profit (loss) from investments in associated companies	2018	Share of other comprehensive income from investments in associated companies	2018	
	2019	2018	2019	2018	
Delta Electronics (Switzerland) AG	44	49	(60)	30	
Delta Greentech Electronics Industry LLC	(19)	4	-	-	
Total	25	53	(60)	30	

No dividend was received from the above associated companies during the year ended 31 December 2019 (for the year ended 31 December 2018: Delta Greentech (Netherlands) B.V., which is a subsidiary of the Company, was received dividend amounting to approximately CHF 1 million, or approximately Baht 41 million from Delta Electronics (Switzerland) AG).



12.3 Summarised financial information about material associates

Summarised information about financial position

(Unit: Million Baht)

	Delta Electronics (Switzerland) AG		Delta Greentech Electronics Industry LLC	
	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Current assets	1,628	2,316	291	328
Non-current assets	95	73	25	8
Current liabilities	(974)	(1,704)	(196)	(160)
Non-current liabilities	(193)	(60)	(12)	-
Net assets	556	625	108	176
Shareholding percentage (%)	49	49	49	49
Share of net assets	272	306	53	86
Goodwill	92	92	-	-
Translation adjustment	16	25	31	27
Carrying amounts of associates based on equity method	380	423	84	113

Summarised information about comprehensive income

(Unit: Million Baht)

	For the year ended 31 December			
	Delta Electronics (Switzerland) AG		Delta Greentech Electronics Industry LLC	
	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Revenue	3,712	4,344	540	482
Profit (loss)	91	99	(39)	8
Other comprehensive income	(122)	61	-	-
Total comprehensive income	(31)	160	(39)	8

12.4 Significant events during the current year

Registered capital reduction of associated company

Delta Electronics (Switzerland) AG

On 13 September 2019, a meeting of Board of directors of Delta Electronics (Switzerland) AG passed a resolution to decrease Delta Electronics (Switzerland) AG's registered and issued share capital by CHF 10 million from CHF 20 million (20,000 ordinary shares of CHF 1,000 each) to CHF 10 million (10,000 ordinary shares of CHF 1,000 each). Delta Electronics (Switzerland) AG registered the corresponding decrease in its registered share capital on 19 December 2019. On 28 January 2019, Delta Greentech (Netherlands) B.V., which is a subsidiary of the Company, received payment in respect of capital reduction in proportion to its existing shareholding, amounting to approximately CHF 4.9 million, or approximately Baht 161 million. The decrease in investment had no impact on the investment structure of the Group.



13. Investments in subsidiary companies

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

Company's name	Paid-up capital		(Unit: Million Baht)	
			Cost	
	Foreign currency	2019 (Million)	2018 (Million)	2019 2018
DET International Holding Limited	USD	264	264	9,450 9,450
Delta Green Industrial (Thailand) Company Limited	THB	206	206	206 206
Delta Energy Systems (Singapore) Pte. Ltd.	USD	173	103	5,573 3,370
Subtotal				15,229 13,026
Less: Allowance for impairment loss of investments in subsidiary companies				(1,144) (1,144)
Investments in subsidiary companies - net				14,085 11,882

No dividend was received from the above subsidiary companies during the year ended 31 December 2019 and 2018.

13.2 Significant events during the current year

13.2.1 Subsidiaries directly owned by the Company

Additional investment in subsidiary companies

Delta Energy Systems (Singapore) Pte. Ltd.

- On 28 November 2017, a meeting of the Company's Board of Directors passed a resolution to increase the Company's investment in Delta Energy Systems (Singapore) Pte. Ltd. by USD 2.5 million, or approximately Baht 80 million, in order to establish a new subsidiary in the USA, Delta Electronics (Automotive) Americas Inc. The Company made the additional investment in the first quarter of year 2019.
- On 26 October 2018, a meeting of the Company's Board of Directors passed a resolution to increase the Company's investment by USD 42 million, or approximately Baht 1,311 million, to enable the latter to invest in Delta Electronics India Pvt. Ltd. and thus fund construction of a new factory in India. The Company made the additional investment in the first quarter of year 2019.
- On 26 October 2018, a meeting of the Company's Board of Directors passed a resolution to increase the Company's investment by USD 27 million, or approximately Baht 812 million, to enable the latter to invest in Delta Electronics India Pvt. Ltd. and thus fund construction of a new factory in India. The Company made the additional investment in the fourth quarter of year 2019.

The above additional investments had no impact on the investment structure of the Group.

13.2.2 Subsidiaries indirectly owned by the Company

The merger of subsidiaries in India

On 25 July 2017, a meeting of the Company's Board of Directors passed a resolution to merge two subsidiaries in India, Delta Power Solutions (India) Pvt. Ltd. and Delta Electronics India Pvt. Ltd., with the merged business to belong to Delta Electronics India Pvt. Ltd. and Delta Power Solutions (India) Pvt. Ltd. to be dissolved. The merger of the subsidiaries was approved by and registered with the Indian authorities on 9 January 2019 and 14 February 2019 respectively. The merger had no impact on the consolidated financial statements because it was a merger of subsidiaries within a group of companies under common control.



14. Investment properties

The net book value of investment properties as at 31 December 2019 and 2018 is presented below.

	(Unit: Million Baht)		
	Consolidated financial statements		
	Land for rent	Office building for rent	Total
31 December 2019:			
Cost	44	317	361
Less: Accumulated depreciation	-	(59)	(59)
Less: Transfer out due to change in type of use of assets (Note 15)	(3)	(10)	(13)
Translation adjustment	(11)	(60)	(71)
Net book value (Note 34)	<u>30</u>	<u>188</u>	<u>218</u>
31 December 2018:			
Cost	44	303	347
Less: Accumulated depreciation	-	(50)	(50)
Less: Transfer out due to change in type of use of assets (Note 15)	(2)	(9)	(11)
Translation adjustment	(8)	(41)	(49)
Net book value (Note 34)	<u>34</u>	<u>203</u>	<u>237</u>

A reconciliation of the net book value of investment properties for the years 2019 and 2018 is presented below.

	(Unit: Million Baht)	
	Consolidated financial statements	
	2019	2018
Book value at beginning of year	237	210
Acquisition of assets	14	56
Depreciation charged	(9)	(8)
Transfer out due to change in type of use of assets (Note 15)	(2)	(11)
Translation adjustment	(22)	(10)
Book value at end of year	<u>218</u>	<u>237</u>

The book value of the above investment properties as stated in the financial statements is closed to the fair value.



15. Property, plant and equipment

(Unit: Million Baht)

Consolidated financial statements									
	Land	Building	Machinery and equipment	Mold	Installation	Assets under installation and under construction	Computer	Others	Total
Cost:									
1 January 2018	859	3,766	6,695	1,217	1,425	515	449	486	15,412
Purchase/transfer in	-	92	1,226	139	373	962	102	320	3,214
Disposal/write-off/transfer out	-	(115)	(403)	(40)	(76)	(762)	(73)	(249)	(1,718)
Transfer in due to change in type of use of assets (Note 14)	2	9	-	-	-	-	-	-	11
Translation adjustment	(46)	(130)	(76)	-	(17)	(7)	(13)	(23)	(312)
31 December 2018	815	3,622	7,442	1,316	1,705	708	465	534	16,607
Purchase/transfer in	268	320	2,093	225	534	3,882	152	67	7,541
Disposal/write-off/transfer out	(8)	(17)	(302)	(89)	(46)	(2,169)	(26)	(98)	(2,755)
Transfer out due to change in type of use of assets (Note 14)	1	1	-	-	-	-	-	-	2
Translation adjustment	(46)	(191)	(131)	(1)	(28)	(32)	(17)	(32)	(478)
31 December 2019	1,030	3,735	9,102	1,451	2,165	2,389	574	471	20,917
Accumulated depreciation:									
1 January 2018	-	831	4,517	1,109	885	-	364	334	8,040
Depreciation for the year	-	96	782	115	145	-	60	35	1,233
Depreciation - disposal/write-off	-	(6)	(398)	(40)	(75)	-	(72)	(13)	(604)
Translation adjustment	-	(24)	(61)	(1)	(8)	-	(11)	(19)	(124)
31 December 2018	-	897	4,840	1,183	947	-	341	337	8,545
Depreciation for the year	-	85	1,056	141	204	-	89	44	1,619
Depreciation - disposal/write-off	-	(3)	(294)	(89)	(44)	-	(25)	(14)	(469)
Translation adjustment	-	(35)	(107)	(2)	(12)	-	(16)	(28)	(200)
31 December 2019	-	944	5,495	1,233	1,095	-	389	339	9,495





15. Property, plant and equipment (continued)

	Consolidated financial statements							(Unit: Million Baht)	
	Land	Building	Machinery and equipment	Mold	Installation	Assets under installation and under construction	Computer	Others	Total
Allowance for impairment loss:									
1 January 2018	-	100	4	-	9	-	-	1	114
Reversal allowance for impairment during the year	-	-	(3)	-	(6)	-	-	-	(9)
31 December 2018	-	100	1	-	3	-	-	1	105
Reversal allowance for impairment during the year	-	(83)	(1)	-	(1)	-	-	(1)	(86)
31 December 2019	-	17	-	-	2	-	-	-	19
Net book value:									
As at 31 December 2018	815	2,625	2,601	133	755	708	124	196	7,957
As at 31 December 2019	1,030	2,774	3,607	218	1,068	2,389	185	132	11,403
Depreciation for the year									
Year 2018 (Baht 1,012 million include in manufacturing cost, and the balance in selling, administrative and research and development expenses)									1,233
Year 2019 (Baht 1,295 million include in manufacturing cost, and the balance in selling, administrative and research and development expenses)									1,619

15. Property, plant and equipment (continued)

(Unit: Million Baht)

	Separate financial statements						
	Land	Building	Machinery and equipment	Mold	Installation	Assets under installation and under construction	Total
Cost:							
1 January 2018	313	1,599	5,304	1,209	1,136	374	10,318
Purchase/transfer in	-	16	1,046	138	334	578	2,475
Disposal/write-off/transfer out	-	(89)	(371)	(40)	(73)	(593)	(1,449)
31 December 2018	313	1,526	5,979	1,307	1,397	359	11,344
Purchase/transfer in	101	296	1,727	226	458	2,288	5,202
Disposal/write-off/transfer out	-	(16)	(276)	(89)	(44)	(1,988)	(2,512)
31 December 2019	414	1,806	7,430	1,444	1,811	659	14,034
Accumulated depreciation:							
1 January 2018	-	487	3,393	1,100	752	-	5,998
Depreciation for the year	-	29	674	114	126	-	985
Depreciation - disposal/write-off	-	(2)	(368)	(39)	(73)	-	(531)
31 December 2018	-	514	3,699	1,175	805	-	6,452
Depreciation for the year	-	33	912	140	181	-	1,333
Depreciation - disposal/write-off	-	(6)	(268)	(89)	(42)	-	(418)
31 December 2019	-	541	4,343	1,226	944	-	7,367





15. Property, plant and equipment (continued)

	Separate financial statements							(Unit: Million Baht)	
	Land	Building	Machinery and equipment	Mold	Installation	Assets under installation and under construction	Computer	Others	Total
Allowance for impairment loss:									
1 January 2018	-	100	4	-	9	-	-	1	114
Reversal allowance for impairment during the year	-	-	(3)	-	(6)	-	-	-	(9)
31 December 2018	-	100	1	-	3	-	-	1	105
Reversal allowance for impairment during the year	-	(83)	(1)	-	(1)	-	-	(1)	(86)
31 December 2019	-	17	-	-	2	-	-	-	19
Net book value:									
As at 31 December 2018	313	912	2,279	132	589	359	96	107	4,787
As at 31 December 2019	414	1,248	3,087	218	865	659	126	31	6,648
Depreciation for the year									
Year 2018 (Baht 863 million include in manufacturing cost, and the balance in selling, administrative and research and development expenses)									985
Year 2019 (Baht 1,145 million include in manufacturing cost, and the balance in selling, administrative and research and development expenses)									1,333

As at 31 December 2019, certain items of building, machinery and equipment of the Group were fully depreciated but are still in use. The gross carrying amount before deducting accumulated depreciation of those assets amounted to approximately of Baht 5,596 million (2018: Baht 5,417 million) (The Company only: Baht 4,151 million, 2018: Baht 3,870 million).

16. Land-use rights

The net book value of land-use rights as at 31 December 2019 and 2018 is presented below.

	Consolidated financial statements
(Unit: Million Baht)	
31 December 2019:	
Cost	227
Less: Accumulated amortisation	(8)
Translation adjustment	(21)
Net book value	198
31 December 2018:	
Cost	56
Add: Transfer in from advance payment for land-use rights	171
Less: Accumulated amortisation	(6)
Translation adjustment	(1)
Net book value	220

A reconciliation of the net book value of land-use rights for the years 2019 and 2018 is presented below.

	Consolidated financial statements	
(Unit: Million Baht)	2019	2018
Book value at beginning of year	220	44
Increase during the year	-	4
Amortisation	(2)	(2)
Transfer in from advance payment for land-use rights	-	171
Translation adjustment	(20)	3
Book value at end of year	198	220

17. Goodwill

The net book value of goodwill as at 31 December 2019 and 2018 is presented below.

	Consolidated financial statements
(Unit: Million Baht)	
Net book value as at 1 January 2018	450
Translation adjustment	(12)
Net book value as at 31 December 2018	438
Translation adjustment	(20)
Net book value as at 31 December 2019	418

As at 31 December 2019, the net book value of the goodwill as above included the goodwill of approximately Baht 215 million from the acquisition of Delta Electronics (Switzerland) AG (formerly know as "Delta Energy Systems (Switzerland) AG") in 2003 and the goodwill of approximately Baht 203 million from Delta Greentech (Netherland) B.V.'s acquisition of Eltek s.r.o. ("Eltek SK") in 2017.

The Group determined the recoverable amount of the cash generating units based on value in use, with the cash flow projections derived from financial budgets approved by management. The projections cover a five-year period.

Key assumptions used in the value in use calculation of each group of the cash generating units are summarised below:

	Power electronics segment related to DES products	Eltek s.r.o.
(Unit: Percent per annum)		
Growth rates	3%	2%
Pre-tax discount rates	12%	14%

The management of the Group determined growth rates based on factors including historical operating results, expected market growth and economic growth. The discount rate is a pre-tax rate that reflects the risks specific to each cash generating units.

The Group performed impairment tested on goodwill by comparing the recoverable amount of the cash generating units (calculated by independent appraiser) with their carrying value and found that the recoverable amount of the cash generating units was higher than the carrying value. The management of the Group thus believes that goodwill is not impaired.

18. Other intangible assets

The net book value of intangible assets as at 31 December 2019 and 2018 is presented below.

	Consolidated financial statements					Separate financial statements
	Patent rights	Computer software	Customer relationship	Others	Total	Computer software
Cost:						
1 January 2018	1,073	260	138	3	1,474	85
Purchase	-	51	-	-	51	-
Disposals	-	(3)	-	-	(3)	-
Translation adjustment	(8)	(9)	(7)	-	(24)	-
31 December 2018	1,065	299	131	3	1,498	85
Purchase	-	76	-	-	76	-
Disposals	-	(11)	-	-	(11)	-
Translation adjustment	(75)	(20)	(12)	(1)	(108)	-
31 December 2019	990	344	119	2	1,455	85
Accumulated amortisation:						
1 January 2018	701	236	10	2	949	82
Amortisation for the year	53	23	13	1	90	1
Disposals	-	(3)	-	-	(3)	-
Translation adjustment	(5)	(8)	(1)	-	(14)	-
31 December 2018	749	248	22	3	1,022	83
Amortisation for the year	51	39	13	-	103	1
Disposals	-	(9)	-	-	(9)	-
Translation adjustment	(55)	(17)	(2)	(1)	(75)	-
31 December 2019	745	261	33	2	1,041	84
Net book value:						
31 December 2018	316	51	109	-	476	2
31 December 2019	245	83	86	-	414	1

19. Trade and other payables

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Trade payables - related parties (Note 6)	853	968	536	246
Trade payables - unrelated parties	5,826	6,746	5,212	5,884
Other payables - related parties (Note 6)	296	570	654	832
Other payables - unrelated parties	889	1,105	746	1,032
Accrued expenses - related parties (Note 6)	197	137	197	137
Accrued expenses - unrelated parties	1,781	1,801	1,041	1,033
Advance received	309	474	88	113
Total trade and other payables	10,151	11,801	8,474	9,277

20. Other current liabilities

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Forward contracts payable (Note 34)	1	15	-	-
Withholding tax payable	136	151	89	92
Value added tax payable	88	29	-	-
Others	80	52	21	14
Total other current liabilities	305	247	110	106



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:

	Consolidated financial statements		(Unit: Million Baht) Separate financial statements	
	2019	2018	2019	2018
Defined benefit obligation	(1,474)	(1,273)	(445)	(282)
Fair value of plan assets	47	39	-	-
Provisions for long-term employee benefits as at 31 December	(1,427)	(1,234)	(445)	(282)

The change in the defined benefit obligation is as follows:

	Consolidated financial statements		(Unit: Million Baht) Separate financial statements	
	2019	2018	2019	2018
Defined benefit obligation at beginning of year	(1,273)	(1,373)	(282)	(271)
Included in profit or loss:				
Current service cost	(50)	(41)	(33)	(22)
Interest cost	(28)	(25)	(9)	(7)
Past service costs and gains or losses on settlement	(110)	-	(102)	-
Included in other comprehensive income:				
Actuarial gain (loss) arising from				
Demographic assumptions changes	(142)	(1)	(22)	-
Financial assumptions changes	(11)	38	(11)	-
Experience adjustments	(11)	4	(8)	-
Benefits paid during the year	61	66	22	18
Translation adjustments	90	59	-	-
Defined benefit obligation at end of year	(1,474)	(1,273)	(445)	(282)

The change in the fair value of plan assets is as follows:

	Consolidated financial statements		(Unit: Million Baht) Separate financial statements	
	2019	2018	2019	2018
Fair value of plan assets at beginning of year	39	36	-	-
Included in profit or loss:				
Interest income on plan assets	3	2	-	-
Contributions by employer	11	7	-	-
Benefits paid during the year	(2)	(2)	-	-
Translation adjustments	(4)	(4)	-	-
Fair value of plan assets at end of year	47	39	-	-

The amount of each major category constitutes of the fair value of the total plan assets are as follows:

	Consolidated financial statements		(Unit: Million Baht) Separate financial statements	
	2019	2018	2019	2018
Government bonds	28	23	-	-
Debentures	16	13	-	-
Others	3	3	-	-



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 was effective from 5 May 2019. This change is considered a post-employment benefits plan amendment and the Group has additional long-term employee benefit liabilities of Baht 102 million (The Company only: Baht 102 million) as a result. The Group reflects the effect of the change by recognising past service costs as expenses in the income statement of the current year.

The Group expects to pay Baht 72 million of long-term employee benefits during the next year (The Company only: Baht 10 million) (2018: Baht 64 million, the Company only: Baht 13 million).

As at 31 December 2019, the weighted average duration of the liabilities for long-term employee benefit of the Group is 9-22 years (The Company only: 14 years) (2018: 9-21 years, the Company only: 13 years).

Significant actuarial assumptions are summarised below:

	(Unit: percent per annum)			
	Consolidated		Separate	
	financial statements		financial statements	
	2019	2018	2019	2018
Discount rate	1.4 - 7.7	1.8 - 7.7	2.5	2.6
Future salary increase rates (depending on age)	2.3 - 9.0	3.0 - 9.0	2.3 - 9.0	3.0 - 9.0
Pension increase rate	1.5	1.5	-	-
Turnover rate	0.8 - 15.0	0.8 - 13.0	3.5 - 15.0	13.0

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

	(Unit: Million Baht)			
	As at 31 December 2019			
	Consolidated		Separate	
	financial statements		financial statements	
	Increase 0.5%-10%	Decrease 0.5%-10%	Increase 1%-10%	Decrease 1%-10%
Discount rate	Decrease 92	Increase 147	Decrease 23	Increase 71
Future salary increase rates (depending on age)	Increase 73	Decrease 24	Increase 69	Decrease 22
Pension increase rate	Increase 61	Decrease 56	-	-
Turnover rate	Decrease 1	Increase 44	Increase 2	Increase 40

	(Unit: Million Baht)			
	As at 31 December 2018			
	Consolidated		Separate	
	financial statements		financial statements	
	Increase 0.5%-10%	Decrease 0.5%-10%	Increase 1%-10%	Decrease 1%-10%
Discount rate	Decrease 72	Increase 135	Decrease 8	Increase 64
Future salary increase rates (depending on age)	Increase 61	Decrease 5	Increase 58	Decrease 2
Pension increase rate	Increase 56	Decrease 51	-	-
Turnover rate	Increase 6	Increase 45	Increase 6	Increase 45



22. Provisions

(Unit: Million Baht)

	Consolidated financial statements			Separate financial statements		
	Warranty	Other provisions	Total	Warranty	Other provisions	Total
Balance as at 1 January 2018	410	36	446	240	-	240
Recognition during year	237	28	265	81	8	89
Decrease during year	(14)	(11)	(25)	(11)	-	(11)
Reversal during year	(148)	(11)	(159)	(40)	-	(40)
Translation adjustment/unrealised loss on exchange rate	(13)	(2)	(15)	1	-	1
Balance as at 31 December 2018	472	40	512	271	8	279
Recognition during year	246	88	334	102	7	109
Decrease during year	(24)	(5)	(29)	(23)	-	(23)
Reversal during year	(117)	(78)	(195)	(64)	-	(64)
Translation adjustment/unrealised gain on exchange rate	(146)	(3)	(149)	(12)	-	(12)
Balance as at 31 December 2019	431	42	473	274	15	289
Short-term provisions	1	12	13	-	-	-
Long-term provisions	471	28	499	271	8	279
Balance as at 31 December 2018	472	40	512	271	8	279
Short-term provisions	67	25	92	-	-	-
Long-term provisions	364	17	381	274	15	289
Balance as at 31 December 2019	431	42	473	274	15	289

Warranty

The Group recognised a provision for the expected warranty claims on products based on past experience of the level of repairs and returns with current sales for each type of products under current warranty.

23. 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 profit 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.

24. Dividends

Dividends declared in 2019 and 2018 consisted of the followings:

Dividends	Approved by	Total dividends (Million Baht)	Dividend per share (Baht)
Final dividend for year 2018	Annual General Meeting of the shareholders on 2 April 2019	2,869	2.30
Final dividend for year 2017	Annual General Meeting of the shareholders on 2 April 2018	2,744	2.20

25. Royalty

The Company entered into the Intellectual Property & Technology License Agreement with Delta Electronics Inc. ("Licensor"), whereby the Licensor granted the Company the right to manufacture and sell products that apply the Licensor's patents and technology, including improvements thereof. In consideration for the rights, the Company agrees to pay a royalty to the Licensor at a percentage of revenue from sales of products manufactured under the licenses, with that percentage determined on an arm's length basis. The percentage is to be



amicably reviewed by the parties annually before each anniversary of the effective date, which was 1 January 2018. The agreement matures annually and renews continuously for further periods of one year until terminated by either party. The Company has recorded the related expense as “Royalty expenses”, which are presented under the caption of “Selling and distribution expenses” in the statements of comprehensive income.

26. Research and development expenses

The Company entered into research and development service agreement with Delta Energy Systems (Germany) GmbH, a subsidiary company. Under this agreement, the subsidiary company provides research and development services (design and engineering) to the Company and charges fees equal to the local operational costs incurred on product research and development plus margin on the arm’s length basis. This agreement mature annually.

The Company has recorded design and engineering fees as “Research and development expenses” in the statements of comprehensive income.

27. Expenses by nature

Significant expenses classified by nature are as follows:

	Consolidated financial statements		(Unit: Million Baht) Separate financial statements	
	2019	2018	2019	2018
Salaries, wages and other employee benefits	8,447	7,984	5,375	4,869
Raw materials used and purchase of finished goods	32,583	33,238	25,242	24,268
Changes in finished goods and work in progress	(847)	(346)	(674)	(109)
Depreciation	1,628	1,241	1,333	985
Amortisation	105	92	1	1
Commission expenses	667	609	836	703
Marketing fee	12	34	97	31
Design and engineering fee	51	53	1,924	1,381
Services paid	96	98	96	98
Royalty paid	1,215	1,257	1,215	1,257

28. Income tax

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

	Consolidated financial statements		(Unit: Million Baht) Separate financial statements	
	2019	2018	2019	2018
Current income tax:				
Current income tax charge	(82)	(164)	-	-
Adjustment in respect of income tax of previous year	2	(12)	-	-
Deferred tax:				
Relating to origination and reversal of temporary differences	54	(18)	-	-
Translation adjustment	7	9	-	-
Income tax expenses reported in profit or loss	(19)	(185)	-	-



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

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Accounting profit before tax	2,970	5,335	2,419	4,563
Income tax at Thai corporate income tax rate of 20%	(594)	(1,067)	(483)	(913)
Adjust in respect to current income tax of previous years	2	(12)	-	-
Tax effect of:				
Difference in tax rates of subsidiaries in overseas countries	(23)	(52)	-	-
Tax savings from the tax privileges granted by the government	506	940	498	912
Loss for the current year	(11)	(11)	(7)	-
Non-deductible expenses	(14)	(46)	(1)	(6)
Unrecognised deferred tax assets on temporary differences	46	8	(7)	1
Utilisation of previously unrecognised deferred tax asset on tax losses	45	33	-	6
Exemption of income	-	13	-	-
Others	24	9	-	-
Total	67	(46)	(15)	1
Income tax expenses reported in profit or loss	(19)	(185)	-	-

The tax rates enacted at the end of the reporting period of the subsidiaries in overseas countries are 0% to 35%.

As at 31 December 2019 and 2018, the components of deferred tax assets and deferred tax liabilities are as follows:

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Deferred tax assets				
Allowance for doubtful accounts	54	27	-	-
Allowance for diminution in value of inventories	157	137	-	-
Bonus payable	10	8	-	-
Provision for warranty	8	12	-	-
Tax savings from promotional privileges	-	17	-	-
Tax loss brought forward	3	3	-	-
Others	28	35	-	-
Total	260	239	-	-
Deferred tax liabilities				
Difference depreciation for tax purpose	114	144	-	-
Total	114	144	-	-

As at 31 December 2019 the Group has deductible temporary differences and unused tax losses totaling Baht 4,382 million, INR 316 million or approximately Baht 133 million, EUR 43 million or approximately Baht 1,458 million, RUB 49 million or approximately Baht 24 million and MMK 74 million or approximately Baht 1 million (2018: Baht 3,764 million, INR 444 million or approximately Baht 206 million, EUR 47 million or approximately Baht 1,741 million, RUB 31 million or approximately Baht 15 million and MMK 639 million or approximately Baht 14 million). No deferred tax assets have been recognised on these amounts as the Company has been granted tax privileges by the Board of Investment and the subsidiaries have determined that they may not be able to utilise the deductible temporary difference and unused tax losses because they do not yet have any taxable profits and they are unable to estimate the benefit they would generate from utilisation of such deductible temporary difference and unused tax losses.



Details of expiry date of unused tax losses for which the Group has not recognised deferred tax assets are summarised below:

	Consolidated financial statements		(Unit: million Baht) Separate financial statements	
	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
The five-year limitation period				
31 December 2018	-	28	-	-
31 December 2019	-	34	-	-
31 December 2020	1	22	-	-
31 December 2021	5	14	-	-
31 December 2022	539	572	523	556
31 December 2023	46	15	-	-
Total			<u>523</u>	<u>556</u>
The eight-year limitation period				
31 March 2019	-	59		
31 March 2020	17	19		
31 March 2021	34	38		
31 March 2022	22	24		
31 March 2023	13	15		
31 March 2024	15	16		
No expiry date	<u>1,490</u>	<u>1,776</u>		
Total	<u>2,182</u>	<u>2,632</u>		

As at 31 December 2019, the total amount of temporary differences associated with investments in subsidiaries and associates for which deferred tax liability has not been recognised, is Baht 230 million (2018: Baht 194 million).



29. Promotional privileges

The Company and a subsidiary in Thailand were granted promotional privileges by the Board of Investment subject to certain significant conditions. Significant privileges of the Company and the subsidiary in Thailand are as follows:

Details	The Company							A subsidiary in Thailand		
1. Certificate No.	1494(2)/2552	2061(1)/2553	1732(2)/2557	1158(2)/2558	1688(2)/2558	59-1316-1-00-2-0	61-1505-1-00-1-0	62-0076-1-00-0-0	1813(2)/2554	1814(2)/2554
2. Promotional privileges for	Manufacturing of DC FAN	Manufacturing of telecommunication equipment and electronics products for vehicle	Manufacturing of electro - magnetic products	Manufacturing of electro - magnetic products	Manufacturing of DC FAN	Designing of Electronics	Manufacturing of electro - magnetic products	Manufacturing of Ventilation Fan.	Manufacturing of Inverter	Manufacturing of electric light bulbs and display monitor
3. The significant privileges are										
3.1 Exemption from corporate income tax for net income from the promoted operations and exemption from income tax on dividends paid from the income of the operations throughout the period in which the corporate income tax is exempted.	7 years (Maximum amount Baht 298,170,000)	8 years	7 years (Maximum amount Baht 124,000,000)	5 years (Maximum amount Baht 682,381,686)	7 years (Maximum amount Baht 200,000,000)	8 years	4 years (Maximum amount Baht 1,572,170,000)	Non-granted	7 years (Maximum amount Baht 182,000,000)	7 years (Maximum amount Baht 202,400,000)
3.2 Exemption from import duty on machinery as approved by the board.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted
3.3 Exemption from import duty on raw materials and significant supplies used in export production.	Granted	Non - granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted
3.4 A fifty percent reduction of the normal rate of corporate income tax on net earnings derived from the promoted activity for a period of five years after the expiration of the above corporate income tax exemption period.	Non - granted	Granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted
3.5 Two times deduction of transportation, electricity and water supply for corporate income tax purpose for a period of ten years commencing as from the date of earning operating income.	Non - granted	Granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted
3.6 Permission to deduct cost of public utilities at the rate of twenty-five percent in addition to normal depreciation charges.	Non - granted	Granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted	Non - granted
4. Date of first earning operating income	15 March 2013	10 January 2015	5 January 2018	5 January 2017	1 December 2017	Not yet commenced operation	Not yet commenced operation	Not yet commenced operation	Not yet commenced operation	Not yet commenced operation
5. Additional right and benefit	Granted the additional tax incentive under the Skill, Technology and Innovation	-	Granted the additional tax incentive under the Skill, Technology and Innovation	Granted the additional tax incentive under the Skill, Technology and Innovation	-	-	-	-	-	-



The Company's operating revenues for the years ended 31 December 2019 and 2018, divided between promoted and non-promoted operations, are summarised below.

	Promoted operations		Non-promoted operations		(Unit: Million Baht) Total	
	2019	2018	2019	2018	2019	2018
<u>Separate financial statements</u>						
Sales and service income						
Domestic sales	365	446	73	109	438	555
Export sales	36,222	39,338	3,424	222	39,646	39,560
Service income	-	-	38	9	38	9
Total Sales and service income	<u>36,587</u>	<u>39,784</u>	<u>3,535</u>	<u>340</u>	<u>40,122</u>	<u>40,124</u>

Significant tax privileges which were granted to other subsidiaries of the Company are as follows:

- Delta Electronics (Slovakia) s.r.o. was granted tax privileges by the Government of Slovakia for the manufacture of Power Supply and Solar inverters on 22 December 2006. Subject to certain imposed conditions, the privileges include an exemption from corporate income tax for a period of 10 years from the year in which the promoted operations commenced, which was 2010. The exemption is capped at EUR 6.2 million and currently available tax relief is approximately EUR 0.3 million.

30. 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.

31. Segment information

Operating segment information is reported in a manner consistent with the internal reports that are regularly reviewed by the chief operating decision maker in order to make decisions about the allocation of resources to the segment and assess its performance. The chief operating decision maker has been identified as president of the group.

The basis of accounting for any transactions between reportable segments is consistent with that for third party transactions.

The following tables present revenue and profit information regarding the Group's operating segments for the year ended 31 December 2019 and 2018, respectively.

	Power electronics segment ¹⁾		Infrastructure segment ²⁾		Automation segment ³⁾		Others		(Unit: Million Baht) Consolidated financial statements	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Revenue										
Sales from external customers	32,228	34,301	16,187	16,046	1,901	1,697	126	384	50,442	52,428
Service income from external customers	68	103	400	348	219	129	42	59	729	639
Total revenue	<u>32,296</u>	<u>34,404</u>	<u>16,587</u>	<u>16,394</u>	<u>2,120</u>	<u>1,826</u>	<u>168</u>	<u>443</u>	<u>51,171</u>	<u>53,067</u>
Segment profit (loss)	2,544	4,478	525	1,331	216	-	(990)	(1,132)	2,295	4,677
Unallocated income (expenses):										
Interest income									238	240
Gain on exchange rate									33	176
Other income									429	401
Other expenses									(47)	(204)
Share of profit from investments in associated companies									25	53
Finance cost									(2)	(9)
Profit before income tax expenses									2,971	5,334
Income tax expenses for the year									(19)	(185)
Income tax expenses resulting from tax assessments									-	(23)
Profit for the year									<u>2,952</u>	<u>5,126</u>



- 1) The power electronics segment is a business segment which designs, manufactures, and sales of power supplies applied to computer, server, office automation equipment, household electric appliances and automotive electronic products. The main products are DC-DC Converter, Power supply for Computer & Server, DES product, Automotive electronic product, Fan and thermal product, Adaptor product for industrial and private consumer, Solenoid and EMI filters etc.
- 2) Infrastructure segment is a business segment which designs, manufactures, and installations of information and communication technology infrastructure and energy system infrastructure. The main products are Telecommunication system, Renewable energy, Energy storage and High power etc.
- 3) Automation segment is a business segment which designs, manufactures, and installations of industrial and building automation. The main products are Machine automation, Industrial motion system, Smart sensor system and Lighting automation for building etc.

Geographic information:

Revenue from external customers is based on locations of the customers

	(Unit: Million Baht)	
	2019	2018
United States	17,431	13,220
China	8,103	9,495
India	5,471	7,715
Netherlands	5,315	1,461
Germany	1,798	4,974
Singapore	455	2,458
Malaysia	1,058	1,122
Taiwan	901	941
Others	10,639	11,681
Total	51,171	53,067

Non-current assets (Other than financial instruments, deferred tax assets and net defined benefit assets)

	(Unit: Million Baht)	
	2019	2018
Thailand	6,651	4,793
Slovakia	1,460	1,649
India	3,090	1,504
Germany	743	581
Others	288	363
Total	12,232	8,890

Major customer

For the year 2019 and 2018, the Group has no major customer with revenue of 10 percent or more of an entity's revenues.

32. Provident fund

The Company and its employees have jointly established a provident fund in accordance with the Provident Fund Act B.E. 2530. Both employees and the Company contribute to the fund monthly, at rates of 7 percent of basic salary (2018: 7 percent of basic salary). The fund, which is managed by TMB Bank Public Company Limited, will be paid to employees upon termination or when employees are promoted to a manager post, in accordance with the fund rules. The contributions for the year 2019 amounting to approximately Baht 111 million (2018: Baht 104 million) were recognised as expenses.

The provident funds of the subsidiaries and their employees have been established in accordance with each subsidiary's policies and the law of its country of domicile.

33. Commitments and contingent liabilities

33.1 Capital commitments and operating lease commitments



33.1.1 As at 31 December 2019, the Group had significant capital commitments amounting to Baht 723 million, EUR 1 million or approximately Baht 35 million, USD 1 million or approximately Baht 42 million and INR 7,931 million or approximately Baht 3,334 million in respect of the building construction, purchase of machinery and equipment (2018: Baht 267 million, EUR 2 million or approximately Baht 76 million and INR 10,465 million or approximately Baht 4,843 million) (The Company only: Baht 723 million, 2018: Baht 267 million).

33.1.2 As at 31 December 2019 and 2018, future minimum lease payments required under these operating lease commitments were as follows.

		As at 31 December 2019		
		Payable		
Foreign currency	Amount	In up to 1 year	In over 1 and up to 5 years	In over 5 years
	(Million in foreign currency)	(Million Baht)	(Million Baht)	(Million Baht)
Indian rupee	68	15	7	6
Euro	2	39	37	7
US dollar	1	8	9	-
Australian dollar	1	7	9	-
	Total	69	62	13

		As at 31 December 2018		
		Payable		
Foreign currency	Amount	In up to 1 year	In over 1 and up to 5 years	In over 5 years
	(Million in foreign currency)	(Million Baht)	(Million Baht)	(Million Baht)
Indian rupee	43	11	2	6
Euro	1	38	12	1
	Total	49	14	7

33.2 Guarantee obligations

As at 31 December 2019, the Group had the following significant outstanding letters of guarantee required in the ordinary course of their businesses:

33.2.1 Outstanding letters of guarantee totaling approximately Baht 369 million (2018: Baht 340 million) have been issued by banks to meet requirements of the Company (including a letter of guarantee for approximately Baht 335 million (2018: Baht 307 million) issued by banks to meet obligations of the Company to the Revenue Department in relation to the tax assessment mentioned in Note 33.3.1 to the financial statements).

33.2.2 Outstanding letters of guarantee for totals of approximately INR 1,156 million or approximately Baht 486 million, EUR 0.3 million or approximately Baht 12 million have been issued by banks to meet requirements of the subsidiaries (2018: INR 954 million or approximately Baht 442 million, EUR 0.3 million or approximately Baht 13 million).

33.3 Tax assessment

33.3.1 a. In 2015, the Company received tax assessment notices for the year 2005 from the Revenue Department, assessing corporate income tax amounting to approximately Baht 1.96 million (including penalties and surcharges) and specific business tax amounting to approximately Baht 0.06 million (including penalties and surcharges). The Company has submitted letter appealing the assessments to the Tax Appeal Committee of the Revenue Department and the appeal is currently under consideration by the Committee. In addition, the Company received tax assessment notices for the year 2006 from the Revenue Department



in 2016, assessing corporate income tax amounting to approximately Baht 168 million (including penalties and surcharges) and specific business tax amounting to approximately Baht 2 million (including penalties and surcharges). The Company has submitted letter appealing the assessments to the Tax Appeal Committee of the Revenue Department and the appeal is currently under consideration by the Committee.

- b. On 23 August 2017, the Company received tax assessment notices for the year 2007 from the Revenue Department, assessing corporate income tax amounting to approximately Baht 79 million (including penalties and surcharges) and specific business tax amounting to approximately Baht 3 million (including penalties and surcharges). The Company has submitted letter appealing the assessments to the Tax Appeal Committee of the Revenue Department and the appeal is currently under consideration by the Committee.
- c. On 21 August 2018, the Company received tax assessment notices for the year 2008 from the Revenue Department, assessing corporate income tax amounting to approximately Baht 49 million (including penalties and surcharges) and specific business tax amounting to approximately Baht 4 million (including penalties and surcharges). The Company has submitted letter appealing the assessments to the Tax Appeal Committee of the Revenue Department and the appeal is currently under consideration by the Committee.
- d. On 20 August 2019, the Company received tax assessment notices for the year 2009 from the Revenue Department, assessing corporate income tax amounting to approximately Baht 23 million (including penalties and surcharges) and specific business tax amounting to approximately Baht 5 million (including penalties and surcharges). The Company has submitted letter appealing the assessments to the Tax Appeal Committee of the Revenue Department and the appeal is currently under consideration by the Committee.

However, the Company has recorded provisions for the tax assessments as mentioned in a., b., c., and d., with approximately Baht 239 million (including penalties and surcharges) under the captions of "Liabilities and provision from tax assessments" in the statement of financial position.

- 33.3.2 The Indian tax authorities assessed corporate income tax of approximately INR 232 million or approximately Baht 97 million, covering the years 2003 - 2016, and sales tax and excise duties of approximately INR 293 million or approximately Baht 123 million, covering the years 2005 - 2017, against the subsidiaries in India. The subsidiaries have appealed the assessments. The management of the subsidiaries believe that the outcome of the cases will be favorable to the companies and therefore no provision for these contingent liabilities have been made in the accounts.

34. Fair value hierarchy

As at 31 December 2019 and 2018, the Group had certain assets and liabilities that were measured or disclosed at fair value using different levels of inputs (as mentioned in Note 4.20 to the financial statements) as follows:

(Unit: Million Baht)				
Consolidated financial statements				
As at 31 December 2019				
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Foreign currency forward contracts (Note 11)	-	34	-	34
Liabilities measured at fair value				
Foreign currency forward contracts (Note 20)	-	1	-	1
Assets for which fair value are disclosed				
Investment properties (Note 14)	-	-	218	218



	(Unit: Million Baht)			
	Consolidated financial statements			
	As at 31 December 2018			
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Foreign currency forward contracts (Note 11)	-	76	-	76
Liabilities measured at fair value				
Foreign currency forward contracts (Note 20)	-	15	-	15
Assets for which fair value are disclosed				
Investment properties (Note 14)	-	-	237	237

	(Unit: Million Baht)			
	Separate financial statements			
	As at 31 December 2019			
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Foreign currency forward contracts (Note 11)	-	33	-	33

	(Unit: Million Baht)			
	Separate financial statements			
	As at 31 December 2018			
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Foreign currency forward contracts (Note 11)	-	76	-	76

35. Financial instruments

35.1 Financial risk management

The financial instruments of the Group, as defined under Thai Accounting Standard No. 107 “Financial Instruments: Disclosure and Presentations”, principally comprise cash and cash equivalents, trade receivables, other receivables, investments, trade payables and other payables. The financial risks associated with these financial instruments and how they are managed is described below.

Credit Risk

The Group is exposed to credit risk primarily with respect to trade receivables and other receivables. The Group manages the risk by adopting appropriate credit control policies and procedures and therefore does not expect to incur material financial losses. In addition, the Group does not have high concentrations of credit risk since it has a large customer base. The maximum exposure to credit risk is limited to the carrying amounts of trade receivables and other receivables as stated in the statement of financial position.

Interest rate risk

The exposure of the Group to interest rate risk relates primarily to its cash at banks. However, since most of the financial assets and liabilities of the Group 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 date, or the repricing date if this occurs before the maturity date.



(Unit: Million Baht)

Consolidated financial statements

As at 31 December 2019

	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Interest rate (% p.a.)
	Within 1 year	1-5 years	Over 5 years				
Financial assets							
Cash and cash equivalents	2,931	-	-	8,369	1,094	12,394	0.00 - 8.25
Current investments	2	-	-	-	-	2	4.00
Trade and other receivables	-	-	-	-	9,739	9,739	-
Deposits at bank with restrictions	1	47	-	-	2	50	5.25 - 8.17
Total	2,934	47	-	8,369	10,835	22,185	
Financial liabilities							
Trade and other payables	-	-	-	-	10,151	10,151	-
Total	-	-	-	-	10,151	10,151	

(Unit: Million Baht)

Consolidated financial statements

As at 31 December 2018

	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Interest rate (% p.a.)
	Within 1 year	1-5 years	Over 5 years				
Financial assets							
Cash and cash equivalents	4,227	-	-	10,348	1,033	15,608	0.00 - 8.25
Current investments	223	-	-	-	-	223	(0.20) - (0.21)
Trade and other receivables	-	-	-	-	11,558	11,558	-
Deposits at bank with restrictions	-	-	-	-	55	55	5.25 - 8.75
Total	4,450	-	-	10,348	12,646	27,444	
Financial liabilities							
Trade and other payables	-	-	-	-	11,801	11,801	-
Total	-	-	-	-	11,801	11,801	

(Unit: Million Baht)

Separate financial statements

As at 31 December 2019

	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Interest rate (% p.a.)
	Within 1 year	1-5 years	Over 5 years				
Financial assets							
Cash and cash equivalents	-	-	-	6,195	38	6,233	0.00 - 1.20
Trade and other receivables	-	-	-	-	9,468	9,468	-
Total	-	-	-	6,195	9,506	15,701	
Financial liabilities							
Trade and other payables	-	-	-	-	8,474	8,474	-
Total	-	-	-	-	8,474	8,474	



(Unit: Million Baht)

	Separate financial statements						
	As at 31 December 2018						
	Fixed interest rates			Floating	Non-interest		
	Within		Over	interest	bearing	Total	Interest rate
	1 year	1-5 years	5 years	rate			(% p.a.)
Financial assets							
Cash and cash equivalents	-	-	-	9,712	41	9,753	0.00 - 1.20
Trade and other receivables	-	-	-	-	11,048	11,048	-
Total	-	-	-	9,712	11,089	20,801	
Financial liabilities							
Trade and other payables	-	-	-	-	9,277	9,277	-
Total	-	-	-	-	9,277	9,277	

Foreign currency risk

The exposure of the Group to foreign currency risk arises mainly from trading transactions that are denominated in foreign currencies. The Group seeks to reduce this risk by entering into forward contracts when it considers appropriate. Generally, the forward contracts mature within one year.

As at 31 December 2019 and 2018, the balances of the financial assets and liabilities denominated in foreign currencies are summarised below:

(Unit: Million foreign currency unit)

Foreign currency	As at 31 December							
	Consolidated financial statements				Separate financial statements			
	Financial assets		Financial liabilities		Financial assets		Financial liabilities	
	2019	2018	2019	2018	2019	2018	2019	2018
US dollar	165	196	189	201	320	346	189	193
Euro	6	5	2	3	5	4	16	9
Japanese yen	201	193	246	438	201	184	244	438
Czech koruna	8	17	-	-	8	17	-	-

(Unit: Baht per 1 foreign currency unit)

Foreign currency	Average exchange rate as at 31 December	
	2019	2018
US dollar	30.1540	32.4498
Euro	33.7311	37.1252
Japanese yen	0.2759	0.2931
Czech koruna	1.3161	1.4359

As at 31 December 2019 and 2018, the outstanding forward contracts are summarised below.

	Consolidated financial statements					
	As at 31 December 2019					
	Amount		Forward rate		Maturity date	
Forward contracts to "Sell"						
USD/THB	USD	122 million	30.0900 - 30.5300	THB/USD	January - April 2020	
Forward contracts to "Buy"						
USD/INR	USD	17 million	70.9694 - 71.9917	INR/USD	January 2020	



Consolidated financial statements						
As at 31 December 2018						
	Amount			Forward rate		Maturity date
Forward contracts to “Sell”						
USD/THB	USD	134	million	32.5620 - 33.1640	THB/USD	January - March 2019
USD/EUR	USD	3	million	1.1401 - 1.1472	USD/EUR	January 2019
Forward contracts to “Buy”						
USD/INR	USD	21	million	70.2506 - 72.5207	INR/USD	January 2019
USD/AUD	USD	1	million	0.7199 - 0.7237	USD/AUD	January 2019
JPY/THB	JPY	155	million	0.2899 - 0.2940	THB/JPY	January - February 2019
Separate financial statements						
As at 31 December 2019						
	Amount			Forward rate		Maturity date
Forward contracts to “Sell”						
USD/THB	USD	122	million	30.0900 - 30.5300	THB/USD	January - April 2020
Separate financial statements						
As at 31 December 2018						
	Amount			Forward rate		Maturity date
Forward contracts to “Sell”						
USD/THB	USD	134	million	32.5620 - 33.1640	THB/USD	January - March 2019
Forward contracts to “Buy”						
JPY/THB	JPY	155	million	0.2899 - 0.2940	THB/JPY	January - February 2019

35.2 Fair values of financial instruments

Since the majority of the Group's financial instruments are short-term in nature or carrying interest at rates close to the market interest rates, their fair values are not expected to be materially different from the amounts presented in the statements of financial position.

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 Group had considered to counterparty credit risk when determining the fair value of derivatives.

36. Capital management

The primary objective of the Group's capital management is to ensure that it has appropriate capital structure in order to support its business and maximise shareholder value. As at 31 December 2019, the Group's debt-to-equity ratio was 0.39:1(2018: 0.42:1) and the Company's was 0.29:1(2018: 0.30:1).

37. Events after the reporting period

37.1 On 16 January 2020, Delta Electronics India Private Limited obtained a loan of USD 50 million, or approximately Baht 1,517 million, from DET International Holding Limited. The loan is unsecured, carries interest at a rate of 4 percent per annum, and is repayable within 10 years. Delta Electronics India Private Limited received the loan on 28 January 2020.

37.2 On 17 February 2020, the Company's Board of Directors' meeting passed the resolution to propose the Annual General Meeting of shareholders approve a dividend payment of Baht 1.8 per share, a total of Baht 2,245 million. The dividend will be paid from the Company's operating results for the year 2019.

38. Approval of financial statements

These financial statements were authorised for issue by the Company's Board of Directors on 17 February 2020.



