



# Annual Report 2018

Delta Electronic (Thailand) Public Company Limited



# Content

4	Company General Information
5	Exploring Milestones in Delta Thailand's 30 Year Story
6	Delta Overview
7	Pride in 2018
8	Message from the Board
10	Financial Highlights 2016-2018
12	Investment Structure
17	Nature of Business
18	Product Profile
32	Research and Development (R&D)
38	2018/2019 Industry Outlook
45	2019 Business Directions
49	Risk Management
56	Capital Structure
58	Board of Directors
66	Managerial Structure
72	Corporate Governance
90	Corporate Social Responsibility Report
99	Internal Control
100	Related Party Transactions Policy
102	The Audit Committee Report
104	The Nomination and Compensation Committee Report
105	Corporate Governance Committee Report
106	Management's Discussion and Analysis
112	Responsibility of the Board of Directors to the Financial Statements
113	Report and Financial Statements

"Investors will be able to learn more about the company from From 56-1 on the company's website : [www.deltathailand.com/lr\\_form56-1.php](http://www.deltathailand.com/lr_form56-1.php)"

Paper made from



This Annual Report is printed on Green Card Paper

# 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



# SET SUSTAINABILITY AWARDS 2018

← → OUTSTANDING →



## SET Sustainability Awards 2018

### Outstanding Award



# THE PRIME MINISTER'S INDUSTRY AWARD 2018

— 20 DECEMBER 2018 —



## Prime Minister's Industry Award 2018

in Potential Industry and  
the Corporate Social Responsibility



# Company General Information



Name

Delta Electronics (Thailand) Public Company Limited

Company Registration Number

0107537002559

Headquater Contact Address

909 Soi 9, Moo 4, E.P.Z., Bangpoo Industrial Estate, Tambon Prakasa,  
Amphur Muang Samutprakarn, Samutprakarn Province 10280, Thailand

Tel. : (662) 709-2800

Fax : (662) 709-2833

Nature of Business

Manufacturing and exporting of power supplies and other electronic equipment  
and components

Home Page

[www.deltathailand.com](http://www.deltathailand.com)

Registered Share Capital

1,259,000,000 ordinary shares at par value of Baht 1

Paid up Capital

1,247,381,614 ordinary shares at par value of Baht 1

(As of 25 February 2019)

Juristic persons which

Please find details in the section of "Investment Structure"

Company holds more than 10%

References

## 1. Auditor

EY Office Limited (Formerly know as Ernst & Young Office Limited)

33rd Floor, Lake Rajada Office Complex, 193/136-137,

Rajadapisek Road, Klongtoey, Bangkok 10110, Thailand

Tel. : (662) 264-0777

Fax : (662) 264-0789

## 2. Share Registrar

Thailand Securities Depository Co., Ltd.

The Stock Exchange of Thailand Building,

93 Ratchadapisek Road, Dindaeng, Bangkok 10400, Thailand

Tel. : (662) 009-9000

Fax : (662) 009-9991



# Exploring Milestones in Delta Thailand's 30 Year Story



From our humble beginnings as a components manufacturer in Thailand, Delta has grown to become a regional powerhouse with manufacturing, R&D and business operation networks that span the globe. Throughout our history, we have leveraged bold expansion and valuable acquisitions to drive our transformation into a world-class smart and green solutions provider and ensure sustainable growth far into the future.



- 1988** Our story begins when we registered as Delta Electronics (Thailand) Public Company Limited.
- 1993** Delta began producing Magnetic and EMI Filters in Samutprakarn, Thailand.



- 1995** We listed as "DELTA" on the Stock Exchange of Thailand (SET) on 24 July, 1995.
- 2002** Delta started producing DC fans at a new plant in Chachoengsao, Thailand.

- 2003** Our acquisition of Swiss company Ascom Energy Systems helped us tap into the Indian and European markets and expand our portfolio.
- 2006** We established Delta Electronics (Slovakia) s.r.o. and built a new plant in Nova Dubnica, Slovakia.
- 2007** We incorporated Delta Power Solutions India Private Ltd and built a new green factory in Rudrapur, India.
- 2012** Delta received the Prime Minister's Best Industry Award 2012.



- 2017** Delta ranked among the top 5 in "Electronics Equipment, Instruments and Components" sector of the Dow Jones Sustainability Index (DJSI).
- 2018** Delta recorded its highest revenue, THB 53,067 M, in its history.



# 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
- SETHSI Index
- Thailand Sustainability Investment listed for the 4<sup>th</sup> consecutive year (2015-2018)
- ESG 100 for the 4<sup>th</sup> consecutive year (2015-2018)
- "Excellent" grade on the Corporate Governance Rating (CGR) for the 3<sup>rd</sup> consecutive year (2016-2018)
- Ranks in the Top 5 of "ITC Electronic Equipment, Instruments & Components" Sector of DJSI for the 2<sup>nd</sup> consecutive year (2017-2018)

## 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

# Pride in 2018

Prime Minister's Industry Award 2018 in Potential Industry and the Corporate Social Responsibility (CSR) by Ministry of Industry



SET Outstanding Sustainability Award 2018 in the category of companies with a market capitalization between 30,000-100,000 million Baht and Thailand Sustainability Investment (THSI) 2018 Award by the Stock Exchange of Thailand (SET).



Thailand's Top Corporate Brand Values Award 2018 in Electronics Components Company by the Chulalongkorn Business School and organized in collaboration with the Stock Exchange of Thailand (SET).



Thailand Energy Award 2018 for outstanding performance in energy conservation and renewable energy development by the Ministry of Energy



Silver Award in Automation Kaizen and Bronze Award in Project Kaizen at the Thailand Kaizen Award 2018 by the Technology Promotion Association (Thailand-Japan) (TPA)



# Message from the Board





## Discovering Opportunities Out of Disruption

Since before 2010, Delta Electronics Group and Delta Electronics (Thailand) PCL. followed a solid business plan to grow our business towards the Internet of Things (IoT) global trend. The company has introduced our Power Supplies and DC Fans to IoT related business segments including Data Center, Solar Power and Electrical Vehicles (EV) such as battery and hybrid electric cars. Our products are also part of the IoT infrastructure, i.e. Data Center and Telecommunications, in many regions such as Europe, East Asia, Southeast Asia and Oceania. Ever since we increased our focus on IoT businesses, sales of related products have had very satisfactory growth and they now make up a significant portion of our total sales.

The year 2018 was full of headwinds for many businesses, including ours. Appreciation of the Thai Baht against the US Dollar and shortage of materials had major impacts on both our sales revenue and profit margins. As a result, our customers and business partners in the automotive industry had to change their business strategies. In addition, the US-China trade war and political tensions in foreign countries resulted in changes in the actions and business plans of consumers and producers. Despite the challenges, the company handled each issue throughout the year with minimal adverse impact to our business.

In the end, we still managed to increase our sales revenue in USD compared with last year and although some reduction in profit margin was unavoidable, our total profit increased. Meanwhile, we continued to pursue our planned expansion of production capacities and improve our production facilities with smart manufacturing to increase efficiency and reach our Industry 4.0 targets. In the near future, we will reduce the number of operators in production while improving flexibility in the product types produced on each line. As IoT business segments require more varieties of products with different specifications, we will continue to leverage smart manufacturing to accelerate growth.

In 2019, the company's business plans will continue expanding in scale. Since last year, we have been improving many production facilities and increasing our production capacities in many countries including two locations in Thailand and other locations in Myanmar, and India. The execution of our expansion plans have faced some delays because we need to first start assembly for other Delta Group companies and promote accelerated IoT integration within the group. During our increased activities, we will also continue to make efforts to secure profits that are in line with our business goals.

As for Delta Thailand's ODM business, management is confident that we will grow the business. With a strong clientele and business partners in many sectors, we will develop our leading technology to meet both present and future industry changes and produce products to improve lifestyles, reduce power consumption with efficiency, promote energy recycling and clean energy generation. This will be possible with more environment-friendly products that help reduce CO<sub>2</sub> emissions.

Lastly, the company would like to express our sincere gratitude to all our customers, partners, authorities, employees and shareholders for their trust and faith in our management and support of our actions for good business practice and good corporate governance with long-term sustainability over our past 30 years.

A handwritten signature in black ink.

Kong Meng Ng  
Chairman of the Board

A handwritten signature in black ink.

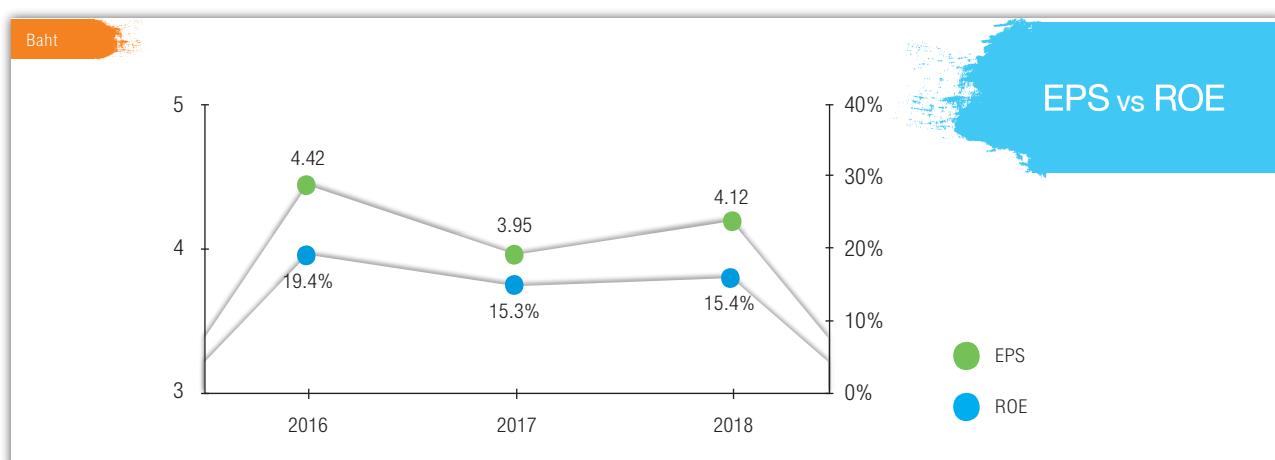
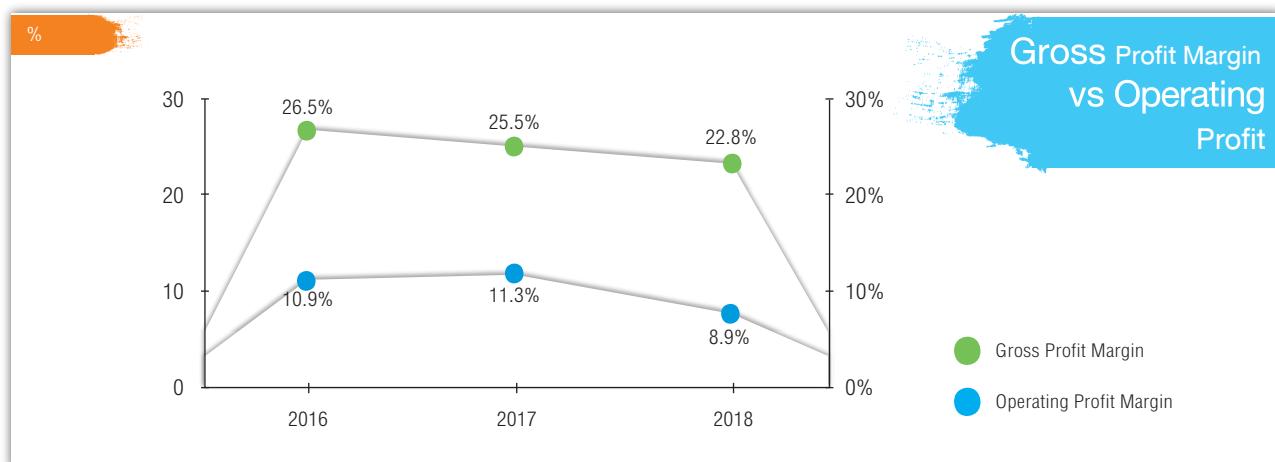
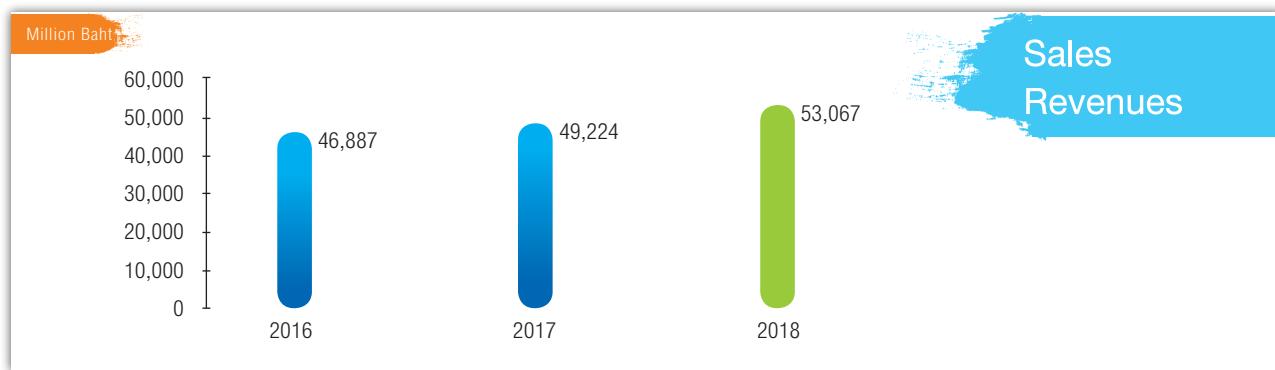
Hsieh Shen-yen  
President

# Financial Highlights 2016-2018

Unit : Million Baht	Consolidated			The Company Only		
	2018	2017	2016	2018	2017	2016
Total Assets	48,201	46,018	46,319	43,607	40,766	40,777
Total Liabilities	14,260	13,544	14,428	10,184	9,138	8,866
Paid-Up Capital	1,247	1,247	1,247	1,247	1,247	1,247
Total Shareholders' Equity	33,941	32,474	31,891	33,423	31,628	31,911
Sales Revenues	53,067	49,224	46,887	40,124	35,885	33,856
Total Revenues	53,885	50,285	47,652	40,767	36,721	34,447
Cost of Sales	40,944	36,677	34,471	30,386	26,329	24,389
Gross Profit	12,123	12,547	12,416	9,738	9,556	9,467
Selling & Admin expense	7,378	6,976	7,319	5,561	4,988	4,641
Operating Profit	4,744	5,571	5,097	4,176	4,568	4,826
Net Profit	5,126	4,929	5,516	4,539	3,464	5,371
Unit : (%)						
Gross Profit Margin	22.84%	25.49%	26.48%	24.27%	26.63%	27.96%
Operating Profit Margin	8.94%	11.32%	10.87%	10.41%	12.73%	14.25%
Net Profit Per Total Revenues	9.51%	9.80%	11.58%	11.13%	9.43%	15.59%
Return on Equity	15.44%	15.32%	17.67%	13.96%	10.90%	18.55%
Return on Assets	10.88%	10.68%	12.25%	10.76%	8.50%	14.57%
Unit : Baht						
Earning Per Share	4.12	3.95	4.42	3.64	2.78	4.31
Dividend Per Share	2.30	2.20	3.00	2.30	2.20	3.00
Book Value Per Share	27.22	26.04	25.57	26.80	25.36	25.59

\* Pending approval from shareholders' meeting





## Investment Structure (as of January 31, 2019)



Company	Location	Type of Business	Type of Product	Type of Stock	Registered	Paid up Capital	% Holding
1. DET International Holding Ltd.	Grand Pavilion, Hibiscus Way, 802 West Bay Road, P.O. Box 31119, KV1-1205, 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 5100 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	Property	-	Common Stock	EUR 25,000	EUR 25,000	100
1.3 Delta Energy Systems (India) Pvt. Ltd.	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) S.R.L.	Intrarea Nestorei No. 1, Building B, 9th 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
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 105,001,590	USD 105,001,590	100



Company	Location	Type of Business	Type of Product	Type of Stock	Registered Capital	Paid up Capital	% Holding
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 Products	Renewable Energy Products	Common Stock	AUD 3,329,000	AUD 3,329,000	100
2.2 Delta Electronics India Pvt. Ltd.	1 <sup>st</sup> Floor, ASV Chamiers Square, New Door No. 87, Old No. 48, Chamiers Road, Raja Annamalaiapuram, 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 6,070,000,000	INR 4,761,670,140	100
2.3 Delta Power Solutions (India) Pvt. Ltd.	1 <sup>st</sup> Floor, ASV Chamiers Square, New Door No. 87, Old No. 48, Chamiers Road, Raja Annamalaiapuram, Chennai, Tamil Nadu, India, 600028 Tel: +91 124 4874900 Fax: +91 124 4874945	- Marketing & Sales - Assembler - R&D	- Telecom Power Systems - UPS	Common Stock	INR 1,700,000,000	INR 1,638,626,520	100
2.4 Delta Electronics (Myanmar) Co., Ltd.	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
2.5 Delta Energy Systems (UK) Ltd.	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
2.6 Delta PBA Engineering Solutions Co., Ltd.	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
2.7 Delta Greentech (Netherlands) Cooperates UA	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
2.7.1 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 26,937,182	EUR 26,937,182	100



Company	Location	Type of Business	Type of Product	Type of Stock	Registered	Paid up Capital	% Holding
2.7.1.1 Delta Energy Systems LLC	Office 401, Vereyskaya Plaza ll, Vereyskaya Street 17, 121357, Moscow, Russia Tel: +7 495 644 3240 Fax: +7 495 644 3241	Marketing & Sales	Power Systems	Common Stock	RUR 30,000	RUR 30,000	100
2.7.1.2 Eltek s.r.o.	Palenica 53/79, Liptovsky Hradok 033 17, Slovakia	Manufacturing	Telecom Power Systems	Common Stock	EUR 3,319,392	EUR 3,319,392	100
2.7.1.3 Delta Electronics (Automotive) Americas Inc.	46101 Fremont Blvd., Fremont, CA 94538 USA.	R&D	Automotive Power and Traction Inverter	Common Stock	USD 10,000,000	USD 2,500,000	100
2.7.1.4 Delta Greentech Electronics Industry LLC	Serifali Mevkii Soylesi Sok No:19/1, 34775, Yukarıdudullu/Istanbul, Turkey	Marketing and distribution	Electronics Products	Common Stock	TRY 23,517,175	TRY 23,517,175	49
2.7.1.5 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
2.7.1.5.1 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
2.7.1.5.2 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
2.7.1.5.3 Delta Electronics (France) S.A.	ZI du Bois Chaland2 - 15 rue des Pyrenees, 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
2.7.1.5.4 Delta Electronics (Italy) s.r.l.	Piazza Graziali 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



Company	Location	Type of Business	Type of Product	Type of Stock	Registered Capital	Paid up Capital	% Holding
2.7.1.5.5 Delta Electronics Solutions (Spain) S.L.	Calle Luis I n_ 60, Nave 1a, P.I. de Vallecas, E-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
2.7.1.5.6 Delta Energy Systems (Sweden) AB	Annavagen 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
2.7.1.5.7 Delta Electronics (Poland) Sp.zo.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 5222455 Fax: +66 38 5222460	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 New Delhi), Slovakia (Dubnica nad Vahom 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 2 subgroups as follows;

- Telecom Power Solutions (TPS)
- Uninterruptible Power Supplies (UPS)

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	2018		2017		2016	
	revenue	%	revenue	%	revenue	%
Power Electronics Group	34,404	64.8%	31,051	63.1%	28,422	60.7%
Automation Group	1,818	3.5%	1,809	3.7%	1,985	4.2%
Infrastructure Group	16,471	31.0%	16,153	32.8%	11,088	34.4%
Others	374	0.7%	211	0.4%	344	0.7%
Total Sales Revenues	53,067	100.0%	49,224	100.0%	46,887	100.00%



## Product Profile >>



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

## Business Categories



### Power Electronics

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



### Automotion

- Industrial Automation
- Building Automation



### Infrastructure

- ICT Infrastructure
- Energy Infrastructure



## 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 Electronics



## Power and Systems

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 three 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/inch<sup>3</sup>.



### 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.





# Power Electronics



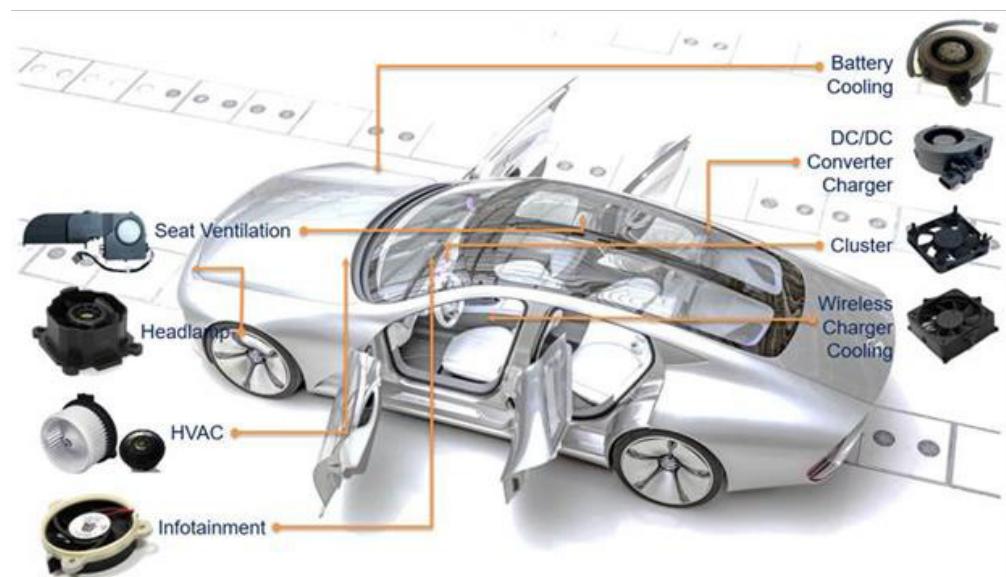
## Industrial Tools

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.



## Fan & Thermal Management

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.





# Power Electronics



## EMI Filter

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



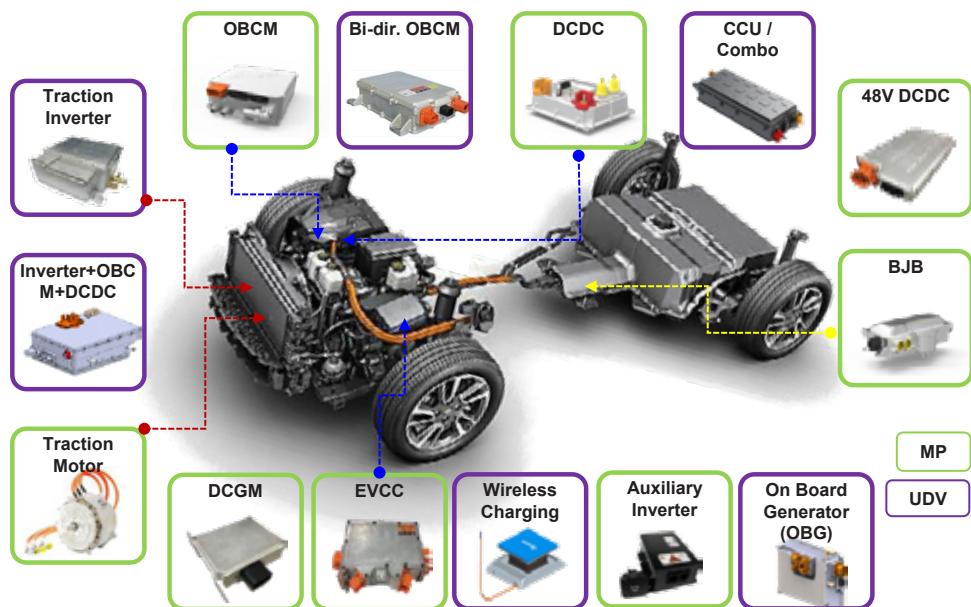
## Solenoid

Home appliance and automotive Solenoid are available for our customers' unique requirements, such as applications in the automotive ABS system, refrigerator, ice maker and electric door locks.



## 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 up 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.

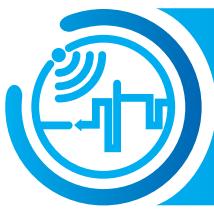
At Delta, we offer an extensive range of energy management products and regularly apply our advanced engineering capabilities to the design and/or customization of systems and solutions for application in datacenters, renewable energy, electronic vehicles, eco-friendly transportation infrastructure and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



## Mission Critical Infrastructure Solutions

The Mission Critical Infrastructure Solutions (MCIS) business of Delta positions itself as: "The power behind competitiveness". MCIS 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 MCIS is a powerful and trustworthy partner to our customers.

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





# Infrastructure



## Energy Infrastructure

### 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 2018

## 1 Production Capacity in Thailand Plant

### 1.1 Plant 1: Bangpoo Industrial Estate, Samutprakarn

Production area : 16,710 sq.m  
No. of operators : 730  
Production line : 14 lines  
Actual production : 80% of production capacity

### 1.2 Plant 5: Bangpoo Industrial Estate, Samutprakarn

Production area : 41,700 sq.m  
No. of operators : 3,683  
Production line : 65 lines  
Actual production : 85% of production capacity

### 1.3 Plant 6: Wellgrow Industrial Estate, Chachoengsao

Production area : 14,100 sq.m  
No. of operators : 2,133  
Production line : 90 lines  
Actual production : 80% of production capacity

## 2 Production Capacity in Slovakia Plant

### 2.1 Dubnica nad Vahom Plant

Production area : 10,500 sq.m  
No. of operators : 280  
Production line : 22 lines  
Actual production : 75% of production capacity

### 2.2 Slovakia Liptovsky Eltek Plant

Production area : 3,500 sq.m  
No. of operators : 220  
Production line : 12 lines  
Actual production : 60% of production capacity

## 3 Production Capacity in India Plant

### 3.1 Krishnagiri Hosur Plant

Production area : 1,525 sq.m  
No. of operators : 34  
Production line : 2 line  
Actual production : 40% of Production Capacity

### 3.2 Rudrapur Plant

Production area : 13,880 sq.m  
No. of operators : 277  
Production line : 15 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)/25562	206(1)/2553	1732(2)/2557	1158(2)/2558	1688(2)/2558	59-1316-1-00-2-0	61-1505-1-00-1-0	1813(2)/2554
2. Promotional privileges for	Manufacturing of DC FAN equipment and electronics products for vehicle	Manufacturing of telecommunication equipment products	Manufacturing of electro - magnetic products	Manufacturing of DC FAN	Designing of Electronics	Manufacturing of electro - magnetic products	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 (Maximum amount Baht 124,000,000)	5 years (Maximum amount Baht 155,000,000)	7 years (Maximum amount Baht 200,000,000)		8 years (Maximum amount Baht 1,572,170,000)	4 years (Maximum amount Baht 182,000,000)	7 years (Maximum amount Baht 199,000,000)
3.2 Exemption from import duty on machinery as approved by the board.	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
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
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
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
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
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	-	-	-





The company applied to the Revenue Department to be an International Headquarters (IHQ), and this application was approved on 28 May 2018, with a promotion certificate for International Headquarters granted by the Board of Investment. Subject to certain imposed conditions, the company is eligible for tax privileges including reductions of and exemptions from corporate income tax and specific business tax for the provision of management, technical and support services, for a period of 15 years from 17 May 2018.

The company's operating revenues for the years ended 31 December 2018 and 2017, divided between promoted and non-promoted operations, are summarised below.

(Unit: Million Baht)

	Promoted operations		Non-promoted operations		Total	
	2018	2017	2018	2017	2018	2017
<u>Separate financial statements</u>						
Sales and service income						
Domestic sales	446	393	109	111	555	504
Export sales	39,338	35,261	231	120	39,569	35,381
Total Sales and service income	39,784	35,654	340	231	40,124	35,885

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 1 million.
- Delta Power Solutions (India) Pvt. Ltd. was granted tax privileges by the Government of India for the manufacture of Telecom Power Systems and Uninterruptible Power Supplies on 1 April 2008. The privileges include exemption from corporate income tax for a period of 5 years from the date the promoted operations commence generating revenues and a 30% reduction of corporate income tax on income derived from the promoted operations for a period of 5 years after the tax-exemption period ends and be completed on 31 March 2018.



# 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 1,035 vendors (due to the consolidation of our vendor base) with purchase value per vendor not exceeding 7.3% of total procurement value. Vendors are also required to fulfill the requirements of ISO9001, ISO14001, ONSAS18001, TS16949 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 2018, the supply situation of Semiconductors and Passive Components was tight but through teamwork and close cooperation with its valued suppliers, Delta avoided any serious supply related issues.

Going forward to 2019, the company foresees tightness in supply of Semiconductors and Passive Components to continue at least until the 2<sup>nd</sup> Quarter. The company will continue to monitor and work closely with its valued suppliers to ensure there is no disruption to operations.

The recent escalating US-China trade war is pushing 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 ISO/TS16949/IATF, VDA 2 etc.

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

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.

## 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 2018, 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 2018, 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 2018, the company has conducted over 80% purchasing amount suppliers for the Supplier CSR Questionnaire (subjects are: Enterprise Management, Health Safety, Environment & Employee) collection & analysis and initiated activities for risky supplier audit & coaching from Q4'2018.

## Establish Green Supply Chain

Moving forward to 2019, 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)

R&D investment in the past 5 years

	Unit	2014	2015	2016	2017	2018
Total R&D investment	USD (millions)	85.5	87.6	102.2	113.3	111.9
R&D investment as % of Sales	% of Sales	6.3%	6.4%	7.7%	7.8%	6.8%

R&D headcount per location

Locations	2014	2015	2016	2017	2018
Thailand	450	445	444	480	535
Europe	316	309	318	273	295
India	60	88	108	154	245
Total	826	842	870	907	1,075

In 2018 we continued our R&D investments with specific focus on our fast growing businesses for electro-mobility, networking, datacenters and industrial power. Major extensions of the product lines were achieved as well as continued improvement of our product's key features efficiency, power density and digital intelligence. Additionally, Delta R&D has 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, their customers and their demands combined together with the R&D manpower's know-how and strengths is the door 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 cooperating very close together. Delta R&D engaged globally in the cooperation with the 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 combined together with the Delta R&D expertise. This is a trustable way to establish a long-term and continuous relationship with young and experienced people, to take care of high-tech, new and sustainable products.

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

## 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.

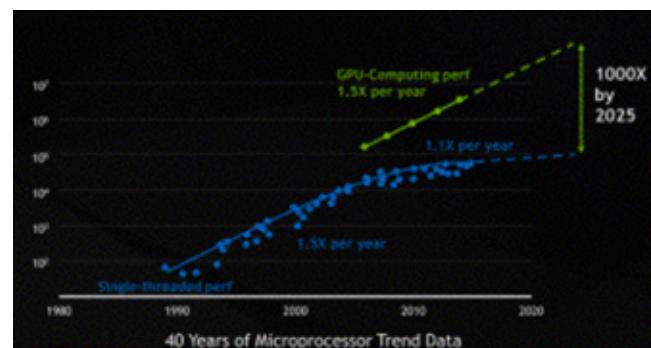
In 2018 R&D team succeeded to win a new important customer in a new technology market: This customer is the market leader in GPU application which are mainly used for artificial intelligence applications including machine learning (ML) and deep learning (DL) as well as for autonomous driving in future. Here Delta received an important award for DGX2/HGX2 platform.

This new GPU computing technology allows exponential growth of computing power again which up to date had come to an saturation point with traditional CPU chips (Intel & AMD) (see graph, blue curve).

Delta R&D has developed special power supply technology to feed these GPU-processors. The DGX2 server drawer is using six of our Standard 1U PSUs with 3000W output power with an output voltage of 54V. The main challenge of these power supplies is to provide extreme peak load demand of these new processors of > 200% with up to 5A/us.

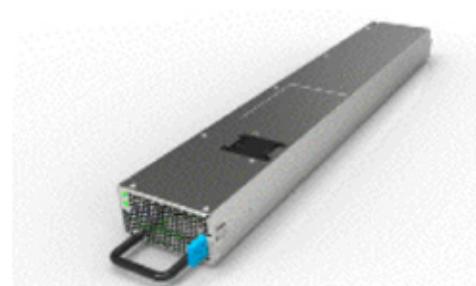
In parallel to this new technology we have developed new products with up to 98% peak efficiency delivering 3000W and 6000W output power achieving power densities of larger 60 W/in<sub>2</sub> for high performance computing in datacenters and networking. Here, Delta R&D is designing a 6000W/54V power supply using latest circuit technology with GaN devices to achieve both high density and high efficiency at the same time.

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 Datacenters, like complete sever shelves with distribution panel and power distribution units.



#### "Moore's law has ended"

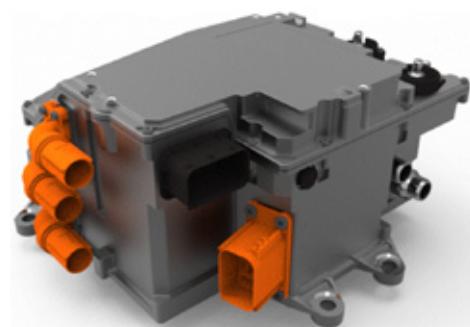
CPU can't achieve 1.5x performance increase every year any more. With GPU chips a factor 1000 performance improvement within 10 years



**Delta 3000W PSU supporting GPU Application**



**Delta 6000W PSU 98% Eff.**



**22kW Combined Charge Unit**

## Solutions for Electric Vehicles (EV)

In 2018, Delta R&D continued to develop and refine an advanced technology platform for On-Board-Chargers, which allows meeting the increasingly challenging customer requirements while at the same time generating a high re-use of the platforms across different projects. These platforms enabled us to receive new projects from multiple new customers. These includes units, which combine our On-Board-Charger family of 22kW, 15kW and 7.2kW with 12V-DCDC converters in one package to allow a high degree of integration of both - functionality and power density.

Additionally, we received the project award of a new, high efficient 7.2kW 1-phase On-Board-Charger.



By deriving it from these platforms, Delta achieved a very high maturity level of this unit very fast resulting in short development times.

Additionally, Delta continued to extend its low voltage DCDC converter portfolio. Here, we received the project award for 2.5 kW unit, which we prototyped in 2018 in the framework of an advanced project and finalized the product in 2018.

Delta drives to strengthen its existing customer base as well as to enter into new customers by leveraging and extending the existing technology and adapting it to the specific customer needs. Delta investigates new solutions of incorporating various core application (e.g., On-Board-Charger, DCDC Converter, DC Charging Control, Heating System) into one package to meet customer demand.

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

Several major innovations have been realized by Delta's R&D team in 2018 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.

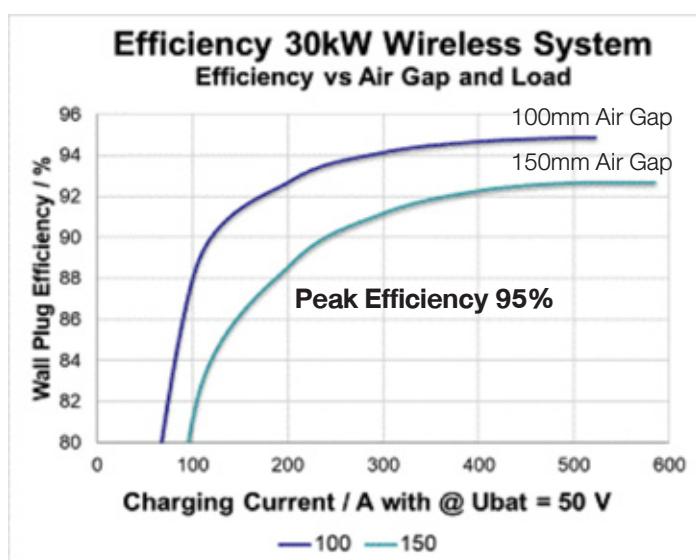
The usage of advanced power and control technology has led to products with best parameters as stability, efficiency, operation flexibility, robustness and reliability.

Delta R&D team designed a 20kW and a 30kW wireless module for fork-lift charging. Customer feedback is extreme positive to this outstanding product. Other customers have followed to introduce this new technology in their applications.

The Opportunity Charging for Li-Ion Efficiency delivers a very high flexibility for the customers.

Some Key Requirements:

- CEC California Energy Commission > 90 % under full load,  
less than 20 W losses in Stand by
- Charging Current 600A
- Operational Airgap (y) 100-150mm
- Displacement (x, z) +/-75 mm , +/- 50 mm
- Transformer Secondary Charging Pad 55 \* 700 \* 520 mm
- Transformer Primary Charging Pad 50 \* 800 \* 600 mm



Throughout 2017 and 2018 the R&D team worked on several Industrial battery charger platforms. Gaining a large US customer with this technology enabled in the same time to tackle the mass production market with these new modular power units and cabinets.

The primary application is the forklift truck fast charging industry. This type of battery charger operates at a very high charge rate and allows trucks to be re-charged fast during short breaks. This results in 24/7 operation of the trucks during the work week, minimizing battery changeovers and improving user productivity.

In 2018, we produced mass production for 48V batteries and several more design variants are following in early 2019. Novel software features installed on the charger module allow the user to integrate easily the Delta hardware into their charger systems. Current sharing between modules is handled easily without any setup or intervention from the user, allowing systems to be quickly and easily configured. Problems such as damaged or premature DC connector wear are avoided using a smart software disconnection feature that saves sparking if the user accidentally disconnects during a fast recharge.

## 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.

After successful installation of close to 150 nos of 1MW PVI across India, 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 R&D MWP has come out with a new design of 2.5MW, 1500V PVI .



The PQCE (Power quality compensating equipment) Product vertical of MWP R&D has successfully developed 6MVAR/25kV SVG/APF for the Traction substation application in collaboration with HPRT (High power Railway traction) Shanghai. The R&D MWP has built the lab including the dedicated Traction substation which enables full power testing capability within our lab premises. This will enhance MWP R&D capability to expand and engineer the products for the Medium voltage application up to 33/35kV 3Ø systems without having any transformer to make highly efficient conversion process.



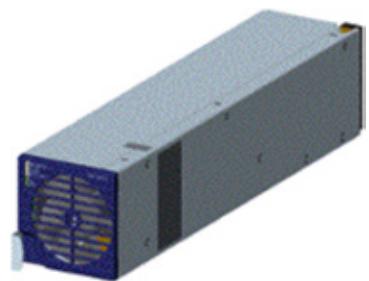
MWP R&D is developing new on board power for Locomotive in Railway traction applications. The R&D has already developed Auxiliary (3x 130kVA) power converter and the main Propulsion converter (4.5MW) for the Indian Railway application. The first trial runs are targeted during 2019.



## Telecom Power Solutions (TPS)

The matured telecom market needs continuous innovation and cost leadership to be competitive and continue to be the market leader. Multiple solutions are delivered to expanding and new 4G market. TPS R&D in India is increasing its investment in Efficient and multiple rectifier range, which caters to the global market.

Delta India R&D has developed combo power solution, which caters to AD/DC and DC/AC in single hybrid conversion. The newly developed solution includes Site Dongguan (DG) management, enabling fully integrated site control solution from Delta. This innovative product reduces the total cost to customer and utilizes the space very optimally.



The New range of telecom inverter has high efficiency and compact footprint. These inverters have a range from 300 VA to 4500 VA catering to various combination of power requirement.

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

## Mission Critical Infrastructure Solutions

New generation high power UPS with Integrated I/O panels developed. The new integrated 900KW UPS is installed at prestigious Indian customers, and has been well received.

Delta India has now developed Li-Ion integrated multiple range of medium and high power UPS. These solutions provide customers long and reliable power solution within very limited space, especially in datacenters and such application.

The integration with BMS with vendor selection of LiB enables Delta to provide solutions with different Battery vendors and types. Also the solution provide integrated system level monitoring information enabling user to get all views on single UI or data portal.



## Industrial Automation Software (SW)

During last few years, the India R&D is expanded to include SW competence. This enabled the team to contribute in developing the state of art SW for our IA product platform. The new SW envisages a unified architecture and platform for 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 IABG. The first version of this platform, to be launched in April 2019, will provide our customers an integrated environment to design, program, simulate, monitor & diagnose industrial solutions built with Delta parts. In 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 OPC-UA, PLCOpen, AML, to incorporate interoperability with similar platforms developed & under development from competitors. The framework is designed such that it can integrate with other standard manufacturing process software like MES, PLM & ERP.



## Future Outlook

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

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

New investment are made 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

In 2018, IPS (Industrial Power Supplies) R&D teams in Thailand and Taiwan successfully delivered many new products and received great responses for them. New product series in Dinrail CliQ III and Dinrail VA series introduction of 24V/5A, 10A & 20A provides user with a good product range and power supply with high features suitable for their highend system, products received great response from the users. The VA series comes with a display module which provides user with complete information of output voltage, current & power (VA) used from the PSU on the display along with the available lifetime of the power supply. With good design capabilities, IPS is able to serve a wide range of customers from the cost demanding ones to the performance centric ones. This also enables IPS to penetrate many regions in very short time.



Several new standard power supplies released for House Hold Market PMH low profile series and NEC Class 2 compliance gives user a wide choice of models to select. For LED driver market the LNP-C series for low power provides users with a choice in low power segment which they eager to have one, these power supplies have independent type housing design for standalone installations.

In Medical standard power supplies the first release of MEG series that is MEG-2K1A6 with a total output power of 2.1kW that can support 6 isolated outputs with size 5"x 10"x1.59" gives an big added advantage on the medical products portfolio. Other Medical products segment Medical adapter MEA-250A24C, convection cooled MEU-600C24 adds to a great product portfolio. With many more new products to be released in Panel Mount, Open Frame and Dinrail series catering or various segments it will be another exciting year in 2019. As Delta brand becomes more recognizable as a great standard power supply in the channels and with continuing discipline in market and product researches, IPS will continue to gain market share globally in 2019.

# 2018/2019 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 January 2019 update of the "World Economic Outlook" (WEO), the International Monetary Fund (IMF) estimated 3.7% in global growth during 2018 while projecting 3.5% growth for 2019 and 3.6% growth in 2020, a downgrade of 0.2% and 0.1% respectively from its October 2018 forecast. This latest downward revision is due to weakness in the second half of 2018 which is expected to carry over to coming quarters in a pattern reflecting persistent decline in growth among advanced economies and temporary decline in growth for emerging market and developing economies.

In 2018, the US economy continued to enjoy strong momentum from fiscal stimulus but its 2019 growth forecast is revised down due to recent trade measures including tariffs on imports from China. China's economy will slow due to financial regulatory tightening and trade tensions with the US. Economic activity in advanced economies lost some momentum in the first half of 2018 after peaking in 2017. The Euro Zone and the UK have lowered growth projections due to suppressed activity in 2018. Growth in emerging Asia will decline and emerging Europe will see weaker growth than previously expected. The growth projection for Latin America, the Middle East and sub-Saharan Africa remains weak or subdued. Mexico, Venezuela, Iran and Turkey all had downward revisions which reflected country-specific factors, tighter financial conditions and geopolitical tensions higher. The updated report warns of risks to global growth including escalating trade tensions, a broader turn in financial market sentiment, uncertainty about policies and geopolitical tensions.

*Source: International Monetary Fund. 2019. World Economic Outlook Update, January 2019. Washington, DC, October.*

In its 2019 Global Economic Prospects, the World Bank reports international trade and investment has softened, trade tensions remain high while several emerging market and developing economies (EMDE) experienced financial market pressures. It gives a downward revision of 3% in 2018 which it expects to moderate to 2.9% in 2019 and 2.8% in 2020-2021, as economic slack dissipates, advanced economies remove monetary policy accommodation and global trade slows.

Growth has moderated in most advanced economies except the US, where fiscal stimulus is boosting activity. A continued slow down is expected in advanced economy growth after decelerating from 2.3% in 2017 to 2.2% in 2018. Economic growth in China is projected to decelerate to 6.2% in 2019 and moderate to 6% in line with its potential pace. Softening global trade and tighter financial conditions is expected to stall EMDEs growth at 4.2% in 2019 and growth is expected to plateau at 4.6% for the next two years (2020-2021).

*Source: World Bank. 2019. Global Economic Prospects, January 2019: Darkening Skies. Washington, DC: World Bank. doi: 10.1596/978-1-4648-1343-6. License: Creative Commons Attribution CC BY 3.0 IGO.*

### Southeast Asia, China and India

The Organization for Economic Cooperation and Development (OECD) reports that Growth Domestic Product (GDP) in Emerging Asia (Southeast Asia, China and India) has continued to hold up in 2018 despite external and domestic headwinds. In its Economic Outlook for Southeast Asia, China and India 2019 report, the OECD's estimates average GDP growth of 6.1% in Emerging Asia during 2019-2023 (Table 1). During this period, domestic demand and

household spending are expected to sustain positive momentum as job markets remain vibrant. However, trade prospects are more uncertain as tariff measures broaden. China's average annual growth is expected to gradually slow to 5.9% compared with 7.3% in its 2012-2016 projection. In contrast, India is projected to enjoy robust medium-term growth of 7.3%, up from 6.9% in 2012-2016. Southeast Asia (ASEAN-10) is forecast to continue having solid annual growth of 5.2%.

Table 1. Real GDP Growth in Southeast Asia, China and India

Annual percentage change

	2017	2018	2019	2019-23 (average)	2012-16 (average)
<b>ASEAN-5 countries</b>					
Indonesia	5.1	5.2	5.2	5.3	5.3
Malaysia	5.9	4.9	4.8	4.6	5.1
Philippines	6.7	6.4	6.5	6.6	6.6
Thailand	3.9	4.5	4.1	3.7	3.4
Viet Nam	6.8	6.9	6.7	6.5	5.9
<b>Brunei Darussalam and Singapore</b>					
Brunei Darussalam	1.3	2.0	2.3	2.0	-1.3
Singapore	3.6	3.5	2.9	2.7	3.5
<b>CLM countries</b>					
Cambodia	7.0	7.0	6.9	6.9	7.1
Lao PDR	6.9	6.6	6.8	7.0	7.6
Myanmar	6.8	6.6	6.9	7.0	7.3
<b>China and India</b>					
China	6.9	6.6	6.3	5.9	7.3
India	6.7	7.5	7.3	7.3	6.9
Average of ASEAN-10	5.3	5.3	5.2	5.2	5.1
Average of Emerging Asia	6.5	6.6	6.3	6.1	6.8

Note: The cut-off date for data used is 21 November 2018. ASEAN and Emerging Asia growth rates are the weighted averages of the individual economies in these groupings. Data for India and Myanmar relate to fiscal years. Myanmar's 2018 data refers to the interim 6-month period, from April 2018 to September 2018 while the 2019 data refers to the period from October 2018 to September 2019. The 2018 and 2019 projections for China, India and Indonesia are based on the OECD Economic Outlook 104 database.

Source: OECD Development Centre, Medium-term Projection Framework (MPF-2019)

Table 1. OECD Development Centre's Medium Term Projection Framework 2019 (MPF-2019)

Source: OECD Development Centre

Overall, the Emerging Asia's resilient private consumption story continues, underpinned by stability in labor markets and overseas transfers in some cases. Yet challenges to growth remain and to foster inclusive and sustainable growth, efforts are needed to maximize opportunities and mitigate the risks of financial technology. Population growth, rising incomes and limited transportation choices have increased automobile use. Addressing transportation challenges in the region's cities is critical to realizing potential benefits of urbanization for economic growth and development across the region.

Source: OECD (2018), *Economic Outlook for Southeast Asia, China and India 2019: Towards Smart Urban Transportation*, OECD Publishing, Paris. <https://doi.org/10.1787/saeo-2019-en>



Overall, the above reports give a relatively positive economic outlook for some regions with cautions of risks ahead for 2019 and beyond. After a decade of recovery from financial crisis, the global economy once again faces challenges to continued growth. In advanced economies, growth remains despite signs of moderation. Emerging Asia and Europe and some developing economies are expected to have subdued growth. Meanwhile, risks to global growth include, disorderly financial market movements, escalation of trade protectionism, heightened policy uncertainty and rising geopolitical tensions.

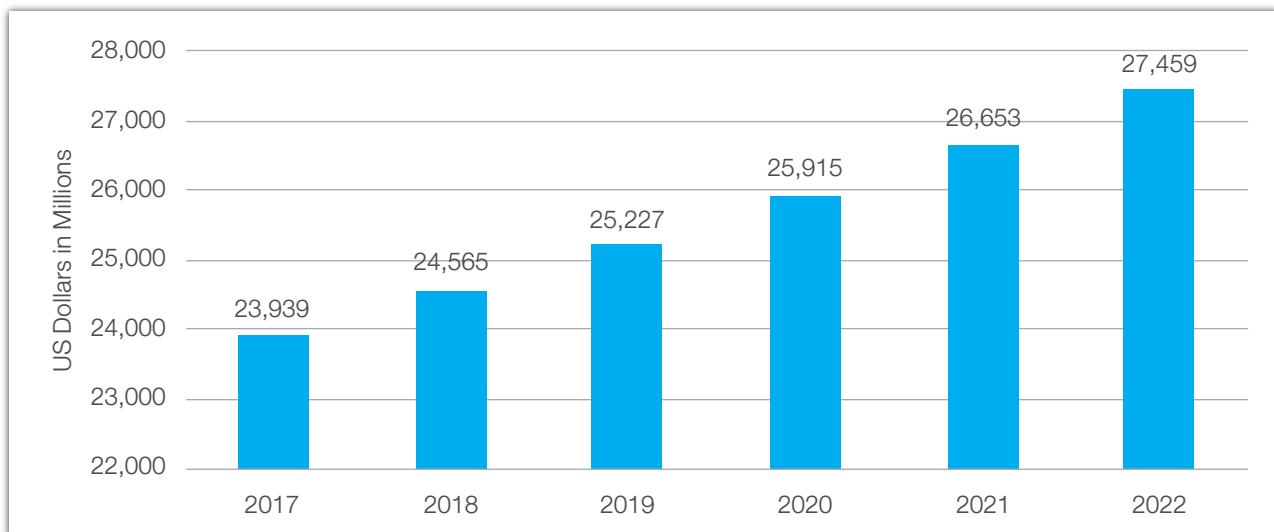
## Power Supply Market

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

In its Global Switching Power Supply Industry 2018 report on the power supply industry, Micro-Tech Consultants (MTC) provides updated data on low-voltage embedded AC-DC and DC-DC power supplies. The report focuses on merchant power supply manufacturers in the power supply business who sell products to OEM customers or consumers. According to MTC, the power supply industry continued its strong performance from the previous year and industry growth rate was expected to be 2.6% by the end of the third quarter in 2018. This growth is credited to marginal stability in old traditional markets and high growth in emerging markets in a strong global economy. Additionally, the industrial and medical equipment markets are showing signs of above average growth rates. Overall, MTC expects the power supply industry to grow very modestly over the next few years.

According to MTC's 2018 report, global consumption of merchant switching power supplies was worth approximately US\$24.5B in 2018 up from around US\$23.9B in 2017 and 2.8% CAGR is expected from 2017 to 2022 (Figure 1).

#### Global Consumption of Merchant Switching Power Supplies



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

WW	2017	2018	2019	2020	2021	2022	17-22 CAGR
Merchant							
Total	23,939	24,565	25,227	25,915	26,653	27,459	2.8%

US dollars in millions

Figure 1. Global consumption of Merchant Switching Power Supplies 2017-2022

Source: MTC report, "Global Switching Power Supply Industry 2018"

Global consumption of merchant power supplies by region is shown below (Figure 2) with the APAC region forecasted to have the highest CAGR at 4.1% during 2017-2022.

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

WW Merchant	2017	2018	2019	2020	2021	2022	17-22 CAGR
AMER	7,750	7,788	7,865	7,967	8,109	8,293	1.4%
EMEA	4,754	4,797	4,880	4,975	5,091	5,240	2.0%
APAC	11,244	11,784	12,289	12,783	13,265	13,742	4.1%
ROW	200	196	193	190	187	185	-1.5%
Total	23,939	24,565	25,227	25,915	26,653	27,459	2.8%

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

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

Source: MTC Report, "Global Switching Power Supply Industry 2018"

MTC reports that the top 10 OEM power supply companies in the world accounted for 44.5% of the total global sales in 2017 compared with 44.7% in 2016. Delta Electronics Group remains the largest power supply company in the world with leading sales in OEM, telecom, UPS and Renewable Energy market segments.

### 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	2017	2018	2019	2020	2021	2022	17-22 CAGR
LED	1,547	1,863	2,202	2,579	3,004	3,491	17.7%
CON	10,611	10,765	10,903	10,992	11,055	11,083	0.9%
COE	3,939	3,919	3,909	3,906	3,909	3,917	-0.1%
NTE	2,751	2,744	2,742	2,750	2,765	2,783	0.2%
IND	2,409	2,477	2,541	2,601	2,652	2,697	2.3%
MED	597	615	633	651	669	687	2.8%
TRN	1,188	1,259	1,345	1,450	1,581	1,748	8.0%
MIL	897	924	952	985	1,017	1,051	3.2%
Total	23,939	24,565	25,227	25,915	26,653	27,459	2.8%

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

Figure 3. Global Consumption of Merchant Switching Power Supplies 2017-2022

Source: MTC report, "Global Switching Power Supply Industry 2018"



As shown in the table (Figure 3), the LED lighting segment is the fastest growing segment with global merchant consumption predicted to reach around US\$3.4B by 2022 with 17.7% CAGR from 2017 to 2022. 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 US\$1.7B by 2022 with 8.0% CAGR from 2017 to 2022. This sector has been boosted by the advent of electric vehicles (EV) which has spurred growth in onboard chargers, private chargers for home use and commercial chargers for stations.

Source: MTC (2018) *Global Switching Power Supply Industry 2018*. Micro-Tech Consultants, Santa Rosa, CA.

## Emerging Markets

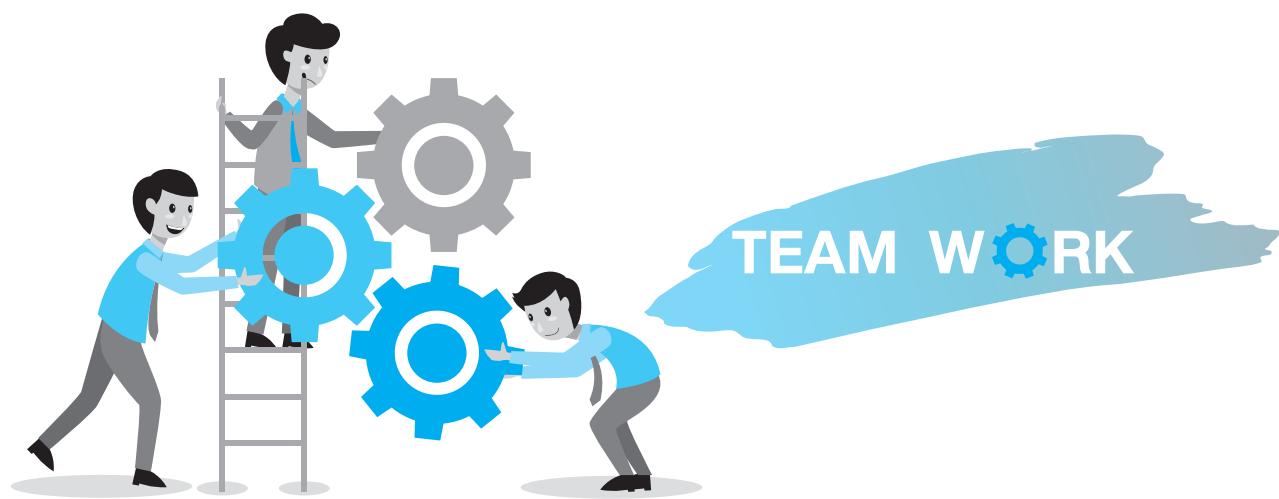
### Renewable Energy Market

In its 2019 Renewable Energy Industry Outlook, Deloitte reports the renewable energy sector in the USA remained remarkably resilient in 2018. The industry is gaining ground despite uncertainty about the effects of federal tax reform legislation and import tariffs. Output from utility-scale wind and solar capacity was 8% of total generation in the US by the third quarter of 2018 compared with 7% for the same period in 2017. Core drivers of growth in 2018 were declining costs of wind and solar generation, advances in battery storage technology and grid operator's growing expertise. Most importantly, demand was robust and utilities demonstrated strong "voluntary demand" as opposed to past demand driven by policy mandate. Deloitte points to emerging policies, expanding investment interest and advancing technologies as the three trends that will strengthen renewable energy growth prospects in 2019.

Source: Deloitte, 2019 Renewable Energy Outlook, <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-renewable-energy-outlook-2019.pdf>, accessed January 2019.

In the Global Energy Transformation: A Roadmap to 2050, The International Renewable Energy Agency (IRENA) reports the global transition to renewable power generation is underpinned by the rapid decline of costs. According to IRENA, 167GW of renewable energy capacity was added globally in 2017. This was a robust 8.3% growth over the previous year and a continuation of the 8% average growth rate since 2010. Despite the progress, IRENA warns that current emission trends are not on track to meet the 2015 UNFCCC Paris Agreement goal to limit average global temperature rise to "well below 2 degrees Celsius" above pre-industrial levels. Immediate action is crucial to meet targets and renewable energy and energy efficiency must expand in all sectors.

Source: IRENA (2018), *Global Energy Transformation: A roadmap to 2050*, International Renewable Energy Agency, Abu Dhabi.



Delta's commitment to sustainable development and the environment has driven our innovation in industry-leading renewable energy solutions. The Delta PV inverter product range covers residential or commercial rooftop applications, industrial rooftop and even megawatt power station applications. Delta offers both reliable and efficient string and central inverters which interact optimally with all solar modules.

## Electric Vehicles (EV) Market

According to the International Energy Agency (IEA) Global EV Outlook 2018, a record of over one million electric vehicles (EV) were sold in 2017 representing growth of 54% compared with the previous year. China accounted for more than half of the global sales and Norway had the largest sales share at 39%. The global EV stock surpassed three million in 2017 with 40% in China. Policy is a key driver of global EV deployment with both China and Norway having the strongest policy pushes. Currently, the strongest policies are EV mandates in China and California and the EU's proposal on CO<sub>2</sub> emissions standards for 2030. In addition, electrification targets by countries including India indicate further growth in EV uptake lies ahead.

Meanwhile, growth in EV charging infrastructure is mirroring EV uptake. By 2017, there were an estimated three million private chargers at residences and workplaces worldwide. Among public charging outlets, 320,000 were slow chargers and 110,000 were fast chargers. While policies are supporting the development of both private and public charging outlets, alliances are also forming between energy companies, automakers, utilities and grid service providers which could signal a shift from public funding towards more self-sustaining and business-driven solutions. However, it is possible that targeted support will be necessary to maintain public charging infrastructure across entire road networks.

Source: OECD/IEA (2018), *Global EV Outlook 2018: Towards cross-modal electrification*, International Energy Agency, Paris.

As part of our alignment to industries of the future, Delta has invested heavily in developing our EV related manufacturing and R&D capabilities. The company is already a supplier to top-tier global car manufacturers with an expansive 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 region with EV charging solutions including AC chargers, DC quick chargers and site management systems.

## Energy Storage Market

In November 2018, Bloomberg New Energy Finance (BNEF) significantly increased its forecast for global deployment of behind-the-meter and grid-scale batteries due to tumbling costs. The BNEF forecasts the global energy storage market will grow to a cumulative 942GW/2,857GWh by 2040. Energy storage will grow be equal to 7% of the total installed power capacity, attracting US\$620 billion in investment over the next 22 years. According to the BNEF Long-Term Energy Storage Outlook, the capital cost of a utility-scale lithium-ion battery storage system will slide another 52% between 2018 and 2030. This drop, on top of the steep declines seen earlier this decade, will transform the economic case for batteries in both the vehicle and the electricity sector.



BNEF expects the majority of storage capacity to be utility-scale until the mid-2030s, when it will be overtaken by behind-the-meter applications. Growth will be led by China, the US, India, Japan, Germany, France, Australia, South Korea and the UK. These nine markets will represent two thirds of the installed capacity by 2040. In the near-term, South Korea will dominate the market, the US will take over in the early 2020s, but China will overtake by 2020 and will maintain its lead to 2040 (Figure 4).

### Global cumulative storage deployments

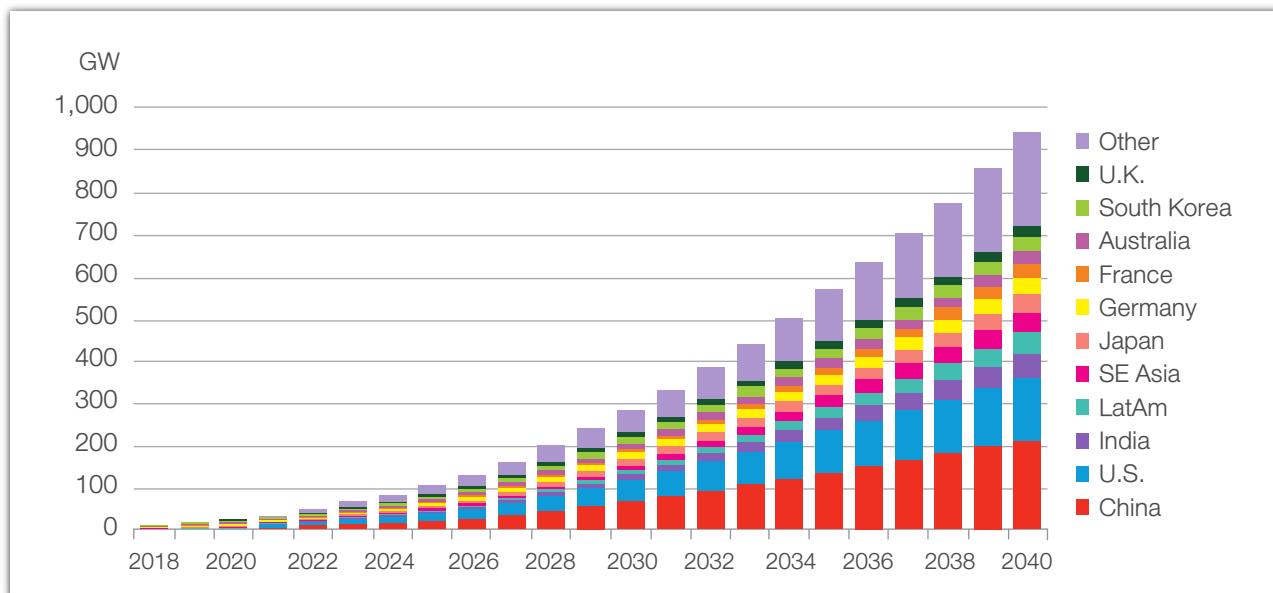


Figure 4. Global cumulative storage deployments 2018-2040

Source: Bloomberg New Energy Finance (NEF)

At the same time, developing countries in Africa will see rapid growth in energy storage. Utilities are likely to increasingly recognize that isolated assets combining solar, diesel and batteries are cheaper in remote sites than either an extension of the main grid or a fossil-only generator. Energy storage will become a practical alternative to new-build generation or network reinforcement. Behind-the-meter storage will also increasingly be used to provide system services on top of customer applications.

Source: Bloomberg. "Energy Storage is a \$620 Billion Investment Opportunity to 2040", Bloomberg New Energy Finance. November 6, 2018. Accessed January 2019.

Delta is positioning itself to benefit from this boom in energy storage by leveraging on our state-of-the-art power conversion and energy storage technologies. Our Li-ion battery portfolio includes cells, modules, cabinets and containers for excellent scalability and adaptability to a wide variety of requirements. The Delta Energy Storage System (ESS) solutions offers comprehensive energy storage for residential, commercial and utility applications.

# 2019 Business Directions

## Delta Thailand Operation Review

The Delta Smart Manufacturing project now enters its third year, marking a significant technological upgrade for the company's production lines. As a result of the Delta Smart Manufacturing deployment, overall productivity increased by 15% while quality-related failure cost improved by 16%, compared to performance in 2017. We expect to carry the project further into 2019 to maximize outcomes. As part of the project, the company plans to set up the Delta Distribution Center to facilitate smart logistics management and carry out lean manufacturing operations. The center, in Bangpoo Industrial Estate, has 10,700 square meters in space to support the operations of Delta's Bangpoo plants.

Delta expects production to increase 30% in 2019 compared with 2018 due to a ramp-up in both automotive and new product production. New products produced by Delta Thailand include medical products, home appliance products and networking products. To cope with our production expansion, Delta kicked off the Plant 3 facility renovation project and Plant 7 new facility construction project in 2018. The company estimates to complete both projects in the first quarter and the fourth quarter of 2019 respectively. Plant 3 is in the Bangpoo Industrial Estate and, when renovation is complete, there will be 17,800 square meters in additional production space available. Plant 7 is in the Wellgrow Industrial Estate and will be a LEED-certified green building with a solar roof deck. This new green building will provide an additional 44,800 square meters in production space.

## Delta Standard Industrial Power Supply

2018 was a challenging, yet exciting year for the Industrial Power Supply (IPS) team. With the continued expansion of the medical certified power supplies portfolio and release of the highly anticipated MEG-2K1A configurable power supply, we are experiencing breakthroughs in several medical applications in key global markets. We expect to see higher growth in 2019, leading into 2020 as a result of these projects.

To fuel business growth, Delta Industrial Automation Business Group also included Delta standard industrial power supplies into their worldwide distribution sales network of more than 200 channel partners. Delta IPS R&D will continue to work with global component suppliers to utilize the latest technology in our new designs and meet 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)

Delta industrial and medical businesses had annual revenue of US\$121M (+13%) in 2018. Highlights of the year included our new products entering into mass production for ultrasound projects, DIN Rail projects and a modular charging station platform. Launching such high-end products is challenging enough but being further burdened by well-known market component shortages, component price increases, labor rate increases and the negative influences of exchange rates for sustaining business, has required significant resources from both the engineering and qualification teams.

The current 2019 forecast shows that we will be able to achieve our revenue target of US\$131 (+8%). This expected growth is driven strongly by our DIN Rail products. Although there are indicators that the market will slow in 2019, the Industrial Medical Business Unit's (IMBU) diversification should be able to help us deliver positive results. We have invested in two automated production lines for our high-running models, one each in Thailand and Slovakia, which we scheduled to be online by mid-year.

In addition, we have high expectations for the success of our charging products in the industrial electric vehicle market, driven by a significant increase of automation in the logistics sector. IMBU is well positioned in the logistics sector with several Automated Guided Vehicle (AGV) manufacturers.

## Server, Networking and Telecom Business (SNT)

Delta's SNT business experienced growth in 2018. While our telecommunication business had been struggling throughout most of the year, due to maturing 4G deployment, our data center business ramped up when major data center customers continued to build out. On one hand, traditional high-end server business sales continued to be flat in 2018 as markets shift more to cloud services. However, we started to see the migration 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 SNT 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 2019 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.

## Automotive Business

The automotive business revenue in 2018 has met expected targets despite the newly implemented Worldwide Harmonised Light Vehicle Test Procedure (WLTP) test for all European vehicles slowing down growth in the second half of the year. Mass production demand for existing products has grown throughout the year while new product launches have increased overall demand and enlarged the product portfolio. Demand has been deriving from Plug-in Hybrid Electric Vehicles (PHEV) as well as fully electric Battery Electric Vehicles (BEV) with more and more platforms using Delta's electrical power products.

Onboard Chargers (OBC) was our foundational business in 2018, with power ranges from 3.7kW to 7.4kW. Ongoing designs are heading to even higher power levels like up to 22kW as well as combination models that are integrating AC charging and high-voltage to 12V conversion in a single package.

New contract awards with existing customers as well as new major European customers are not only stabilizing the growth trend for the upcoming year but also support Delta's aim to set the pace and take a major market share in automotive power electronics.

## Southeast Asia (SEA), Australia and New Zealand (ANZ) Market

### Industrial Automation (IA)

Delta's Industrial Automation (IA) team had another exciting year in 2018. Delta IA enhanced its competencies by successfully transforming existing businesses into system integration (SI) and solution business. This year, Delta's 5<sup>th</sup> Industrial Automation Camp had 164 teams participating from 111 colleges and universities in China, Taiwan, Thailand, Vietnam and India.

Delta has released new products like the Compact Modular Mid-range PLC AS Series, Standard Compact Drive MS300 Series (up to 22kW), Articulated Industrial Robot DRV Series and New Generation HMI DOP100 Series. The Delta DRV Series Articulated Industrial Robot won the iF Design Award. Its maximum working radius is 710mm/900mm with a maximum load of 7 kilograms to meet the flexible processing needs of light industry. Delta also announced a partnership with CODESYS at SPS Nuremberg, which will offer customers across EMEA and Asia the opportunity to simplify the implementation of Delta's industrial automation hardware in their operations.



In Thailand, 2018 was the first year for the Delta Industrial Automation Thailand team to implement a channel strategy to provide the best exposure to the company's products and solutions to potential partners. Delta IA built a channel strategy around both direct and indirect sales channels that take care to avoid channel conflict by assigning one product line to each new distributor. Delta IA successfully signed agreements with three new distributors and six SIs to provide an overarching solution for customers. Delta IA's major plan in 2019, is to continue our channel strategy and develop key account customers in potential market segments aligned with the Thailand Industry 4.0.

In Malaysia, Delta has won many projects in HVAC, WWW, Electronics and the Rubber & Glove segments. 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 2019.

In Australia, Delta's IA business is witnessing a growth rate of approximately 17% from 2017-2018. We are experiencing this growth from different market verticals such as WWW, Materials Handling, BA and F&B. In addition, we are strengthening cooperation with the SI community and asian authorized distributor for power quality products. We should be note that automation manufacturers in Australia face several issues regarding configuration and consistency when trying to deploy or upgrade automation systems. As such, our strategy for Australia and New Zealand is to provide a complete total engineered solution to key OEMs and end users. Looking forward at 2019, we are very excited as we believe we have the right strategies to achieve or exceed our targets.

## Mission Critical Infrastructure Solution (MCIS)

In alignment with the Delta MCIS strategic vision to become one of the top three global players in IT Power Infrastructure, we continued to outperform in the SEA and Oceania regions during 2018. By delivering the latest in design, technology and operational excellence, we are providing our customers with a more adaptive, scalable and flexible solution to address their needs.

Enterprise business growth and IT Infrastructure equipment have become so closely linked that planning and building a high-performance data center is one of the most critical and complex issues faced by businesses today. The expert teams at Delta MCIS have developed a new generation of data center infrastructure solutions that provide industry-leading Total Cost of Ownership (TCO) and enable flexibility in businesses resources deployment.

2018 was another remarkable year for us as we grew by 170% in year-over-year revenue. We expanded our customer portfolio and footprint to include both the Cambodia and Myanmar markets. In addition, we successfully deployed innovative Modular and Containerized Data Centers for a variety of customers. All this activity was part of our consistent push to deliver a smarter and greener infrastructure solution to major manufacturing and telecom operators in the region.

In 2019, we expect the growth trend in Edge Computing to continue and drive our push towards both modular and containerized data centers as part of our sustainable market focus. DCIM, Power container solutions, and Prefabricated Datacenter Solutions will serve as our significant market differentiating tools.

## India Market

### Telecom Power Business

Despite the multiple challenges and adverse conditions in the India market, Delta India's Telecom Power Solutions (TPS) business had strong growth in 2018. India is the 2<sup>nd</sup> largest telecom market in the world in terms of subscribers. There are 1.18B subscribers and 493M internet users, with over 270M internet users using 4G wireless services to consume approximately 11GB per month. India's data payload stands at 165PB (Peta Bytes), of which 75% of consumption is from 3G/4G subscribers. The newest telecom operator is Reliance Jio, which launched a 4G LTE network in 2016 and continues to disrupt the market with extremely low tariffs. Their disruption has put all incumbent players into a tight and difficult environment of hyper-competitiveness.



Reliance Jio's competition has forced multiple telecom operators to shut their operations and has reduced the market to a battleground where a fierce struggle for survival is playing out. Major operator Tata Teleservices sold their network on a free-of-cost basis to Airtel which acquired another operator, Telenor, at a nominal valuation. Maxis Malaysia-owned Aircel ceased operations and is looking for a buyer. Reliance Communications is currently under acquisition by Reliance Jio. Meanwhile, Vodafone and Idea have already merged and launched the largest telecom in India, Vodafone Idea Ltd., in September 2018.

Similar M&A activity is also on the cards in the telecom infrastructure sector. ATC has acquired Viom's 38,000 towers while GTL, a major player with almost 40,000 towers, is struggling to survive. Bharti Infratel with 37,000 towers is merging with Indus Towers who already have around 124,000 towers.

While the M&A activity has caused fewer customers and overall market shrinkage, Delta India TPS is building its strength to create more products and solutions for existing customers. In addition, there we are focusing on targets in newer markets including Railways, Smart Cities, Surveillance and Traffic Management & Utilities. This will help our business grow despite adverse conditions on multiple fronts.

## Solar Inverter Business in India

2018 has been a year of changing fortunes for the Indian solar industry. While there were big announcements and project allocations done in the first quarter, activity dropped sharply in the second quarter and picked up only slightly in the third quarter. While the first quarter's added capacity was a record high of 3.8GW, it fell to 0.7GW in the second quarter, followed by 1.1GW in the third quarter. The expected added capacity in the fourth quarter is 1.3GW which would bring the annual total to almost 7GW in 2018. This is approximately 22% lower than in 2017.

The major roadblocks this year were a new 25% safeguard duty on modules and cells and an almost 15% appreciation of US Dollar against the Indian Rupee. Both factors contributed heavily to project costs and resulted in slow and selective execution. Currently, the market is gradually recovering and we expect to see 9-10GW added capacity in 2019.

Suppliers from China have taken strong positions in India market in the last year, especially in modules and inverter supplies. Delta India PVI lost some market share to low-cost China suppliers. Over the long term, the market looks more matured, robust and consolidated. While there will be competition and price challenges ahead, suppliers with good products and price strategy will have serious business opportunities.

Currently, Delta holds the top position in India for rooftop inverters with a 26% market share. As of date, Delta has supplied over 1,100 MW Inverters, over 23,500 String Inverters and over 3,000 PV plants across India.



# 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.

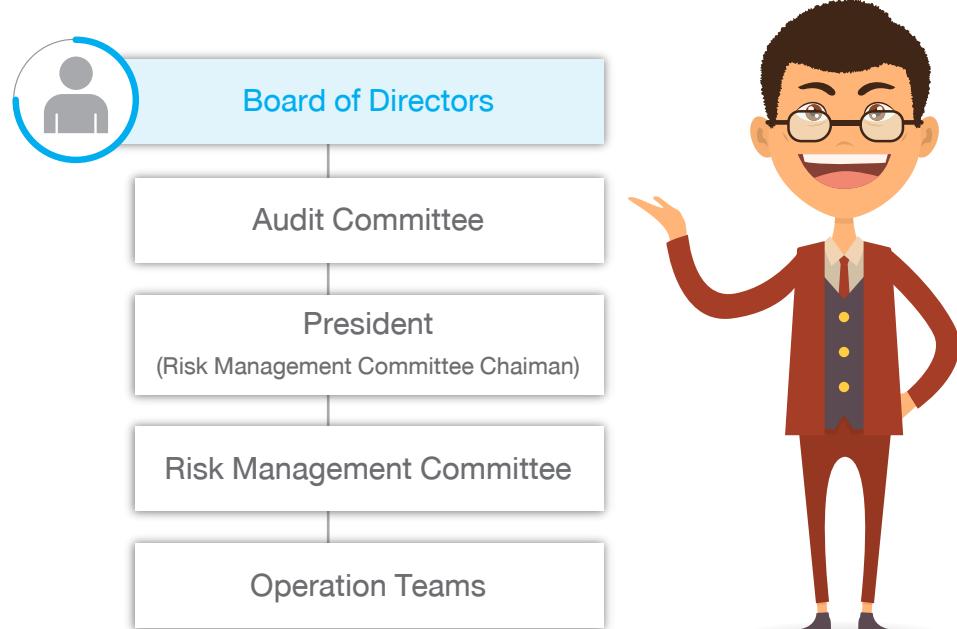
## Risk Management Committee

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

The global economy continued to expand in 2018 and inflation accelerated. Tax reform and a strong labor market spurred growth in the US while the Eurozone and Japan saw growth driven from their historically low unemployment rates. The overall global economy is expected to continue expanding, driven by strong economic fundamentals on the back of international trade and tight labor market conditions across many regions. Global economic risks concern these key factors: accelerating inflation and a tighter-than-expected monetary policy, the end of QE measures and US trade protectionism measures. Meanwhile, China's economy, which is likely to slow down, as well as other emerging economies will still benefit from the growth of major economies driven by international trade.

Thailand's economy is expected grow to at 4.5% in 2018 and 4.0% in 2019. Growth improved in the first half of the year driven by the external sector from continued rapid expansion in both merchandise exports and tourism. This led domestic private demand to start recovering in conjunction with resumed growth in consumption, investment and public investment. Growth in the second half of the year faced higher risk than in the first half due to volatility from external factors including financial market volatility in Thailand and other emerging markets, a stronger US dollar and the impact of US trade protectionist measures and countermeasures. The Thai economy is expected to have 4.0% growth in 2019, declining due to a slowdown in exports as a result of the trade war and the tightening global financial situation overall.

Delta 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 foreign currency forward contracts to protect the net position of each currency. This policy is effective in minimizing risk from fluctuations of exchange rates or interest rates and avoids speculation with some reasonable costs incurred from hedging transactions.

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

### Accounts Receivable Collections

The company constantly monitors and evaluates 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 utilize credit insurance to mitigate trading risk.

During the past years, Delta has managed the accounts receivable and collections satisfactorily even when encountering various challenges. Our efficient accounts receivable management, credit control system and experienced personnel have helped to ensure sufficient and smooth cash flow to support our business operations.

## 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 2018, the supply situation of semiconductors and passive components was tight but through great teamwork and close cooperation with our valued suppliers, we did not encounter any serious supply related impact. Going forward to 2019, we foresee the tight supply conditions for semiconductors and passive components to start easing, but we may have to wait until the second half year of 2019 to see a full recovery and must continuously monitor the situation. We do 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.

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 improving 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 continues 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 to 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

Organizations today are moving business processes towards digitization, mobility, big data analytics, web collaboration and cloud services. This digitization comes under ever-increasing pressure to comply with regulatory requirements, maintain strong operational performance and increase shareholder value. In this hyper-competitive environment, our company needs to provide suitable technology, policies and processes to ensure employees are ready to prevent and minimize information security risk. Delta continually strives to protect intellectual property, sensitive customer information and other business-critical information.

To improve compliance an Endpoint Protection Platform has been deployed on endpoint devices to prevent file-based malware and to detect and block malicious activity from both trusted and untrusted applications. This protection includes monitoring and blocking sensitive information exchanges.

Awareness programs and regular audits are prepared and implemented by the IT department, in cooperation with vendors, for application management and to improve software compliance. The company also has Software Development Process & Control Procedures to manage in-house software development and bug deductions.

The company engages with professional contractors and service providers for infrastructure management including building a firewall, hardware redundancy, maintenance service and proactive care service. The infrastructure aims to reduce the risks of hardware failure and data loss and improve information security.

As ransomware operators and hackers continue their relentless attacks across cyberspace, cyber-attack is becoming a common threat to any business operation worldwide. The company conducted various trainings to increase employees' awareness and vulnerability scanning to avoid cyber-attacks. The company reviewed administrative rights to limit the ability to install software in company computers and installed a Data Lost Prevention system to block access to unauthorized personal electronics devices, external cloud storage or USB. The IT department also proactively updates software patches and reviews software installed to manage and mitigate IT risks.



## 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 shall 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.

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).

- i) Suppliers must fully comply with local statutory regulations and define its own risk control mechanism.
- ii) Suppliers must establish management systems regarding environmental protection, energy saving and GHG emission reduction.
- iii) 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 2018)

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 11 December 2018)

No.	Name	Holding	%
1	CITI (Nominees) Limited-CBHK-PBGSG-Restricted Shares	708,259,870	56.8%
2	Thai NVDR Co.,Ltd.	83,472,351	6.7%
3	Delta Electronics Inc.	69,128,140	5.5%
4	UBS AG Singapore, Branch	53,172,220	4.3%
5	South East Asia UK (Type C) Nominees Limited	31,215,848	2.5%
6	RBC Investor Services Trust	29,569,840	2.4%
7	State Street Europe Limited	22,850,114	1.8%
8	BNY Mellon Nominees Limited	18,766,168	1.5%
9	South East Asia UK (Type A) Nominees Limited	15,834,950	1.3%
10	HSBC Bank PLC-HSBC Institutional TST SVS(IRE) LTD First State Global Umbrella Fund PLC - First State Asian EQU	11,077,500	0.9%
11	Others	204,034,613	16.4%
Total		1,247,381,614	100.0%

Note : Shareholder of Thai NVDR Co., Ltd. who held non-Voting depositary receipts (NVDR) in Item 2, were ineligible for voting at shareholder's meeting except when exercising their voting rights on delisting the shares from SET.

## Minor Shareholders

As of March 9, 2018, total number of Minor Shareholders (Free float) is 4,987, equivalent to 36.88%

## 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 ordinary shares, 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. 1/2019 held on 18 February 2019 resolved to pay dividend for the year 2018 at Baht 2.30 per share, representing a payout ratio of 55.8%. This is subject to the 2019 Annual General Meeting of Shareholders' approval. (The dividend paid in 2018 was Baht 2.20 per share, representing a payout ratio of 55.7%).

## 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
2014	4.78	3.00	62.8%
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	55.8%

\* Pending for approval from the 2019 Annual General Meeting of Shareholders' on April 2, 2019 to approve the dividend distribution for the year 2018



# Board of Directors

1 Mr. Kong Meng Ng (James)

Chairman of the Board

2 Mr. Ming-Cheng Wang (Stronger)

Vice Chairman of the Board

3 Mr. Hsieh Shen-yen

Director of the Board

4 Mr. Chu Chin-yuan (Roger)

Independent Director

5 Mr. Hsieh Heng-hsien (Henry)

Director of the Board

6 Mr. Anusorn Muttaraid

Director of the Board

7 Mr. Boonsak Chiempricha

Independent Director

8 Dr. Witoon Simachokedee

Independent Director

9 Mrs. Tipawan Chayutimand

Independent Director



8

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# Profile of Board of Directors

## Mr. Kong Meng Ng (James)

Age : 72

Shareholding in the company As of  
31 Jan 19  
-None-

## Mr. Ming-Cheng Wang (Stronger)

Age : 73

Shareholding in the company As of  
31 Jan 19  
-None-

## Mr. Hsieh Shen-yen

Age : 67

Shareholding in the company As of  
31 Jan 19  
-None-

### Position Education

- Chairman of the Board (Authorized Director) (Appointment Date : 3 May 1990)
- M. Sc (Electronic Engineering), University of Southampton, UK
  - Bachelor Degree in Electrical Engineering, National Taiwan University, Taiwan
  - 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

### Position

- Vice Chairman of the Board (Authorized Director) (Appointment Date : 3 May 1990)

### Education

- Corporate Governance Committee Chairman
- EMBA, National Taipei University of Technology, Taiwan

### Training

- Industrial Engineering (Diploma), National Taipei Institute of Technology, Taiwan
- Director Accreditation Program (DAP), Thai Institute of Directors Association, Year 2015

### Work Experience

#### Listed Company

- 1990-Present Vice Chairman of the Board, Delta Electronics (Thailand) Pcl.  
2018-Present Corporate Governance Committee Chairman, Delta Electronics (Thailand) Pcl.  
2009-Dec 2013 Risk Management Committee Vice Chairman, Delta Electronics (Thailand) Pcl.  
1999-Dec 2013 Executive Committee Member, Delta Electronics (Thailand) Pcl.  
1990-Dec 2013 Vice President, Delta Electronics (Thailand) Pcl.

### Position

- Director of the Board (Authorized Director) (Appointment Date : 13 Aug 2013)
- President

### Education

- Executive Committee Chairman
- Corporate Governance Committee Member

### Training

- Risk Management Committee Chairman
- Sustainability Development Committee Chairman
- EMBA, National Taipei University of Technology, Taiwan
- B.A. Navigation, China Maritime College
- Director Accreditation Program (DAP), Thai Institute of Directors Association, Year 2014

### Work Experience

#### Listed Company

- 2013-Present Director of the Board, Delta Electronics (Thailand) Pcl.  
2014-Present • President, Delta Electronics (Thailand) Pcl.  
• Executive Committee Chairman/Risk Management Committee Chairman, Delta Electronics (Thailand) Pcl.  
2018-Present Corporate Governance Committee Member, Delta Electronics (Thailand) Pcl.  
2015-present Sustainability Development Committee Chairman, Delta Electronics (Thailand) Pcl.  
Aug 2013-Feb 2014 Executive Committee Member Delta Electronics (Thailand) Pcl.

#### Non-Listed Company

- 2013-2016 Director, Taiwan Powder Technologies Co.,Ltd  
2012-2013 Director, Delta Greentech (China) Co Ltd.  
2003-2016 Executive Vice President, Delta Electronics (Dongguan) Co.,Ltd.

## **Mr. Chu Chih-yuan (Roger)**

Age : 72

Shareholding in the company As of 31 Jan 19  
-None-

## **Mr. Hsieh Heng-hsien (Henry)**

Age : 55

Shareholding in the company As of 31 Jan 19  
-None-

### **Position**

- Independent Director (Appointment Date : 30 Apr 1988 and appointment be Independent director on 27 Oct 2015)
- Audit Committee Member
- Nomination & Compensation Committee Member
- B.A in Economics, Chinese Culture University (Taipei), Taiwan
- Executive Program of Graduate School of Business Administration, Chung Yuan Christian University, Taiwan
- Director Accreditation Program (DAP) Thai Institute of Directors Association, Year 2007

### **Education**

### **Training**

### **Work Experience**

#### **Listed Company**

1988-Present	Director of the Board, Delta Electronics (Thailand) Pcl. (appointment to Independent director on October 2015)
Oct 2015-Present	<ul style="list-style-type: none"> <li>• Audit Committee Member, Delta Electronics (Thailand) Pcl.</li> <li>• Nomination &amp; Compensation Committee Member, Delta Electronics (Thailand) Pcl.</li> </ul>
Jun 2016-Present	Independent director, C Sun Manufacturing Ltd.
1986-Sep 2013	Senior Vice President and Corporate CFO, Delta Electronics, Inc.

#### **Non-Listed Company**

2011-Present	Director, Digital Projection International Holding Ltd.
2010-Aug 2016	Supervisor, Delta Electronics Capital Company
2009-Jun 2015	Supervisor, NeoEnergy Microelectronics
2012-Mar 2014	Supervisor, Delta Green Life Co., Ltd.
2004-Mar 2014	<ul style="list-style-type: none"> <li>• Director, Delta Electronics International Ltd. (Labuan)</li> <li>• Supervisor, Delta Electronics (Korea), Inc.</li> </ul>
2002-Mar 2014	Supervisor, Delta Greentech (China) Co., Ltd.
1998-Mar 2014	Supervisor, Addtron Technology (Japan) Co., Ltd.
1995-Mar 2014	Director, Delta Power Sharp Ltd.
1991-Mar 2014	Supervisor, Delta Electronics (Japan), Inc.
2012-Mar 2013	Supervisor, Allied Material Technology Corp.

### **Position**

### **Education**

Director of the Board (Authorized Director) (Appointment Date : 30 Mar 2006)

- MBA, California Miramar University, USA
- MBA , Pacific Western University, USA
- Electrical Engineering (Diploma), National Taipei University of Technology, Taiwan

### **Training**

- Director Accreditation Program (DAP), Thai Institute of Directors Association, Year 2006

### **Work Experience**

#### **Listed Company**

2006-Present	Director of the Board, Delta Electronics (Thailand) Pcl.
2009-Mar 2014	<ul style="list-style-type: none"> <li>• Executive Committee Chairman, Delta Electronics (Thailand) Pcl.</li> <li>• Risk Management Committee Chairman, Delta Electronics (Thailand) Pcl.</li> </ul>
2007-Mar 2014	President, Delta Electronics (Thailand) Pcl.

#### **Non-Listed Company**

2004-Mar 2014	President of Delta Energy Systems (DES) group
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## **Mr. Anusorn Muttaraid**

Age : 65

	<b>Position</b>	<ul style="list-style-type: none"><li>• Director of the Board (Authorized Director) (Appointment Date : 22 Aug 1994)</li><li>• Executive Committee Member</li><li>• Nomination &amp; Compensation Committee Member</li><li>• Corporate Governance Committee Member</li><li>• Risk Management Committee Member</li><li>• Sustainability Development Committee Member</li><li>• Human Resources &amp; Administration/ Public Relations Director</li></ul>
	<b>Education</b>	<ul style="list-style-type: none"><li>• B. Sc, Kasetsart University</li></ul>
	<b>Training</b>	<ul style="list-style-type: none"><li>• Director Certification Program (DCP), Thai Institute of Directors Association, Year 2004</li><li>• Capital Market Academy Leader Program # 27, Capital Markey Academy</li></ul>
	<b>Work Experience</b>	
	<b>Listed Company</b>	
1994-Present		Director of the Board, Delta Electronics (Thailand) Pcl.
1999-Present		Executive Committee Member, Delta Electronics (Thailand) Pcl.
2018-Present		Corporate Governance Committee Member, Delta Electronics (Thailand) Pcl.
2015-Present		<ul style="list-style-type: none"><li>• Nomination &amp; Compensation Committee Chairman,</li><li>• Sustainability Development Committee Member</li></ul> Delta Electronics (Thailand) Pcl.
2009-Present		Risk Management Committee Member, Delta Electronics (Thailand) Pcl.
1993-Present		Human Resources & Administration/ Public Relations Director, Delta Electronics (Thailand) Pcl.
2007-Oct 2015		Compensation Committee Member, Delta Electronics (Thailand) Pcl.
	<b>Non-Listed Company</b>	
2011-Present		Member of sub-committee of Comprehensive Economic Partnership in East Asia (ASEAN+6), Board of Trade of Thailand
2010-Present		Managing Partner, Anupong Globalize Limited Partnership
2009-Present		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"><li>• Chairman of Thailand-India Business Council, The Thai Chamber of Commerce and Board of Trade of Thailand</li><li>• Managing Partner, Anusorn Globalize Limited Partnership</li></ul>
2017		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		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		Director/Executive Director, The Small and Medium Enterprise Development Bank of Thailand (SME Bank)
2011-2015		Risk Committee Chairman, The Small and Medium Enterprise Development Bank of Thailand (SME Bank)
2011-2014		Director of Advisory Board, Department of Trade Negotiations Ministry of Commerce
<b>Shareholding in the company As of 31 Jan 19</b>		
-None-		



## **Mr. Boonsak Chiempricha**

Age : 70

Shareholding in the company As of 31 Jan 19 21,000 shares (0.0017% of paid up capital)

## **Dr. Witoon Simachokedee**

Age : 65

Shareholding in the company As of 31 Jan 19 -None-

### **Position**

- Independent Director (Appointment Date : 5 April 2016)
- Audit Committee Chairman
- MBA the University of Santa Clara, San Jose, CA., U.S.A.
- B.A., Chulalongkorn University
- Diploma, National Defence College, (NDC 4111), The Joint State - Private
- Director Certification Program (DCP),  
Thai Institute of Directors year 2003
- Director Accreditation Program (DAP),  
Thai Institute of Directors Association Year 2004
- Role of the Chairman Program (RCP),  
Thai Institute of Directors Association Year 2007
- Corporate Governance for Capital Market Intermediaries (CGI)  
Thai Institute of Directors Association Year 2014

### **Work Experience**

#### **Listed Company**

- |              |  |
|--------------|--|
| 2016-Present | Independent Director/ Audit Committee Chairman,<br>Delta Electronics (Thailand) Pcl.   |
| 2010-Present | <ul style="list-style-type: none"> <li>• Independent Director/Audit Committee Member/Risk Management Committee Chairman, President Bakery Pcl.</li> <li>• Chairman of the board, G Capital Pcl.</li> <li>• Chairman of the board /Executive Chairman, Indara Insurance Pcl.</li> </ul> |
| 2012-Present | Director/ Audit Committee Member, CIMB-Principal Asset Management Company  |

#### **Non-Listed Company**

- |              |  |
|--------------|--|
| 2018-Present | <ul style="list-style-type: none"> <li>• Director of Audit &amp; Evaluation Sub-Committee of special government</li> <li>• Consultant of Financial Management program, The Comptroller General's Department</li> </ul> |
| 2013-Present | Financial Director, The Thai Bar Under the Royal Patronage Government Sector   |
| 2012-Present | Honorary Council Member and Audit Committee Chairman, Mahasarakham University Council Committee  |
| 2014-2017    | Commission, Court of Judicial Service Government Sector  |

### **Position**

- Independent Director (Appointment Date : 30 Mar 2015)
- Nomination & Compensation Committee Chairman
- Honorary Doctorate of Engineering, Safety Engineering, Kasetsart University
- Doctor of Philosophy Public Administration (Management of public and private sector), Ramkhamhaeng University
- Honorary Doctorate of Science. Safety Technology Occupational Health, Rajabhat Suan Sunanta University
- Master's degree of Business Administration, Faculty of Commerce and Accountancy, Thammasat University
- Bachelor of Laws degree, Thammasat University
- Bachelor of Engineering (The Electrical Engineering), Kasetsart University
- Director Certification Program (DCP), Thai Institute of Directors year 2009
- Financial Statements for Directors (FSD), Thai Institute of Directors year 2009

### **Education**

### **Training**



## **Dr. Witoon Simachokedee**

Age : 65  
(Continued)

Shareholding in the  
company As of  
31 Jan 19  
-None-

## **Mrs. Tipawan Chayutimand**

Age : 61

Shareholding in the  
company As of  
31 Jan 19  
-None-

### **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	<ul style="list-style-type: none"><li>• Chairman of the board, Ratchaburi Electricity Generating Holding Pcl.</li><li>• Director of PTT Chemical Plc.</li><li>• Director of PTT Aromatics and Refining Pcl.</li></ul>

#### **Non-Listed Company**

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	<ul style="list-style-type: none"><li>• Chairman of the board, Industrial Estate Authority of Thailand</li><li>• Directors, Small and Medium Enterprise Development Bank of Thailand (SME Bank)</li></ul>
2009	<ul style="list-style-type: none"><li>• Director, General of Department of Industrial Works</li><li>• Deputy Permanent Secretary, Ministry of Industry</li></ul>
2008	<ul style="list-style-type: none"><li>• Director, General of Department of Primary Industries and Mines</li><li>• Board of directors, Electricity Generating Authority of Thailand</li></ul>

### **Position**

- Independent Director (Appointment Date : 2 April 2018)

- Audit Committee Member

### **Education**

- M.B.A., Kasetsart University

- B.A., 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 Leadership 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

### **Work Experience**

#### **Listed Company**

2018-Present	Independent Director/ Audit Committee Member, Delta Electronics (Thailand) Pcl.
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#### **Non-Listed Company**

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
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# Profiles of Management Team

## Mr. Hsieh Shen-yen (Dick)

Age : 67

President

(For futher details, please refer to his profile in the Board of Director)

## Mr. Anusorn Muttaraid

Age : 65

Human Resources & Administration/ Public Relations Director

(For futher details, please refer to his profile in the Board of Director)

## Mr. Vichai Saksuriya

Age : 56

Shareholding in the company As of 31 Jan 19  
22,100 shares (0.0018% of paid up capital)

**Position** Operations Vice President

**Education**

- 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

Present	<ul style="list-style-type: none"><li>• Operations Vice President (2011-Present)</li><li>• Sustainability Development Committee Member (2015-Present) Delta Electronics (Thailand) Pcl.</li></ul>
2010-2011	Sr. Operation Director, Delta Electronics (Thailand) Pcl.
2008-2010	Operation Director PSBG, Delta Electronics (Thailand) Pcl.

**Position** Chief Financial Officer (CFO)

**Education** • B.A (Accounting), Ramkhamhaeng University

### Work Experience

#### Listed Company

Present	<ul style="list-style-type: none"><li>• Chief Financial Officer (CFO) (Feb 2016-Present)</li><li>• Accounting Director (2013-Present)</li><li>• Sustainability Development Committee Member (2015-Present) Delta Electronics (Thailand) Pcl.</li></ul>
1999-2013	Accounting Manager, Delta Electronics (Thailand) Pcl.

**Position** Chief Information Officer (CIO)

**Education**

- 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

Present	Chief Information Officer (CIO) (Nov 2011-Present), Delta Electronics (Thailand) Pcl.
1999-Aug 2011	Business IT, Delta Electronics, Inc. (Taiwan)

## Mr. Chen, Chin-Ming

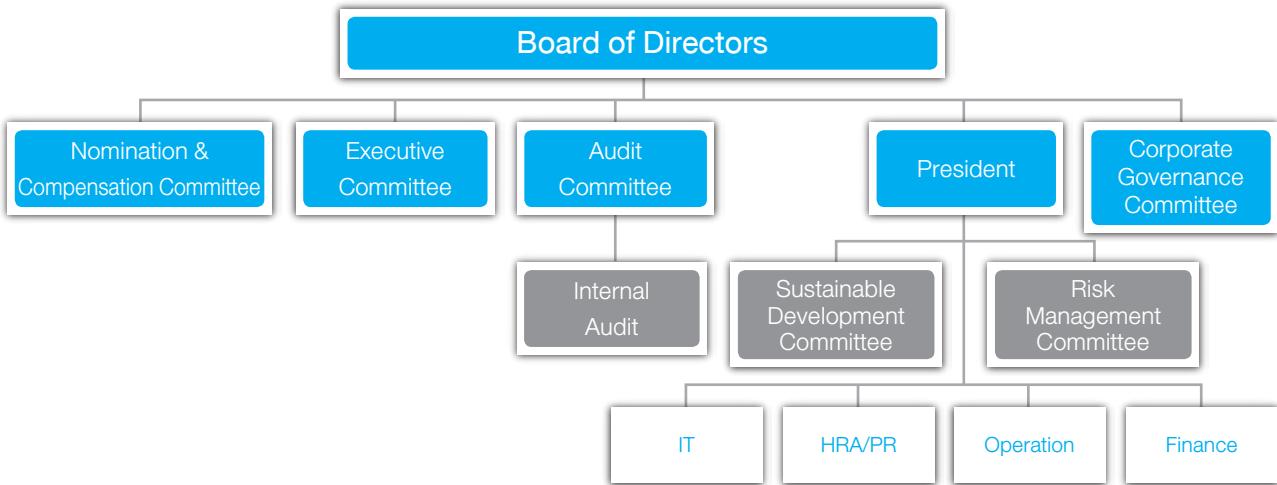
Age : 48

Shareholding in the company As of 31 Jan 19  
-None-



# Managerial Structure

The company's managerial structure as of 31 December 2018



## Board of Directors

The company's Board of Directors is now composed of 9 members, 2 executive directors, 7 non-executive directors. As reported in the Ministry of Commerce's certification dated February 25, 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. Ming-Cheng Wang	Vice Chairman	3 May 1990	6/6
3. Mr. Hsieh Shen-yen*	Director and President	13 Aug 2013	6/6
4. Mr. Hsieh Heng-hsien	Director	30 Mar 2006	5/6
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	5/6
9. Mrs. Tipawan Chayutimand	Independent Director	2 Apr 2018	5/5

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

\* Executive director

\*\* Having been appointed by the 2018 AGM held on April 2, 2018

## Authorized Directors:

The following 5 directors are authorized to act on behalf of the company under following conditions, "Mr. Ng Kong Meng or Mr. Ming-Cheng Wang or Mr. Anusorn Muttaraid, either one of these directors jointly sign with Mr. Hsieh Heng-hsien or Mr. Hsieh Shen-yen to be two directors 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:
  - 1.1 Performing its duties with responsibility and all due circumspection and caution (duty of care).
  - 1.2 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. Anusorn Muttaraid	Human Resources & Administration / Public Relations Director
3. Mr. Vichai Saksuriya	Operation Vice President
4. Mrs. Aruwan Sangrungarun	Chief Financial Officer
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 carried 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 Fungthanakun 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 2018, the Company Secretary participated in the annual report submission by QR Code and listed Company Solution on December 13, 2018 at the Stock Exchange of Thailand.

## 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 2018 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 2018 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 2018 as follow;

Name of Director	Remuneration		Meeting fee		Other		Total Amount	
Unit : Baht	2018	2017	2018	2017	2018	2017	2018	2017
Mr. Ng Kong Meng	1,650,000	1,650,000	70,000	70,000	-	-	1,720,000	1,720,000
Mr. Ming-Cheng Wang	1,150,000	1,150,000	80,000	70,000	-	-	1,230,000	1,220,000
Mr. Hsieh Shen-yen	500,000	500,000	-	-	-	-	500,000	500,000
Mr. Hsieh Heng-hsien	1,150,000	1,150,000	60,000	60,000	-	-	1,210,000	1,210,000
Mr. Anusorn Muttaraid	500,000	500,000	-	-	-	-	500,000	500,000
Mr. Chu Chih-yuan	1,150,000	1,150,000	150,000	150,000	-	-	1,300,000	1,300,000
Mr. Boonsak Chiempricha	1,250,000	1,250,000	110,000	110,000	-	-	1,360,000	1,360,000
Dr. Witoon Simachokedee	1,250,000	1,250,000	100,000	120,000	-	-	1,350,000	1,370,000
Mrs. Tipawan Chayutimand	1,150,000	-	80,000	-	-	-	1,230,000	-
Total	9,750,000	8,600,000	650,000	580,000	-	-	10,400,000	9,180,000

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

### 1.2 Remuneration of the Management

Remuneration of the 5 members of the management team including salary and bonus in 2018 amounted to 41,775,360 baht as compared to that of last year (2017) of 40,829,950 baht.

## 2. Other Remuneration

- None -

## Share/Warrant Holdings of Directors

Name of Director	Holding DELTA (Shares)					
	Self			Spouse & Minor child		
	31 Jan 19	31 Jan 18	Inc (Dec)	31 Jan 19	31 Jan 18	Inc (Dec)
Mr. Ng Kong Meng	-	-	-	-	-	-
Mr. Ming-Cheng Wang	-	-	-	-	-	-
Mr. Hsieh Shen-yen	-	-	-	-	-	-
Mr. Hsieh Heng-hsien	-	-	-	-	-	-
Mr. Chu Chih-yuan	-	-	-	-	-	-
Mr. Anusorn Muttaraid	-	-	-	-	-	-
Mr. Boonsak Chiempricha	21,000	17,000	4,000	-	-	-
Dr. Witoon Simachokedee	-	-	-	-	-	-
Mrs. Tipawan Chayutimand	-	-	-	-	-	-
Mr. Vichai Saksuriya	22,100	-	22,100	-	-	-
Mrs. Aruwan Sangrungarun	1,000	1,000	-	4,500	5,000	(500)
Mr. Chen Chin-ming	-	-	-	-	-	-

## Human Resource

In 2018, the company and its subsidiaries had a total number of employees of 15,700 and the total remuneration including salary, bonus and provident fund paid to employees was Baht 7,984 million. In Thailand, there were 11,314 employees with Baht 4,869 million paid for remuneration including salary, bonus and provident fund. Employees in Thailand are divided as follows.

	<u>No. of Employees (31 Dec 18)</u>
1. Production	
• PSBG Product Group	5,830
• FMBG Product Group	3,238
• EVSBG Product Group	1,153
2. Administration and others	<u>1,093</u>
Total	<u>11,314</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 language 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 2018, the company's internal training courses hours can be projected as followings:

- Consolidated training hours 49,488 hours had scheduled for 2,063 staffs; average 24 hours/ person
- Consolidated training hours 69,291 hours had scheduled for 9,682 operators; average 7.2 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. Board of Directors Meeting No.6/2018 held on October 26, 2018, the Board of Directors approved the amendment of the corporate governance policy in line with the Corporate Governance Code for Listed Companies 2017 (CG Code) by the Office of the Securities and Exchange Commission. The company has implemented CG Code according to its business context and review the content at least once a year. Further details of the company's Corporate Governance Policies 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 2018 as follows;

- Outstanding Award at the SET Sustainability Awards 2018.
- Thailand Sustainability Investment (THSI) 2018 from The Stock Exchange of Thailand for the 4th consecutive year.
- Ranked among the Top 5 on "ITC Electronic Equipment, Instruments & Components" Sector of DJSI for the 2nd consecutive year.
- "Excellent" grade on the 2018 Corporate Governance Rating Survey (CGR) conducted by Thai Institute of Directors Association (IOD) for the 3rd consecutive year.
- "Excellent" grade for the standard of its annual general meeting of shareholders (AGM Assessment) conducted in the year 2018 from the Thai Investors Association for the 4th consecutive year.
- ESG100 for 2018, rating by Thaipat Institute for the 4th consecutive year.

The implementation of our good corporate governance policy during the year 2018 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 2018, the AGM was held on April 2, 2018, at the company head office located at Bangpoo Industrial Estate, Samutprakarn province. The meeting was conducted in accordance with Delta good governance principles. There were no extraordinary general shareholders' meeting held during the year 2018.

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 20, 2018, 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 2, 2018). 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 eight 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 Capital Law Office Limited, 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](mailto:info@deltathailand.com), mail or fax before the meeting date. This year, 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 2018 Annual General Meeting of Shareholders.

### **After the Meeting Date**

Meeting minutes recorded every resolution and showed the number of approval, objection and abstention 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 2018 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 [http://www.deltathailand.com/ir\\_share.php](http://www.deltathailand.com/ir_share.php) during 15 November - 31 December 2017. 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 2018, 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 2019 Annual General Meeting of Shareholders during the period of 16 November-31 December, 2018.

## **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 2018, 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 Procedure 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
- Employee's Remuneration Policy
- Labor Relations Policy



- Human Resources Management Policy
- Misconduct, Harassment and Unfair Treatment Policy
- HIV/AIDS Policy

(for details of the above policies, please see the Corporate Governance Policy from the company's website: [www.deltathailand.com/about\\_corp.php](http://www.deltathailand.com/about_corp.php))

#### **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.

The company has held the 2018 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.

#### **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 Corporate Social Responsibility 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 the declaration of intent in establishing Thailand's Private Sector Collective Action Coalition against Corruption on 16 Junly 2018. The policy aims to clarify the company's goal to combat all forms of corruption and open channels for all stakeholders' suggestions and complaints via [whistleblow@deltathailand.com](mailto:whistleblow@deltathailand.com)

The company initiated an agreement between the purchasing department and suppliers (The Procurement and Supplier Covenants) in 2001 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.

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.

More details on policy and practice guidelines can be found on the company website [http://www.deltathailand.com/about\\_corp\\_anti\\_corruption.php](http://www.deltathailand.com/about_corp_anti_corruption.php).

### **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 the employee belongs to.
  - (2) Head of audit department, head of human resources department or head of legal department.
  - (3) Local external opinion box.
  - (4) Email: [whistleblow@deltathailand.com](mailto:whistleblow@deltathailand.com)
- Communication channel for other stakeholders
  - (1) Opinion Box (PO Box 50, Bangpoo, Samutprakarn 10280);
  - (2) Email: [whistleblow@deltathailand.com](mailto:whistleblow@deltathailand.com)
  - (3) Website: [www.deltathailand.com](http://www.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. 1/2019, the company secretary informed the meeting that in the year 2018, the company had received 1 complaint regarding code of conduct, 2 complaints about anti-corruption and no complaint about anti-trust or 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](http://www.deltathailand.com). Interested persons may telephone or email the company to request for more information at [info@deltathailand.com](mailto: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](mailto: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 and minor shareholders 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 2018, 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 1<sup>st</sup>, 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 (as of the date of this notification) 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.

As of the date of this notification, DEISG does not hold any number of shares of the company and 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 will hold the total number of not exceeding 261,112,590 shares or totaling 20.93 percent of paid-up ordinary shares of the company.

#### Important events of CVTO

- 13 February 2019 : The company has been informed the accomplishment of the conditions percedent of the Conditional Voluntary Tender Offer from DEISG
- 18 February 2019 : The company received announcement of intention to make a Tender Offer (From 247-3)
- 22 February 2019 : The company received the Conditional Voluntary Tender Offer from (From 247-4). The Tender Offer period is from 26 February 2019 until 1 April 2019, a total of 25 business days, at the offer price of THB 71.00 per share.

Remark : At the date of this Annual Report issued, the process of CVTO is not yet completed.

## 5. Responsibilities of the Board

### Structure of the Board

The Board of Directors comprises of nine directors; two of whom are executive directors. The remaining seven 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 Remuneration 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, Compensation and Nomination 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 five members as follows;

Name	Position
1. Mr. Hsieh Shen-yen	Executive Committee Chairman
2. Mr. Anusorn Muttaraid	Executive Committee Member
3. Mr. Vichai Saksuriya	Executive Committee Member
4. Mr. Sim Kuik-keong	Executive Committee Member
5. 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 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, one non-executive director and two executive director. Term of office shall follow the annual director election. The member list of the Compensation Committee is shown below.

Name	Position
1. Mr. Ming-Cheng Wang	Corporate Governance Committee Chairman
2. Mr. Hsieh Shen-yen	Corporate Governance Committee Member (executive director)
3. Mr. Anusorn Muttaraid	Corporate Governance Committee Member (executive director)

#### 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. Mrs. Aruwan Sangrungarun	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. Chung-I Tam	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 four members as follows

Name	Position
1. Mr. Hsieh Shen-yen	Sustainable Development Committee Chairman
2. Mr. Anusorn Muttaraid	Sustainable Development Committee Member
3. Mr. Vichai Saksuriya	Sustainable Development Committee Member
4. Mrs. Aruwan Sangrungarun	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 or nine years.

#### The Board of Directors' Authorization

The Board of Directors is empowered to approval 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.

In 2018, Mrs. Tipawan Chayutimand, a new director who join the Board in April attended orientation from senior management.

#### 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 before the start of financial 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 2018 was as follows;

Unit : Times

Name	Board of Directors	Audit Committee	Nomination & Compensation Committee	Corporate Governance Committee	AGM
No. of total meetings held	6	4	4	1	1
Mr. Ng Kong Meng	6/6	n/a	n/a	n/a	1/1
Mr. Ming-cheng Wang	6/6	n/a	n/a	1/1	1/1
Mr. Hsieh Shen-yen	6/6	n/a	n/a	1/1	1/1
Mr. Hsieh Heng-hsien	5/6	n/a	n/a	n/a	1/1
Mr. Anusorn Muttaraid	6/6	n/a	3/4	1/1	1/1
Mr. Boonsak Chiempricha	6/6	4/4	n/a	n/a	1/1
Mr. Chu Chih-yuan	6/6	4/4	4/4	n/a	1/1
Dr. Witoon Simachokedee	5/6	1/1	3/4	n/a	1/1
Mrs. Tipawan Chayutimand	5/5	3/3	n/a	n/a	1/1

## 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. This includes cases when a director is not able to attend the meeting in person. A conference call is allowed to constitute the quorum. 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), 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 99%.

- 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 100%.



## **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%.

- 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 99.6%.

- 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 100%.

- 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%.

## **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. In 2018, the major KPI is 1. Corporate Governance Aspect 2. Environmental Aspect and 3. Social Aspect.

## **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 2018, Mr. Anusorn Muttaraid attended Top Executives Program (Class of 27th), Capital Market Academy (CMA)

## **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.



The Board of Directors has established a Talent Pool Management Committee to select, groom, and develop the potential candidates for key positions that align with the company's five-year strategic and operational plans. At present, the company is in the process of planning the development of potential recruited personnel.

## 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 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 2018, there was no offense by directors, management or employees concerning insider information.

## Audit Fee

### Fee for audit

The audit fee paid in the year 2018 to the company auditor was Thai Baht 4,910,000, excluding all actual out of pocket expenses (the Audit fee in 2017 was Thai Baht 4,620,000 and actual out of pocket amount Thai Baht 277,680).

In addition, 4 subsidiaries paid their audit fees to the same auditing firm for a total amount of Thai Baht 1,480,000.

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

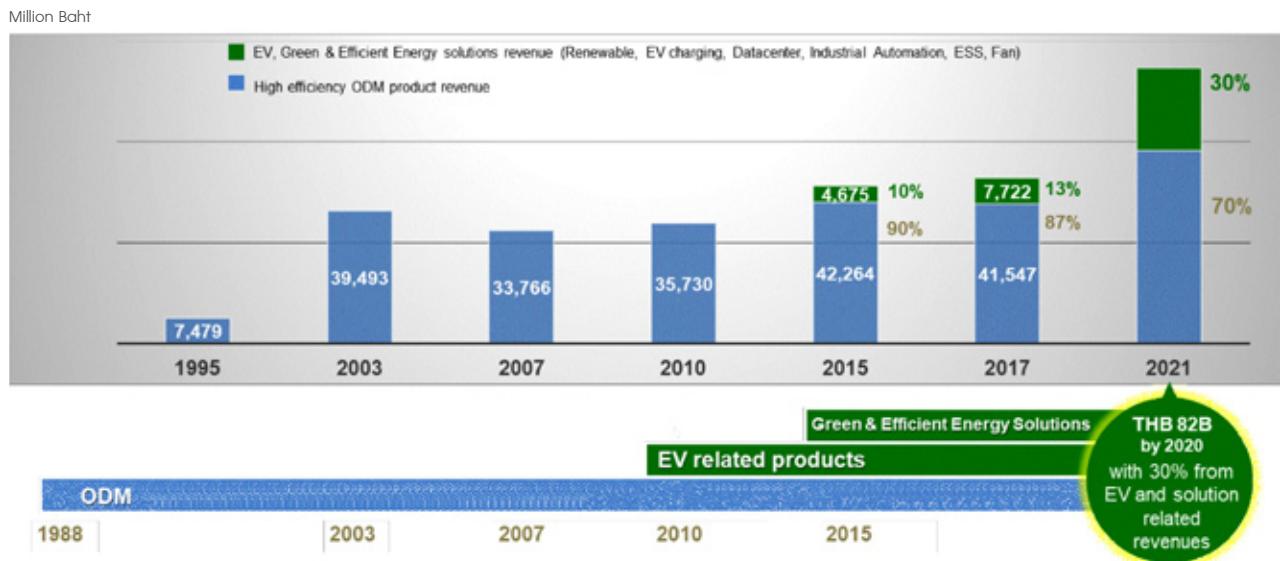
- None -



# Corporate Social Responsibility Report

Delta Thailand is a leading power supply manufacturer of power supply products for electronic devices in many regions around the world. With our mission, "to provide innovative, clean energy-efficient solutions for a better tomorrow", we have consistently advanced our product development, procedures and business models to increase productivity, reduce cost and enhance profitability and provide reasonable business returns to stakeholders. All these efforts have helped our company achieve superior performance and wide recognition and honor by domestic and international institutions.

However, we are aware that increasing productivity, reducing cost and increasing profit alone is not enough to sustain growth amidst a changing business landscape and dynamic global demands. Therefore, we integrate a sustainable development strategy with our business strategy by concentrating on product development with Corporate Social Responsibility (CSR) in our process and business model and persistently working to mitigate emerging risks.



Delta's fine-tuning of its business model and goals towards a sustainable business operation

In 2015, Delta set a key targets to increase revenue contribution from energy optimization products and solutions to 30 percent of total revenues by 2020. These products and solutions are for the Solar, EV, Datacenter, and Industrial Automation sectors not only meet customer demand worldwide but also provide business opportunities to Delta. In 2018, revenue contribution from our energy optimization products and solutions represented 16% of our total revenues. This was a 6% increase from the 2015 base year when we initiated our sustainable business goals.



## Our Sustainable Development Strategy

### Environmental, Social, Governance

#### Mission Statement

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



Innovation

Eco-efficient operation

Partnership

### Delivering Value Add for Stakeholders

Shareholders	Customer	Employee	Supplier	Community
Good Returns	High Value Added Products/ Solutions	Well-being	Partnership	Give Back
Transparency	Ethically Produced	High Efficiency	Respect Human Rights	Welfare
Accountability			Win-Win	Socially Responsible



In order to achieve the above-mentioned strategic goals and create mutual benefits in our value chain, Delta emphasizes three key issues that we believed are critical to achieving our long-term strategic goals and our brand promise "Smarter. Greener. Together." This brand promise is embedded in our company DNA and guides all Delta employees in their daily operations.

Material Aspects to Sustainability	Goals and Actions	Value to Delta	Value to Stakeholders and Society
<b>1. Smarter To drive Innovation</b>	<ul style="list-style-type: none"> <li>To maintain a research and development budget at around 5 percent per year</li> <li>To advocate disruptive innovation in our organization through the Kaizen process</li> <li>To support disruptive innovation from Small and Medium Enterprises</li> <li>To encourage training that enhances specialized skills both inside and outside our organization</li> </ul>	<ul style="list-style-type: none"> <li>Nurtured innovation for future growth in the midst of change and new industry norms</li> <li>Increase in competitive advantage</li> <li>Enhanced flexibility to adapt for future growth</li> <li>Decrease in waste in production process</li> <li>Retention of skilled employees (blue pillars)</li> </ul>	<ul style="list-style-type: none"> <li>Products and services of qualitative nature</li> <li>Products and services of a more environment-friendly nature</li> <li>Decrease in electricity consumption from fossil-fuel sources for end-users</li> <li>Decrease in electronic waste that will pose problems in the future</li> </ul>
<b>2. Greener To maximize valuable resources in operations</b>	<ul style="list-style-type: none"> <li>To design and procure raw materials that facilitate re-use of expired product's components</li> <li>To use reusable or recyclable packaging</li> <li>To reduce energy consumption in production processes</li> <li>To promote innovation for increased product efficiency</li> <li>To investigate and disclose energy and environmental information</li> </ul>	<ul style="list-style-type: none"> <li>Greater availability of raw materials for future growth</li> <li>Increased competitive advantage</li> <li>Decrease in raw material costs</li> <li>Decrease in electricity consumption density in designated areas</li> <li>Decrease in operating cost</li> <li>Reduced product carbon footprint</li> </ul>	<ul style="list-style-type: none"> <li>Decrease in electronic waste that will pose problems in the future</li> <li>Less use of fossil fuel</li> <li>Collaboration with trade institutions with integrated environmental practices</li> <li>Increase in competitive advantage</li> </ul>



Material Aspects to Sustainability	Goals and Actions	Value to Delta	Value to Stakeholders and Society
		<ul style="list-style-type: none"> <li>• Increase in competitive advantage</li> <li>• Health and safety of Delta employees</li> <li>• Awareness for managing resources, environment and waste to improve operation</li> <li>• Confidence from stakeholders</li> <li>• Acceptance by society</li> </ul>	
<b>3. Together</b> To develop mutual benefit from added-value	<ul style="list-style-type: none"> <li>• To comply with sustainability guidelines of domestic and international principles</li> <li>• To promote business ethics and tackle all forms of corruptions</li> <li>• To cooperate with suppliers in a bid to enhance environment friendly products</li> <li>• To recruit personnel with innovative knowledge from the Delta Academy Program</li> <li>• To support employees well-being through the Happy Workplace Program training and occupational health scheme</li> <li>• To join hands with employees to create green lifestyles in addition to production processes</li> <li>• To initiate the Delta volunteer project for knowledge transfer and social development</li> </ul>	<ul style="list-style-type: none"> <li>• Reputation and reliability</li> <li>• Transparency in business processes</li> <li>• Reduction in cost to resolve legal dispute</li> <li>• Reduction in cost unrelated to business processes</li> <li>• Upholding of ethical practices at all level of business</li> <li>• Reduction of banned and toxic substances in expired products</li> <li>• Reduced carbon footprint</li> <li>• Boosted innovation</li> <li>• Reduction in cost and time to recruit skilled personnel</li> <li>• Knowledge exchange of technological innovations</li> <li>• Retention of skilled employees</li> <li>• Availability of employees with knowledge and skills for adapting to industry change</li> <li>• Sufficient manpower to expand production capacity</li> <li>• Reduction in cost of energy and waste disposal</li> <li>• Positive company image</li> <li>• Creation of value-add for employee loyalty</li> </ul>	<ul style="list-style-type: none"> <li>• Dealing with trade alliances whose entire business operations incorporate social and environmental practices</li> <li>• Increase in of competitive advantage</li> <li>• Shared ethics for business cooperation</li> <li>• Continued of income distribution</li> <li>• Participation in industry-lending innovation</li> <li>• Participation in raising the level of education in technology and engineering</li> <li>• Increased well-being, income and a stable environment both in business and global citizenship</li> <li>• Comprehensive procedures for worldwide learning exchange</li> <li>• Joint efforts to narrow social gaps</li> </ul>



Our broader business perspective leads Delta, as a global citizen, to take part in fulfilling six of the key United Nations Sustainable Development Goals which aim to reduce inequality and mitigate impacts that may lessen the rights of the next generation. These six goals are SDG4 to promotes equitable quality education; SDG7 to advocates access to clean energy and renewable energy; SDG9 to foster innovation industry and infrastructure; SDG12 to emphasizes responsible resources usage throughout production processes; SDG 13 to takes action against Climate Change; SDG 17 to encourages partnership to achieve sustainability goals.



Delta not only monitors and measures the outcome of our well-defined policies and implemented activities but we also publicly discloses information, both financial and non-financial, in order to allow all interest parties to examine, associate, and give suggestions. We can then use this input as guidelines to outline and improve activities to achieve our strategic goals, which will create value-added for stakeholders and to enable us to continue responsibly grow within the wider society.

## Corporate Social Responsibility Implementation

The company operates CSR 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](http://www.deltathailand.com), and on its Intranet. Commitment and strict compliance to the good corporate government policy made the company rated "Excellent" on the 2018 Corporate Governance Rating Survey for the 3<sup>rd</sup> 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](http://www.deltathailand.com) 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 [http://www.deltathailand.com/about\\_corp\\_code.php](http://www.deltathailand.com/about_corp_code.php). 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 the employee belongs to
  - (2) Head of Internal Audit department, head of Human Resources department or head of Legal department
  - (3) Opinion Box: PO Box 50, Bangpoo, Samutprakarn 10280
  - (4) E-mail: [whistleblow@deltathailand.com](mailto:whistleblow@deltathailand.com)
- Communication channels for other stakeholders
  - (1) Opinion Box: PO Box 50, Bangpoo, Samutprakarn 10280
  - (2) E-mail: [whistleblow@deltathailand.com](mailto:whistleblow@deltathailand.com)
  - (3) Website: [www.deltathailand.com](http://www.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. 1/2019, the company secretary informed the meeting that in the year 2018, the company had received 1 complaints regarding code of conduct, 2 complaint about anti-corruption and no complaint about 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.

### 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 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. The company awards a Gold Standard of ASO-T Thailand for best TB-HIV/AIDS Prevention and Management in Workplace Program issued by the Department of Labour Protection and Welfare, Ministry of Labour, in corporation with Department of Disease Control, Ministry of Public Health, and the Thailand Business Coalition on AIDS. 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. 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 2018, there are 35 injury cases, from 32 cases in 2017. 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 slogan and drawing contests and quizzes.

### 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 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: 2008 - 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 27001- Information security management certification
- ISO 13485: 2003 - Quality management system for medical device

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](http://www.deltathailand.com). Feedback can also be emailed to [info@deltathailand.com](mailto: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 a variety of activities to raise environmental and energy efficiency awareness among employees, such as training and reforestation campaign.

### 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.



## 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.

## 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 to help develop student's working skills and facilitating the employees for blood donation to the Thai Red Cross every quarter.

## 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 DC fans and LED lamps.
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, power supplies and charging station for hybrid vehicles 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 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.

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

More information please find 2018 Sustainability Development Report or [http://www.deltathailand.com/about\\_csr\\_sustainability.php](http://www.deltathailand.com/about_csr_sustainability.php)



# 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.1/2019 held on 18 February 2019, the Audit committee reported the audit result and evaluation that current company's internal control system is sufficient and efficient.



# Related Party Transactions Policy

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.

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 / Royalty Fee

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 four independent directors in 2018: Mr. Boonsak Chiempricha as a chairman, Mr. Roger Chu and Dr. Witoon Simachokedee (from Jan/2018 till Apr/2018 then be replaced by Mrs. Tipawan Chayutimanta) and Mrs. Tipawan Chayutimanta (from Apr/2018 till now) as Committee member with the Internal Audit Manager as its secretary.

During the year 2018, the Audit Committee held 4 meetings and Mr. Boonsak Chiempricha and Mr. Roger Chu attended all 4 meeting, Mrs. Tipawan Chayutimanta attended 3 meetings and Dr Witoon Simachokedee attended 1 meeting respectively.

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 AC 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 AC 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 DET Management, also evaluated the performance of the Chief Audit Executive as well.
5. Acknowledged with some suggestions the semi-annual compliance report and the progress of tax assessments.
6. Reviewed the transfer pricing contract for the transaction of related parties and 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. 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
8. Completed the AC self-assessment for 2018 and submitted to the BOD.
9. 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

Chairman

# The Nomination and Compensation Committee Report

The Nominating 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 2018, 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 2018.
2. The Committee has considered proposing to the Annual General of Shareholder Meeting to consider 3 directors, Mr. Ng Kong Meng, Mr. Chu, Chih-yuan and Dr. Witoon Simachokedee 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. Besides, the Committee also nominated Ms. Tippawan Chayutimand whom suitable to fill in the gap of the Board diversity. She has strong background of tax knowledge.
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.
4. The Committee has followed up progress of the Leadership Development Program and social responsibility activities and supervised the same to achieve the company's plans and targets. Including following the project Educating students about energy saving to reduce global warming continuously.

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  
Chairman

# Corporate Governance Committee Report

The Board of Directors commits to transparent business operations with integrity and accountability, which it considers as the key to the company's sustainable business growth and corporate best practice acceptable to stakeholders.

Delta established the Corporate Governance Committee this year to set 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 consists of three directors including Mr. Ming Cheng Wang (Chairman), Mr. Hsieh Shen-yen and Mr. Anusorn Muttaraid. The Company Secretary serves as secretary to the committee.

The Corporate Governance Committee held one meeting in 2018 for the following major tasks.

1. Establishing the Corporate Governance Committee Charter
2. Consider and approve the signing of an intention to join the Private Sector Collective Action Coalition Against Corruption (CAC), to drive operations with transparency and anti-corruption measures.
3. Supervising amendment of the Corporate Governance Policy, according to the Corporate Governance Code for listed companies 2017 issued by The Securities and Exchange Commission, Thailand

The 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. Ming-Cheng Wang  
Chairman

# Management's Discussion and Analysis

The following Management's Discussion and Analysis should be read in conjunction with the consolidated financial statements and notes to financial statements. If not defined otherwise, all financial information presented in this document are in Thai Baht. The company presented financial statements in accordance with 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 the fiscal year ending 31 December 2018, 2017, and 2016 and has been prepared on consolidated basis.

Consolidated Financial Information		2018	2017	2016
Total assets	million baht	48,201	46,018	46,319
Total liabilities	million baht	14,260	13,544	14,428
Total shareholders' equity	million baht	33,941	32,474	31,891
Registered capital	million baht	1,259	1,259	1,259
Paid-up capital	million baht	1,247	1,247	1,247
<b>Key Financial Ratios</b>				
Liquidity ratios				
Current ratio	times	3.07	3.11	3.14
Quick ratio	times	2.22	2.38	2.47
Cash ratio	times	0.36	0.38	0.45
Receivable turnover	times	4.82	4.70	4.67
Average collection period	days	75	77	77
Inventory turnover	times	4.78	4.90	5.13
Average inventory turnover period	days	75	74	70
Account payable turnover	times	5.42	5.21	5.00
Average payment period	days	66	69	72
Cash Conversion Cycle	days	84	81	75
<b>Financial Data and Profitability Ratios</b>				
Sales revenues	million baht	53,067	49,224	46,887
% change	(%)	7.8%	5.0%	(0.11%)
Gross profit	million baht	12,123	12,547	12,416
Gross profit margin	(%)	22.84%	25.49%	26.48%
Operating expense (include Research and Development)	million baht	7,378	6,976	7,319
Operating expenses (include Research and Development) to sales	(%)	13.90%	14.17%	15.61%
Operating profit margin	(%)	8.94%	11.32%	10.87%
Other income to total revenues	(%)	1.52%	2.11%	1.60%
Net profit	million baht	5,126	4,929	5,516
% change of net profit	(%)	4.00%	(10.64%)	(17.84%)
Net profit margin	(%)	9.66%	10.00%	11.77%
Net profit to total revenues	(%)	9.51%	9.80%	11.58%



Consolidated Financial Information	2018	2017	2016	
<b>Efficiency Ratios</b>				
Return on Equity	(%)	15.44%	15.32%	17.67%
Return on Assets	(%)	10.87%	10.68%	12.25%
Return on fixed assets	(%)	82.27%	89.99%	116.94%
Asset turnover	times	1.14	1.09	1.06
<b>Financial Policy Ratios</b>				
Debt to Equity	times	0.42	0.42	0.45
Interest coverage	times	531.88	227.59	95.03
Dividend payout	(%)	53.85%*	55.65%	67.84%

\* Pending for approval from the 2019 annual shareholders' meeting

#### Operating Results for the year 2018, 2017, and 2016

	Unit : Baht million									
	2018	%	2017	%	Increased (Decrease)	%	2016	%	Increased (Decrease)	%
Revenue and Services Income	53,066.6	100.00	49,224.0	100.00	3,842.6	7.81	46,887.3	100.00	6,179.4	13.18
Cost of sales and services	40,944.0	77.16	36,677.3	74.51	4,266.7	11.63	34,471.5	73.52	6,472.5	18.78
Gross profit	12,122.7	22.84	12,546.7	25.49	(424.1)	(3.38)	12,415.8	26.48	(293.1)	(2.36)
Operating expenses	7,378.3	13.90	6,975.7	14.17	402.6	5.77	7,319.0	15.61	59.3	0.81
Operating profit	4,744.3	8.94	5,571.0	11.32	(826.7)	(14.84)	5,096.8	10.87	(352.4)	(6.92)
Other income	870.6	1.64	1,120.2	2.28	(249.6)	(22.28)	764.5	1.63	106.1	13.88
Other expenses	270.5	0.51	207.2	0.42	63.2	30.52	129.9	0.28	140.6	108.28
Finance cost	9.4	0.02	19.6	0.04	(10.2)	(52.02)	45.2	0.10	(35.7)	(79.14)
Profit before income tax	5,335.0	10.05	6,464.3	13.13	(1,129.3)	(17.47)	5,686.2	12.13	(351.2)	(6.18)
Income tax expenses	208.6	0.39	1,535.5	3.12	(1,326.9)	(86.42)	169.9	0.36	38.6	22.73
Net profit for the period	5,126.4	9.66	4,928.8	10.01	197.6	4.01	5,516.3	11.77	(389.9)	(7.07)

#### Breakdown of Sales Revenues by business group

Product Group	2018		2017		2016	
	revenue	%	revenue	%	revenue	%
Power Electronics Group	34,404	64.8%	31,051	63.1%	28,422	60.7%
Infrastructure Group	16,471	31.0%	16,153	32.8%	16,147	34.4%
Automation Group	1,818	3.5%	1,809	3.7%	1,985	4.2%
Others	374	0.7%	211	0.4%	344	0.7%
Total Sales Revenues	53,067	100.0%	49,224	100.0%	46,887	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 2018, consolidated sales revenues amount 53,067 million baht were slightly increased, 7.8% from 2017 and 13.2% from 2016. This was mainly due to an increase in sales of Power Electronic business group, especially sales of power supplies for automotive (Electric Vehicle Solutions) sector which rose up 26.2% from those of previous year and power supplies for Industrial Tool which rose up 15.5%. This was caused by the increasing demands in Asia and Europe markets following the recovery in EU economy, moreover, Computer & Networking power supplies and Custom Design power supplies also steadily growth at 7.6% and 6.0% respectively

Sales revenues breakdown by geographic location



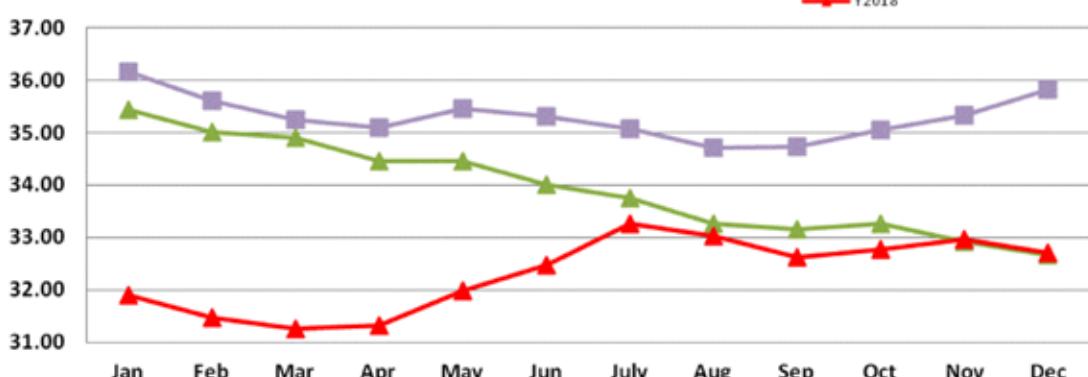
In 2018, sales revenues in Asia market represents the highest proportion, 46% of total sales, increase from the contribution of 41% in 2017. While Europe markets maintain at 27%-28% no change. However, North America markets decrease from 29% to be 26% to the total sales

## Other Income

Other income worth 818 million baht in 2018 consists of the following key items:

- Interest income of 240 million baht, increase about 47 million baht and 43 million baht from 2017, and 2016 respectively, in relation to the increase in FED interest rate from 0.75% in 2017 to be 1.50% in 2018 and higher cash on hand in US currency compared to that of previous year.
- Foreign exchange gains worth 176 million baht, higher 112 million baht from 2017 and slightly drop compare to 2016 following the appreciation trend in 2017 and turning to the depreciation trend in 2018. 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.

## Exchange rate USD/THB



Source : Bank of Thailand



## Cost of Sales and Expenses

### Cost of Sales

In 2018, cost of sales accounted for 77.2% of total sales, slightly higher than that of in 2017 and 2016 of 74.5% and 73.5%, respectively. The boost up of raw material cost cause from the demand over supply in electronic commodity market in 2018, together with higher inventory provision, moreover, the increasing in depreciation caused by the investments in new machineries for replacements and a launch of the production automation under the scheme of Delta Smart Manufacturing. The company believes that it would be a key factor for the competitiveness enhancement in both short and long term.

### Selling and Administrative Expenses

Selling and administrative expenses (including research and development - R&D) in 2018 went up 5.8% from 2017 and keep close 2016 result from the company have entered into the Intellectual Property & Technology License Agreement with one related company, in order to enhance the capability to develop new products to catch up with the technology changing and the dynamic marketing.

On the other hand, the company have setting up new companies for research & development of Electric Vehicle in USA and Industrial Electric Vehicle in Europe in order to make sure that the company can maintain a sustainability growth in long term

Income tax expenses 209 million baht comprise of current year income tax 185 million baht and previous year tax assessments 23.5 million baht

### Net Profit

The company's operating margin in 2018 was 8.9%, drop from 11.3% in 2017 and 10.9% in 2016 respectively cause from above mentioned higher material cost. Consequently, net profit in 2018 was 9.7% or 5,126 million baht compare to 10.0% and 11.8% from 2017 and 2016 respectively. Earnings per share was 4.12 baht in 2018 compare to 3.95 baht in 2017 and 4.42 baht in 2016.

## Assets and Liabilities

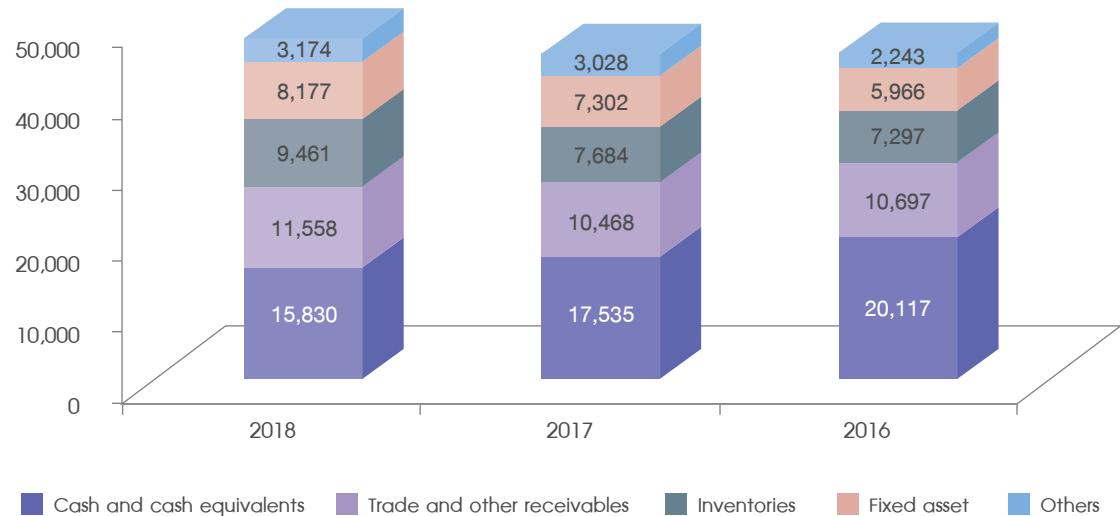
### Assets

As at 31 December 2018, the company had total assets worth 48,201 million baht, increase of 4.7% from 2017 and 4.1% from 2016. Return on asset was 10.9% in 2018 compare to 10.7% and 12.3% from 2017 and 2016 respectively. Resulting from the above mentioned higher inventories and investments in land, building and machines.

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

	31 December 2018	31 December 2017	31 December 2016	2018 VS 2017		2018 VS 2016	
				Inc(Dec)%	Inc(Dec)%	Inc(Dec)%	Inc(Dec)%
Cash and cash equivalents	15,608	17,320	19,685	(9.9%)	(20.7%)		
Current investments	223	215	431	3.4%	(48.4%)		
Trade and other receivables	11,558	10,468	10,697	10.4%	8.1%		
Inventories	9,461	7,684	7,297	23.1%	29.7%		
Investments in associated	536	593	0	(9.5%)	N/A		
Consolidation goodwill	438	450	307	(2.5%)	42.9%		
Property, plant and equipment	8,177	7,302	5,966	12.0%	37.1%		
Other assets	2,200	1,985	1,937	10.8%	13.6%		
Total Assets	48,201	46,018	46,319	4.7%	4.1%		

### Breakdown of Assets in 2018, 2017 and 2016



- Cash and bank deposits (Including current investment) as at 31 December 2018 amounted to 15,830 million baht, a decrease of 9.7% and 21.3% from 2017 and 2016 respectively, in relation to the significant investment amount in land, building and machinery totaling 2,253 million baht, mainly in Thailand, German and India.
- Net trade receivables as at 31 December 2018 of 11,558 million baht increased 10.4% and 8.1% from 2017 and 2016 respectively. Resulting from the increased in sales revenue, at the same time the company and its subsidiaries recorded allowance for doubtful accounts totaling 126 million baht, compare to 2017 of 99 million baht, respectively due to higher proportion of sales contributions from the branding business which its collection period in general is longer than others.
- Inventories as at 31 December 2018 amounted to 9,461 million baht, increased 23.1% and 29.7% from 2017 and 2016, respectively. Reflected to the implementing of dynamic inventory strategy resulting from the demand over supply in electronic commodity market in 2018. The allowance for obsolete inventories in 2018 amounted to 1,080 million baht, go up from 968 million baht in 2017.
- Investments in associated companies as of 31 December 2018 were booked at 536 million baht for the remaining 49% investment in Delta Electronics (Switzerland) AG and Delta Electronics Industry LLC.
- Consolidation goodwill as of 31 December 2018 were Baht 438 million, about the same with 2017 but increase of 132 million baht as compared to that of 31 December 2016. This is caused by the acquisition of the new subsidiary in Slovakia, Eltek s.r.o, in Q2-17.
- Property, plant and equipment amounted to 8,177 million baht, increased 12.0% from 2017 and 37.1% from 2016. The company have invested in Research & Development center in India and invested in machinery and equipment for replacements and improvement of production capacity and efficiency aiming for a production automation in Thailand under the scheme of “Delta Smart Manufacturing”.

## Liabilities and Liquidity

As at 31 December 2018, the company's total liabilities amounted 14,260 million baht, increased 5.3% from 2017 and close to 2016. Debt to Equity ratio of 0.42 times in 2018 and 2017, dropped from 0.45 in 2016, the level at which signified reasonable capital structure and low financial risk.

### Breakdown of major liabilities

	31 December 2018	31 December 2017	31 December 2016	2018 VS 2017 Inc(Dec)%	2018 VS 2016 Inc(Dec)%
Bank overdrafts and short-term	0	229	321	(100.00%)	(100.00%)
Trade and other payables	11,801	10,480	11,404	12.6%	3.5%
Liabilities and provision from tax as	296	695	177	(57.4%)	67.0%
Other current liabilities	261	296	500	(12.0%)	(47.9%)
Provision for long-term employee	1,234	1,337	1,459	(7.7%)	(15.4%)
Other non-current liabilities	668	507	567	31.7%	17.7%
<b>Total liabilities</b>	<b>14,260</b>	<b>13,544</b>	<b>14,428</b>	<b>5.3%</b>	<b>(1.2%)</b>

### Return on Equity

As at 31 December 2018, shareholders' equity amounted to 33,941 million baht, rose up 4.5% from 2017 and 6.4% from 2016, in relation to the profit generated during the year. However, return on equity in 2018 maintain at 15.4%, close to 15.3% in 2017 but dropped from 17.7% in 2016, impacted from the appreciation of Thai Bath over 2 bath per USD in 2018 compare to 2016

# 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 fairly 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

To the Shareholders of Delta Electronics (Thailand) Public Company Limited

## 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 2018, 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 2018, 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 2018, the Company and its subsidiaries had goodwill and patents amounting to Baht 438 million and Baht 316 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 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:

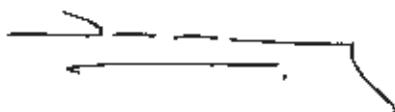
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting 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.



Narong Puntawong  
Certified Public Accountant (Thailand) No. 3315

EY Office Limited  
Bangkok: 18 February 2019

Delta Electronics (Thailand) Public Company Limited and its Subsidiaries

## Statement of Financial Position

As at 31 December 2018

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements						
		2018	2017	2018	2017					
		(Restated)								
<b>Assets</b>										
<b>Current assets</b>										
Cash and cash equivalents	7	15,607,754,313	17,319,877,762	9,752,995,934	11,885,686,251					
Current investments	8	222,745,162	215,458,623	-	-					
Trade and other receivables	9	11,558,015,847	10,468,270,562	11,047,646,030	9,197,469,440					
Inventories	10	9,460,866,572	7,684,004,263	5,807,619,466	4,635,795,309					
Other current assets	11	1,138,345,126	729,869,534	325,764,679	159,073,864					
<b>Total current assets</b>		<b>37,987,727,020</b>	<b>36,417,480,744</b>	<b>26,934,026,109</b>	<b>25,878,024,864</b>					
<b>Non-current assets</b>										
Deposits at bank with restrictions		55,047,683	46,513,084	-	-					
Investments in associated companies	12	536,334,270	592,673,210	-	-					
Investments in subsidiary companies	13	-	-	11,881,691,992	10,677,634,888					
Advance payment for land-use rights		-	201,676,379	-	-					
Investment properties	14	236,735,082	210,034,363	-	-					
Property, plant and equipment	15	7,956,876,239	7,257,986,250	4,787,400,380	4,205,592,828					
Land-use rights	16	220,027,996	44,034,237	-	-					
Goodwill	17	438,413,314	449,875,499	-	-					
Other intangible assets	18	476,225,161	525,021,987	1,515,126	3,172,076					
Deferred tax assets	28	238,845,682	226,246,247	-	-					
Other non-current assets		54,460,260	46,084,012	2,574,605	1,533,008					
<b>Total non-current assets</b>		<b>10,212,965,687</b>	<b>9,600,145,268</b>	<b>16,673,182,103</b>	<b>14,887,932,800</b>					
<b>Total assets</b>		<b>48,200,692,707</b>	<b>46,017,626,012</b>	<b>43,607,208,212</b>	<b>40,765,957,664</b>					

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

Delta Electronics (Thailand) Public Company Limited and its Subsidiaries

## Statement of Financial Position (Continued)

As at 31 December 2018

(Unit: Baht)

Note	Consolidated financial statements		Separate financial statements					
	2018	2017	2018	2017				
	(Restated)							
<b>Liabilities and shareholders' equity</b>								
<b>Current liabilities</b>								
Bank overdrafts and short-term loans								
from financial institutions	-	228,666,054	-	-				
Trade and other payables	19	11,801,450,727	10,480,407,061	9,276,651,365				
Income tax payable		56,428,557	77,352,656	-				
Short-term provisions	22	13,391,589	56,928,960	-				
Liabilities and provision from tax assessments	33.3.1	239,367,866	617,305,703	239,367,866				
Other current liabilities	20	247,144,817	238,994,324	105,822,206				
<b>Total current liabilities</b>		<u>12,357,783,556</u>	<u>11,699,654,758</u>	<u>9,621,841,437</u>				
<b>Non-current liabilities</b>								
Deferred tax liabilities	28	144,452,338	113,268,829	-				
Provision for long-term employee benefits	21	1,234,247,093	1,337,174,258	281,663,011				
Long-term provisions	22	499,042,845	388,648,507	279,255,110				
Other non-current liabilities		24,246,913	5,157,720	1,240,400				
<b>Total non-current liabilities</b>		<u>1,901,989,189</u>	<u>1,844,249,314</u>	<u>562,158,521</u>				
<b>Total liabilities</b>		<u>14,259,772,745</u>	<u>13,543,904,072</u>	<u>10,183,999,958</u>				
<b>Shareholders' equity</b>								
Share capital								
Registered								
1,259,000,000 ordinary shares of Baht 1 each		<u>1,259,000,000</u>	<u>1,259,000,000</u>	<u>1,259,000,000</u>				
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				
Share premium		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				
Unappropriated		34,432,010,815	31,998,257,047	30,558,014,140				
Other components of shareholders' equity		<u>(2,356,674,090)</u>	<u>(1,400,745,425)</u>	<u>-</u>				
Equity attributable to owners of the Company		33,936,503,440	32,458,678,337	33,423,208,254				
Non-controlling interests of the subsidiary		4,416,522	15,043,603	-				
<b>Total shareholders' equity</b>		<u>33,940,919,962</u>	<u>32,473,721,940</u>	<u>33,423,208,254</u>				
<b>Total liabilities and shareholders' equity</b>		<u>48,200,692,707</u>	<u>46,017,626,012</u>	<u>43,607,208,212</u>				
				<u>40,765,957,664</u>				

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



Delta Electronics (Thailand) Public Company Limited and its Subsidiaries

## Statement of Comprehensive Income

For the year ended 31 December 2018

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements		
		2018	2017	2018	2017	
<b>Profit or loss:</b>						
<b>Revenues</b>						
Sales and service income		53,066,646,670	49,224,009,498	40,124,413,539	35,885,291,072	
Other income						
Interest income		240,298,988	192,897,387	125,240,590	152,942,365	
Gain on exchange		176,496,546	64,184,386	235,038,615	-	
Gain on sales of investments in subsidiary companies		-	425,224,121	-	-	
Dividend income from investment in subsidiary company	13	-	-	-	384,472,400	
Others		401,062,272	378,580,086	282,290,188	298,501,159	
<b>Total revenues</b>		<b>53,884,504,476</b>	<b>50,284,895,478</b>	<b>40,766,982,932</b>	<b>36,721,206,996</b>	
<b>Expenses</b>						
Cost of sales and services		40,943,970,777	36,677,277,597	30,386,487,873	26,328,993,817	
Selling and distribution expenses	25	3,774,259,149	2,686,735,778	2,619,345,672	1,299,339,983	
Administrative expenses		1,561,394,629	1,596,692,924	880,283,971	871,479,586	
Research and development expenses	26	2,042,694,129	2,692,297,148	2,061,861,162	2,817,615,211	
Loss from a fair value adjustment of investments						
in associated companies		-	105,318,247	-	-	
Loss on sales of investments in subsidiary company		-	-	-	479,910,724	
Loss on exchange		-	-	-	61,658,230	
Other expenses		270,487,225	101,921,187	256,350,881	97,433,641	
<b>Total expenses</b>		<b>48,592,805,909</b>	<b>43,860,242,881</b>	<b>36,204,329,559</b>	<b>31,956,431,192</b>	
<b>Profit before share of profit from investments in associated companies, finance cost and income tax expenses</b>						
<b>income tax expenses</b>		5,291,698,567	6,424,652,597	4,562,653,373	4,764,775,804	
Share of profit from investments in associated companies	12	52,731,053	59,310,360	-	-	
<b>Profit before finance cost and income tax expenses</b>		<b>5,344,429,620</b>	<b>6,483,962,957</b>	<b>4,562,653,373</b>	<b>4,764,775,804</b>	
Finance cost		(9,421,057)	(19,634,449)	-	-	
<b>Profit before income tax expenses</b>		<b>5,335,008,563</b>	<b>6,464,328,508</b>	<b>4,562,653,373</b>	<b>4,764,775,804</b>	
Income tax expenses	28	(185,083,854)	(276,368,659)	-	(41,662,285)	
Income tax expenses resulting from tax assessments	33.3.1	(23,485,937)	(1,259,127,050)	(23,485,937)	(1,259,127,050)	
<b>Profit for the year</b>		<b>5,126,438,772</b>	<b>4,928,832,799</b>	<b>4,539,167,436</b>	<b>3,463,986,469</b>	

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



Delta Electronics (Thailand) Public Company Limited and its Subsidiaries

## Statement of Comprehensive Income (Continued)

For the year ended 31 December 2018

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements		
		2018	2017	2018	2017	
<b>Other comprehensive income:</b>						
<i>Other comprehensive income to be reclassified</i>						
<i>to profit or loss in subsequent periods:</i>						
Exchange differences on translation of financial statements in foreign currency - net of income tax		(986,006,687)	217,763,196	-	-	
Share of other comprehensive income from investments in associated companies - net of income tax	12	9,950,084	22,613,744	-	-	
Other comprehensive income to be reclassified to profit or loss in subsequent periods - net of income tax		(976,056,603)	240,376,940	-	-	
<i>Other comprehensive income not to be reclassified</i>						
<i>to profit or loss in subsequent periods:</i>						
Actuarial gains (losses) - net of income tax		40,964,635	(54,407,334)	-	(4,390,673)	
Share of other comprehensive income from investments in associated companies - net of income tax	12	20,090,769	38,050,579	-	-	
Effect of change in status of investments		-	158,801,020	-	-	
Other comprehensive income not to be reclassified to profit or loss in subsequent periods - net of income tax		61,055,404	142,444,265	-	(4,390,673)	
<b>Other comprehensive income for the year</b>		<b>(915,001,199)</b>	<b>382,821,205</b>	<b>-</b>	<b>(4,390,673)</b>	
<b>Total comprehensive income for the year</b>		<b>4,211,437,573</b>	<b>5,311,654,004</b>	<b>4,539,167,436</b>	<b>3,459,595,796</b>	
<b>Profit attributable to:</b>						
Equity holders of the Company		5,137,028,684	4,930,976,367	4,539,167,436	3,463,986,469	
Non-controlling interests of the subsidiary		(10,589,912)	(2,143,568)			
		<b>5,126,438,772</b>	<b>4,928,832,799</b>			
<b>Total comprehensive income attributable to:</b>						
Equity holders of the Company		4,222,064,654	5,313,760,401	4,539,167,436	3,459,595,796	
Non-controlling interests of the subsidiary		(10,627,081)	(2,106,397)			
		<b>4,211,437,573</b>	<b>5,311,654,004</b>			
<b>Earnings per share</b>	30					
Basic earnings per share						
Profit attributable to equity holders of the Company		4.12	3.95	3.64	2.78	

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



Delta Electronics (Thailand) Public Company Limited and its Subsidiaries  
**Statement of Changes in Shareholders' Equity**

For the year ended 31 December 2018

(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 Appropriated	Unappropriated	Exchange differences on translation of financial statements in foreign currency	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
<b>Balance as at 31 December 2016</b>	<b>1,491,912,500</b>	-	<b>125,900,000</b>	<b>30,705,031,836</b>	<b>(1,679,135,773)</b>	-	<b>(1,679,135,773)</b>	<b>31,891,080,177</b>	-
Profit for the year	-	-	-	4,930,976,367	-	-	-	4,930,976,367	(2,143,568)
Other comprehensive income for the year	-	-	-	104,393,666	<b>217,726,025</b>	<b>60,664,323</b>	<b>278,390,348</b>	<b>382,784,034</b>	<b>33,171</b>
Total comprehensive income for the year	-	-	-	5,035,370,053	<b>217,726,025</b>	<b>60,664,323</b>	<b>278,390,348</b>	<b>5,313,760,401</b>	<b>382,821,295</b>
Effect of change in status of investments	-	(1,004,027,399)	-	-	-	-	-	(1,004,027,399)	(1,004,027,399)
Dividend paid (Note 24)	-	-	-	(3,742,144,842)	-	-	-	(3,742,144,842)	(3,742,144,842)
Increase in non-controlling interests of the subsidiary	-	-	-	-	-	-	-	-	-
<b>Balance as at 31 December 2017</b>	<b>1,491,912,500</b>	<b>(1,004,027,399)</b>	<b>125,900,000</b>	<b>31,998,257,047</b>	<b>(1,461,409,748)</b>	<b>60,664,323</b>	<b>(1,400,745,425)</b>	<b>32,458,678,337</b>	<b>15,043,603</b>
Balance as at 31 December 2017	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
Profit for the year	-	-	-	5,137,028,684	-	-	-	5,137,028,684	(10,589,912)
Other comprehensive income for the year	-	-	-	40,964,635	(985,969,518)	30,040,853	(955,928,665)	(914,964,030)	5,126,438,772
Total comprehensive income for the year	-	-	-	5,177,993,319	(985,969,518)	30,040,853	(955,928,665)	(915,001,199)	(37,169)
Dividend paid (Note 24)	-	-	-	(2,744,239,551)	-	-	-	(10,627,081)	4,211,437,573
<b>Balance as at 31 December 2018</b>	<b>1,491,912,500</b>	<b>(1,004,027,399)</b>	<b>125,900,000</b>	<b>34,432,010,815</b>	<b>(2,447,379,266)</b>	<b>90,705,176</b>	<b>(2,356,674,090)</b>	<b>(2,744,239,551)</b>	<b>(2,744,239,551)</b>

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

## Statement of Changes in Shareholders' Equity (Continued)

For the year ended 31 December 2018

(Unit: Baht)

	<b>Separate financial statements</b>					
	Issued and fully paid share capital	Share premium	Appropriated Retained earnings	Unappropriated Retained earnings	Total shareholders' equity	
<b>Balance as at 31 December 2016</b>	1,247,381,614	1,491,912,500	125,900,000	29,045,635,301	31,910,829,415	
Profit for the year	-	-	-	3,463,986,469	3,463,986,469	
Other comprehensive income for the year	-	-	-	(4,390,673)	(4,390,673)	
Total comprehensive income for the year	-	-	-	3,459,595,796	3,459,595,796	
Dividend paid (Note 24)	-	-	-	(3,742,144,842)	(3,742,144,842)	
<b>Balance as at 31 December 2017</b>	<b>1,247,381,614</b>	<b>1,491,912,500</b>	<b>125,900,000</b>	<b>28,763,086,255</b>	<b>31,628,280,369</b>	
	-	-	-	-	-	
<b>Balance as at 31 December 2018</b>	<b>1,247,381,614</b>	<b>1,491,912,500</b>	<b>125,900,000</b>	<b>28,763,086,255</b>	<b>31,628,280,369</b>	
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)	
<b>Balance as at 31 December 2018</b>	<b>1,247,381,614</b>	<b>1,491,912,500</b>	<b>125,900,000</b>	<b>30,558,014,140</b>	<b>33,423,208,254</b>	

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



## Cash Flow Statement

For the year ended 31 December 2018

(Unit: Baht)

	<b>Consolidated financial statements</b>		<b>Separate financial statements</b>	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b>Cash flows from operating activities:</b>				
Profit before tax	5,335,008,563	6,464,328,508	4,562,653,373	4,764,775,804
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:				
Depreciation	1,240,888,458	1,040,655,196	985,335,302	812,081,827
Amortisation	92,172,978	81,992,036	1,656,950	1,720,016
Recording of allowance for doubtful accounts	26,679,294	20,585,908	15,965,990	8,539,143
Reduction of inventory to net realisable value	477,922,143	191,538,730	294,615,802	134,923,431
Reversal of the reduction of inventory to net realisable value from write-off obsolete and damaged inventories	(173,722,988)	(167,242,563)	(88,332,151)	(129,765,448)
Increase in provision for long-term employee benefits	63,741,232	68,695,754	28,676,290	28,241,269
Recording of the increase in provisions	106,283,110	45,031,655	49,218,437	28,296,991
Gain on sales of investments in subsidiary companies	-	(425,224,121)	-	-
Dividend income from investment in subsidiary company	-	-	-	(384,472,400)
Loss from a fair value adjustment of investments in associated companies	-	105,318,247	-	-
Loss on sales of investment in subsidiary company	-	-	-	479,910,724
Share of profit from investments in associated companies	(52,731,053)	(59,310,360)	-	-
Loss from disposal/write-off of property, plant and equipment	91,119,480	7,975,747	88,046,510	5,267,989
Loss from write-off other intangible assets	106,732	-	-	-
Reversal of the allowance for impairment loss on assets	(9,343,900)	(46,078,081)	(9,343,900)	(46,078,081)
Unrealised (gain) loss on exchange	(137,140,556)	25,470,858	(171,020,312)	91,883,446
Interest income	(240,298,988)	(192,897,387)	(125,240,590)	(152,942,365)
Interest expenses	9,421,057	19,634,449	-	-
Profit from operating activities before changes in operating assets and liabilities	6,830,105,562	7,180,474,576	5,632,231,701	5,642,382,346
Decrease (increase) in operating assets:				
Trade and other receivables	(976,234,162)	(1,363,662,179)	(1,888,787,990)	(490,885,866)
Inventories	(2,081,061,464)	(540,756,609)	(1,378,107,808)	(192,373,973)
Other current assets	(386,011,949)	43,483,432	(145,890,999)	6,917,183
Other non-current assets	(8,376,248)	(13,452,307)	(1,041,597)	(213,681)
Increase (decrease) in operating liabilities:				
Trade and other payables	1,355,155,293	167,632,431	1,379,873,482	(81,062,735)
Other current liabilities	(16,496,421)	(196,889,140)	28,565,754	(14,434,733)
Provision for long-term employee benefits	(71,104,387)	(77,602,409)	(18,404,253)	(20,667,403)
Provisions	(24,912,432)	(39,058,698)	(11,018,456)	(27,329,387)
Other non-current liabilities	19,006,188	(551,356)	74,914	213,297
Cash flows from operating activities	4,640,069,980	5,159,617,741	3,597,494,748	4,822,545,048
Cash received from interest income	259,484,631	165,883,218	147,972,403	131,088,434
Cash paid for interest expenses	(9,211,820)	(23,399,269)	-	-
Cash paid for income tax resulting from tax assessments	(401,423,774)	(712,882,948)	(401,423,774)	(712,882,948)
Cash paid for corporate income tax	(210,393,423)	(113,858,547)	(1,828,555)	(40,210,222)
<b>Net cash flows from operating activities</b>	<b>4,278,525,594</b>	<b>4,475,360,195</b>	<b>3,342,214,822</b>	<b>4,200,540,312</b>

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

**Cash Flow Statement (Continued)**

For the year ended 31 December 2018

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	2018	2017	2018	2017
<b>Cash flows from investing activities:</b>				
Decrease (increase) in deposits at bank with restrictions	(8,534,599)	5,993,747	-	-
Decrease (increase) in current investments	(7,286,539)	215,907,757	-	-
Increase in investments in subsidiary company	-	-	(1,204,057,104)	(467,892,130)
Increase in investments in associated company	(95,236,596)	-	-	-
Dividend received from investments in associated company	41,114,952	-	-	-
Net cash paid for acquisition of investment in subsidiary company	-	(717,733,684)	-	-
Net cash from outstanding cash of subsidiaries as at the disposal date	-	(170,854,911)	-	-
Cash received from sales of investments in subsidiary companies	-	-	-	883,467,290
Dividend income from investment in subsidiary company	-	-	-	384,472,400
Advance payment for land-use rights	-	(201,676,379)	-	-
Acquisition of property, plant and equipment	(2,252,725,119)	(1,807,815,792)	(1,646,839,675)	(1,527,865,815)
Proceeds from disposal of property, plant and equipment	60,881,769	18,808,393	994,211	3,700,820
Increase in investment properties	(55,885,253)	-	-	-
Increase in land-use rights	(4,041,439)	-	-	-
Increase in other intangible assets	(50,986,457)	(23,575,441)	-	(2,168,166)
<b>Net cash flows used in investing activities</b>	<b>(2,372,699,281)</b>	<b>(2,680,946,310)</b>	<b>(2,849,902,568)</b>	<b>(726,285,601)</b>
<b>Cash flows from financing activities:</b>				
Increase (decrease) in bank overdrafts and short-term loans from financial institutions	(228,666,054)	90,666,086	-	-
Dividend paid	(2,744,239,551)	(3,742,144,842)	(2,744,239,551)	(3,742,144,842)
Increase in non-controlling interests of the subsidiary	-	17,150,000	-	-
<b>Net cash flows used in financing activities</b>	<b>(2,972,905,605)</b>	<b>(3,634,328,756)</b>	<b>(2,744,239,551)</b>	<b>(3,742,144,842)</b>
<b>Decrease in translation adjustments</b>	<b>(773,092,191)</b>	<b>(464,821,928)</b>	<b>-</b>	<b>-</b>
<b>Net decrease in cash and cash equivalents before effect from currency translation</b>				
Effect from currency translation of cash and cash equivalents	128,048,034	(60,748,855)	119,236,980	(30,441,441)
<b>Net decrease in cash and cash equivalents</b>	<b>(1,712,123,449)</b>	<b>(2,365,485,654)</b>	<b>(2,132,690,317)</b>	<b>(298,331,572)</b>
<b>Cash and cash equivalents at beginning of year</b>	<b>17,319,877,762</b>	<b>19,685,363,416</b>	<b>11,885,686,251</b>	<b>12,184,017,823</b>
<b>Cash and cash equivalents at end of year</b>	<b>15,607,754,313</b>	<b>17,319,877,762</b>	<b>9,752,995,934</b>	<b>11,885,686,251</b>

**Supplemental disclosures of cash flows information**

## Non-cash transaction

Settle liabilities from tax assessments with input tax refundable	-	28,938,399	-	28,938,399
Transfer advance payment for land-use rights to land-use rights	170,716,392	-	-	-
Transfer investment properties to property, plant and equipment	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 2018

### 1. General information

Delta Electronics (Thailand) Public Company Limited ("the Company") is a public company incorporated and domiciled in Thailand. Its major shareholder is Delta Electronics Inc., which is incorporated in Taiwan. The registered office of the Company is at 714 Moo 4, Tambon Prakasa, Amphur Muang Samutprakarn, Samutprakarn.

The Company and its subsidiaries are principally engaged in the manufacture and distribution of electronic products, together with related research and development.

### 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	
			2018	2017
			Percent	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	
			<u>2018</u>	<u>2017</u>
			Percent	Percent
DET Logistics (USA) Corporation	Trading of electronic products	USA	100	100
DET Video Technology Limited *	Holding business	The British Virgin Islands	-	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
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
Delta Greentech International Holding Limited *	Holding business	The Cayman Islands	-	100

\* Dissolved and liquidated

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>2018</u>	<u>2017</u>
			Percent	Percent
Delta Electronics (Australia) Pty. Ltd. (formerly known as "Delta Energy Systems (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

Company's name	Nature of business	Country of incorporation	Percentage of indirect shareholding	
			<u>2018</u>	<u>2017</u>
			Percent	Percent
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	-
Delta Power Solutions (India) Pvt. Ltd.	Manufacture, research and development and trading of electronic products	India	100	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	-

- 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 Company and its subsidiary companies 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 year, the Company and its subsidiaries have adopted the revised financial reporting standards and interpretations (revised 2017) which are effective for fiscal years beginning on or after 1 January 2018. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards with most of the changes and clarifications directed towards disclosures in the notes to financial statements. The adoption of these financial reporting standards does not have any significant impact on the Company and its subsidiaries' financial statements.

#### **(b) Financial reporting standards that will become effective for fiscal years beginning on or after 1 January 2019**

The Federation of Accounting Professions issued a number of revised and new financial reporting standards and interpretations (revised 2018) 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 management of the Company and its subsidiaries believe that most of the revised financial reporting standards will not have any significant impact on the financial statements when they are initially applied. However, the new standard involves changes to key principles, as 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 recognized 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.

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

**(c) Financial reporting standards related to financial instruments that will become effective for fiscal years beginning on or after 1 January 2020**

During the current year, the Federation of Accounting Professions issued a set of TFRSs related to financial instruments, which 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	Extending 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 Company and its subsidiaries is currently evaluating the impact of these standards to the financial statements in the year when they are adopted.

#### **4. Significant accounting policies**

##### **4.1 Revenue Recognition**

###### ***Sales of goods***

Sales of goods are recognised when the significant risks and rewards of ownership of the goods have passed to the buyer. Sales are the invoiced value, excluding value added tax, of goods supplied after deducting discounts and allowances.

###### ***Rendering of services***

Service revenue is recognised when services have been rendered taking into account the stage of completion.

###### ***Interest income***

Interest income is recognised on an accrual basis based on the effective interest rate.

###### ***Dividends***

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

##### **4.2 Cash and cash equivalents**

Cash and cash equivalents consist of cash in hand and at banks, and all highly liquid investments with an original maturity of three months or less and not subject to withdrawal restrictions.

##### **4.3 Trade 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 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 separated 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 2-32 years. Depreciation of the investment properties is recognised in profit or loss.

#### **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 construction in progress.

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 and 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.

#### **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 Company's cash-generating units (or group of cash-generating units) that are expected to benefit from the synergies of the combination. The Company 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 Company and its subsidiaries, whether directly or indirectly, or which are under common control with the Company and its subsidiaries.

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

#### **4.12 Long-term leases**

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 charged to profit or loss.



#### **4.14 Impairment of assets**

At the end of each reporting period, the Company and its subsidiaries perform impairment reviews in respect of the property, plant and equipment and other intangible assets whenever events or changes in circumstances indicate that an asset may be impaired. The Company and its subsidiaries also carry 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 Company and its subsidiaries 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 Company and its subsidiaries estimate the asset's recoverable amount. A previously recognised impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognised. The increased carrying amount of the asset attributable to a reversal of an impairment loss shall not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior years. Such reversal is recognised in profit or loss unless the asset is carried at a revalued amount.

#### **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 Company and its subsidiaries and their employees have jointly established the provident fund. The fund is monthly contributed by employees and by the Company and its

subsidiaries. The fund's assets are held in a separate trust fund and the contributions of the Company and its subsidiaries are recognised as expenses when incurred.

#### *Defined benefit plans*

The Company and its subsidiaries have obligations in respect of the severance payments, they must make to employees upon retirement under labor law. The Company and its subsidiaries treat these severance payment obligations as a defined benefit plan.

The obligation under the defined benefit plan is determined 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 determining the measurement of the defined benefit obligation and return of plan assets net from interest income on plan assets are recognised immediately in other comprehensive income.

### **4.16 Provisions**

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

### **4.17 Research and development expenses**

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

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

### **4.19 Forward currency contracts**

Forward currency contracts are initially recognised at fair value on the date a forward currency contracts is entered into and 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 Company and its subsidiaries apply a quoted market price in an active market to measure their assets and liabilities that are required to be measured at fair value by relevant financial reporting standards. Except in case of no active market of an identical asset or liability or when a quoted market price is not available, the Company and its subsidiaries measure fair value using valuation 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 observable active market for such assets or liabilities



Level 2 - Use of other observable inputs for such assets or liabilities, whether directly or indirectly

Level 3 - Use of unobservable inputs such as estimates of future cash flows

At the end of each reporting period, the Company and its subsidiaries determine whether transfers have occurred between levels within the fair value hierarchy for assets and liabilities held at the end of the reporting period that are measured at fair value on a recurring basis.

## **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 decline in 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 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 Company and its subsidiaries have contingent liabilities as the result of tax assessments. The management were required to exercise judgement to assess of 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 Company and its subsidiaries 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, its subsidiaries and those related parties.

(Unit: Million Baht)

	Consolidated		Separate		Transfer pricing policy	
	financial statements		financial statements			
	2018	2017	2018	2017		
<b><u>Transactions with subsidiary companies</u></b>						
(eliminated from the consolidated financial statements)						
Sales of goods and raw materials	-	-	14,690	12,975	With reference to market price	
Purchase of raw materials	-	-	172	121	With reference to market price	
Commission paid	-	-	182	218	Contract price	
Design and engineering fee paid (Note 26)	-	-	1,381	1,375	Contract price	
Distribution fee paid	-	-	98	88	Contract price	
Dividend income	-	-	-	384	As declared	
Sales of investments in subsidiary company	-	-	-	883	Contract price	
<b><u>Transactions with associated companies</u></b>						
Sales of goods and raw materials	439	1,157	23	5	With reference to market price	
Commission paid	32	5	32	5	Contract price	
Design and engineering fee paid (Note 26)	-	66	-	66	Contract price	
Commission received	-	43	-	-	Contract price	
Services income	2	23	-	-	Contract price	
<b><u>Transactions with related companies</u></b>						
Sales of goods and raw materials	6,692	3,553	2,755	1,757	With reference to market price	
Purchase of goods and raw materials	4,283	4,273	486	425	With reference to market price	
Commission paid	415	511	415	511	Contract price	
Royalty paid (Note 25)	1,257	-	1,257	-	Contract price	
Design and engineering fee paid	53	795	-	743	Contract price	
Commission received	67	172	-	-	Contract price	
Services income	196	266	-	-	Contract price	
Services paid	98	174	98	174	Contract price	
Sale of investments in subsidiary companies	-	874	-	-	Contract price	
Purchase of investments in subsidiary company	-	758	-	-	Contract price	
Other income	48	38	7	10	Contract price	

The balances of the accounts as at 31 December 2018 and 2017 between the Company, its subsidiaries and those related companies are as follows:

	(Unit: Million Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b><u>Trade receivables, related parties (Note 9)</u></b>				
Subsidiary companies	-	-	5,236	4,224
Associated companies	8	480	1	1
Other related companies (under common control)	1,533	707	677	430
Total trade receivables, related parties	<u>1,541</u>	<u>1,187</u>	<u>5,914</u>	<u>4,655</u>
<b><u>Other receivables, related parties (Note 9)</u></b>				
Subsidiary companies	-	-	3	8
Associated companies (Note 12)	161	-	-	-
Other related companies (under common control)	-	11	-	11
Total other receivables, related parties	<u>161</u>	<u>11</u>	<u>3</u>	<u>19</u>
<b><u>Amounts due from related parties (Note 9)</u></b>				
Subsidiary companies	-	-	4	2
Total amounts due from related parties	<u>-</u>	<u>-</u>	<u>4</u>	<u>2</u>
<b><u>Trade payables, related parties (Note 19)</u></b>				
Subsidiary companies	-	-	103	18
Associated companies	3	6	-	-
Other related companies (under common control)	965	792	143	72
Total trade payables, related parties	<u>968</u>	<u>798</u>	<u>246</u>	<u>90</u>
<b><u>Other payables, related parties (Note 19)</u></b>				
Subsidiary companies	-	-	270	279
Associated companies	3	33	3	33
Other related companies (under common control)	567	180	559	159
Total other payables, related parties	<u>570</u>	<u>213</u>	<u>832</u>	<u>471</u>
<b><u>Accrued expenses, related parties (Note 19)</u></b>				
Other related companies (under common control)	94	-	94	-
Total accrued expenses, related parties	<u>94</u>	<u>-</u>	<u>94</u>	<u>-</u>

### **Directors and management's benefits**

During the year ended 31 December 2018 and 2017, the Company and its subsidiaries had employee benefit expenses of their directors and management as below.

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Short-term employee benefits	124	97	56	45
Post-employment benefits	7	10	5	5
Termination benefits	4	-	-	-
Total	<u>135</u>	<u>107</u>	<u>61</u>	<u>50</u>

### **7. Cash and cash equivalents**

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Cash on hand	1	1	1	-
Current accounts	794	848	2	2
Saving accounts	10,586	14,358	9,750	11,884
Fixed deposits with maturity				
not over 3 months	4,227	2,113	-	-
Total	<u>15,608</u>	<u>17,320</u>	<u>9,753</u>	<u>11,886</u>

As at 31 December 2018, the above bank deposits in saving accounts and fixed deposits carried interests between 0.00 and 8.25 percent per annum (2017: between 0.00 and 5.25 percent per annum) (The Company only: between 0.00 and 1.20 percent per annum, 2017: between 0.10 and 1.75 percent per annum).

### **8. Current investments**

The balance of current investments is fixed deposits with maturity over 3 months with Delta Energy Systems (Germany) GmbH, a subsidiary company.

## 9. Trade and other receivables

	(Unit: Million Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b><u>Trade receivables, related parties (Note 6)</u></b>				
Aged on the basis of due dates				
Not yet due	1,484	1,154	5,180	3,914
Past due				
Up to 3 months	21	17	698	725
3 - 6 months	19	16	18	16
6 - 12 months	17	-	18	-
Total	<u>1,541</u>	<u>1,187</u>	<u>5,914</u>	<u>4,655</u>
<b><u>Trade receivables, unrelated parties</u></b>				
Aged on the basis of due dates				
Not yet due	8,140	7,751	4,207	3,780
Past due				
Up to 3 months	1,126	975	497	354
3 - 6 months	143	101	15	16
6 - 12 months	25	41	3	8
Over 12 months	43	29	3	-
Total	<u>9,477</u>	<u>8,897</u>	<u>4,725</u>	<u>4,158</u>
Total trade receivables	11,018	10,084	10,639	8,813
Less: Allowance for doubtful accounts	<u>(126)</u>	<u>(99)</u>	<u>(29)</u>	<u>(13)</u>
Total trade receivables - net	<u>10,892</u>	<u>9,985</u>	<u>10,610</u>	<u>8,800</u>
<b><u>Other receivables</u></b>				
Amounts due from related parties (Note 6)	-	-	4	2
Other receivables - related parties (Note 6)	161	11	3	19
Other receivables - unrelated parties	505	472	431	376
Total other receivables	<u>666</u>	<u>483</u>	<u>438</u>	<u>397</u>
Trade and other receivables - net	<u>11,558</u>	<u>10,468</u>	<u>11,048</u>	<u>9,197</u>

## 10. Inventories

(Unit: Million Baht)

	Consolidated financial statements					
	Cost		Reduce cost to net		Inventories-net	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Finished goods	3,612	3,577	(481)	(471)	3,131	3,106
Work in process	1,083	772	-	-	1,083	772
Raw materials	4,687	2,931	(682)	(388)	4,005	2,543
Goods in transit	1,242	1,263	-	-	1,242	1,263
Total	<u>10,624</u>	<u>8,543</u>	<u>(1,163)</u>	<u>(859)</u>	<u>9,461</u>	<u>7,684</u>

(Unit: Million Baht)

	Separate financial statements					
	Cost		Reduce cost to net		Inventories-net	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Finished goods	2,246	2,309	(128)	(134)	2,118	2,175
Work in process	847	675	-	-	847	675
Raw materials	3,095	1,793	(421)	(208)	2,674	1,585
Goods in transit	169	201	-	-	169	201
Total	<u>6,357</u>	<u>4,978</u>	<u>(549)</u>	<u>(342)</u>	<u>5,808</u>	<u>4,636</u>

Details movement of reduce cost to net realisable value of inventories are as follows:

(Unit: Million Baht)

	Consolidated		Separate			
	financial statements	<u>2018</u>	<u>2017</u>	financial statements	<u>2018</u>	<u>2017</u>
Balance at beginning of year		(859)	(968)		(342)	(337)
Increase during the year		(489)	(217)		(295)	(135)
Reversal of reduce cost to net realisable						
value from write off obsolete and damaged						
inventories during the year		174	167		88	130
Reversal during the year		11	25		-	-
Increase from acquisition of investment in subsidiary						
company during the year		-	(19)		-	-
Decrease from sales of investments in subsidiary						
companies during the year		-	105		-	-
Decrease from change in status of investments		-	48		-	-
Balance at end of year		<u>(1,163)</u>	<u>(859)</u>		<u>(549)</u>	<u>(342)</u>



## 11. Other current assets

(Unit: Million Baht)

	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Input tax refundable	275	184	99	65
Advance payments	511	262	132	25
Prepaid expenses	118	58	10	8
Prepaid tax	108	116	-	-
Forward contracts receivable (Note 34)	76	61	76	30
Others	50	49	9	31
Total other current assets	<u>1,138</u>	<u>730</u>	<u>326</u>	<u>159</u>

## 12. Investments in associated companies

### 12.1 Details of associates

Company's name	Nature of business	Country of incorporation	Consolidated financial statements			
			Shareholding percentage 2018 (%)	Cost 2018	Cost 2017	Carrying amounts based on equity method 2018
Delta Electronics (Switzerland) AG * (owned by Delta Greentech (Netherlands) B.V.)	Holding business, trading, research and development of electronic products	Switzerland	49	287	448	448
Delta Greentech Electronics Industry LLC (owned by Delta Greentech (Netherlands) B.V.)	Marketing and distribution of electronic products	Turkey	49	117	21	118
Translation adjustment				(26)	3	(30)
Total				378	472	536
						593

\* Delta Electronics (Switzerland) AG (formerly known as "Delta Energy Systems (Switzerland) AG")

### 12.2 Share of comprehensive income

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			
	For the year ended 31 December 2018 and for the period as from 4 April 2017 to 31 December 2017		Share of other comprehensive income from investments in associated companies during the year	
2018	2017	2018	2017	2017
Delta Electronics (Switzerland) AG	49	62	30	61
Delta Greentech Electronics Industry LLC	4	(3)	-	-
Total	53	59	30	61

## 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>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Current assets	2,316	2,067	382	231
Non-current assets	73	107	8	1
Current liabilities	(1,704)	(1,098)	(160)	(194)
Non-current liabilities	(60)	(93)	-	-
<b>Net assets</b>	<b>625</b>	<b>983</b>	<b>230</b>	<b>38</b>
Shareholding percentage (%)	49	49	49	49
<b>Share of net assets</b>	<b>306</b>	<b>482</b>	<b>113</b>	<b>19</b>
Goodwill	117	92	-	-
<b>Carrying amounts of associates based on equity method</b>	<b>423</b>	<b>574</b>	<b>113</b>	<b>19</b>

### Summarised information about comprehensive income

	(Unit: Million Baht)			
	For the year ended 31 December 2018 and for the period as from 4 April 2017 to 31 December 2017			
	Delta Electronics (Switzerland) AG		Delta Greentech Electronics Industry LLC	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Revenue	4,344	2,886	482	81
Profit (loss)	99	126	8	(6)
Other comprehensive income	61	124	-	-
Total comprehensive income	160	250	8	(6)

## 12.4 Significant events during the current year

### a) Additional investment in associated company

#### Delta Greentech Electronics Industry LLC

On 5 January 2018, a meeting of the Company's Executive Committee, passed a resolution to increase the Company's investment in Delta Energy Systems (Singapore) Pte. Ltd. by USD 2.9 million, or approximately Baht 95 million, to enable the latter to invest in Delta Greentech Electronics Industry LLC, which is an associated company, in proportion to its existing holding, in order to support business expansion. The Company made payment for the additional investment in the first quarter of the current year. The additional investment had no impact on the investment structure of the Group.



**b) Registered capital reduction in associated company**

Delta Electronics (Switzerland) AG

On 13 September 2018, a meeting of Delta Electronics (Switzerland) AG's Board of Directors 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 2018. 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.

**c) Dividend received during the year**

Delta Electronics (Switzerland) AG

During the current year, Delta Greentech (Netherlands) B.V., which is a subsidiary of the Company, received dividend amounting to approximately CHF 1 million, or approximately Baht 41 million from Delta Electronics (Switzerland) AG (31 December 2017: Nil).

**13. Investments in subsidiary companies**

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

Company's name						(Unit: Million Baht)	
	Paid-up capital		Cost				
	Foreign currency	2018	2017	2018	2017		
DET International Holding Limited	USD	264	264	9,450	9,450		
Delta Green Industrial (Thailand) Company Limited	THB	206	200	206	200		
Delta Energy Systems (Singapore) Pte. Ltd.	USD	103	66	3,370	2,172		
<b>Subtotal</b>				13,026	11,822		
Less: Allowance for impairment loss of investments in subsidiary companies				(1,144)	(1,144)		
<b>Investments in subsidiary companies - net</b>				11,882	10,678		



## 13.2 Significant events during the current year

### 13.2.1 Subsidiaries directly owned by the Company

#### a) Additional investment in subsidiary companies

##### Delta Energy Systems (Singapore) Pte. Ltd.

- On 5 January 2018, a meeting of the Company's Executive Committee, passed a resolution to increase the Company's investment by USD 2.9 million, or approximately Baht 95 million, to enable the latter to invest in Delta Greentech Electronics Industry LLC, which is an associated company, in order to support business expansion. The Company made payment for the additional investment in the first quarter of the current year.
- On 25 July 2016, a meeting of the Company's Board of Directors passed a resolution to increase the Company's investment by USD 32 million, or approximately Baht 1,052 million, to enable the latter to invest in Delta Electronics India Pvt. Ltd., in order to fund construction of a design lab and office. The Company made payment for the additional investment in the second quarter of the current year.
- On 2 April 2018, a meeting of the Company's Board of Directors passed a resolution to increase the Company's investment by USD 1 million, or approximately Baht 31 million, in order to establish a new subsidiary in Scotland, Delta Energy System (UK) Limited, (as mentioned in Note 13.2.2 to the financial statements). The Company made payment for the additional investment in the third quarter of the current year.
- On 26 October 2018, a meeting of the Company's Board of Directors passed a resolution to increase the Company's investment by USD 0.6 million, or approximately Baht 19 million, to enable the latter to invest in Delta Electronics (Australia) Pty. Ltd., for working capital to improve capital structure. The Company made payment for the additional investment in the fourth quarter of the current year.

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



**b) Increase in registered share capital in subsidiary company**

Delta Green Industrial (Thailand) Company Limited

On 4 April 2018, an extraordinary meeting of the shareholders of Delta Green Industrial (Thailand) Company Limited passed a resolution to approve an increase in its registered share capital from Baht 200 million (20,000,000 ordinary shares of Baht 10 each) to Baht 206 million (20,600,000 ordinary shares of Baht 10 each), through the issuance of 600,000 additional ordinary shares with a par value of Baht 10 each, for offer to existing shareholders. On 4 April 2018, the Company made payment of these ordinary shares.

**c) Dividend received during the year**

No dividend was received from the above subsidiary companies during the year ended 31 December 2018 (31 December 2017: the Company received dividend amounting to approximately Baht 384 million from Delta Electronics (Switzerland) AG before the Company sold its 51% investment to a related company).

13.2.2 Subsidiaries indirectly owned by the Company

**a) Subsidiaries' liquidation**

Delta Greentech International Holding Limited and DET Video Technology Limited, subsidiaries in which the DET International Company Limited directly held 100% of shares, were dissolved and liquidated.

**b) Purchase of investment in the subsidiary**

On 4 April 2017, Delta Greentech (Netherlands) B.V. acquired 100% interests in Eltek s.r.o. at a price of approximately USD 22 million and the Company has included the financial statements of Eltek s.r.o. in the consolidated financial statements since 4 April 2017. Management of the Company and its subsidiary believes that the acquisition of Eltek s.r.o. by Delta Greentech (Netherlands) B.V. is a business combination because the assets acquired and liabilities assumed constitute a business and Delta Greentech (Netherlands) B.V. has control over Eltek s.r.o., in accordance with the definition specified in TFRS 3 Business Combinations. During the measurement period, which must not exceed one year from the acquisition date, the management is required to make a preliminary assessment of the fair values of businesses acquired as at the acquisition date and retrospectively adjust the provisional amounts recognised as at the acquisition date to reflect new information obtained about facts and circumstances that existed as of the acquisition date.



During the first quarter of the current year, the fair value measurement of the identifiable assets acquired and liabilities assumed at the acquisition date, which was 4 April 2017, has been completed. The fair value of businesses acquired as at the acquisition date were summarised below.

	(Unit: Million Baht)	
	Fair value	Carrying value*
Cash and cash equivalents	40	40
Trade and other receivables	137	137
Inventories	222	222
Other current assets	183	183
Property, plant and equipment	534	278
Intangible assets	132	2
Deferred tax assets	54	87
Trade and other payables	(523)	(523)
Other current liabilities	(217)	(217)
Deferred tax liabilities	<u>(26)</u>	<u>-</u>
Net assets of the subsidiary	<u>536</u>	<u>209</u>
Shareholding percentage (percent)	100	
Share of net assets	536	
Goodwill arising on acquisition	<u>222</u>	
Price of investment in subsidiary	<u>758</u>	

\* Management of the Company and its subsidiary estimated that the values of the assets and liabilities of Eltek s.r.o. as at 31 March 2017 were not materially different from those as at 4 April 2017 (the acquisition date), and therefore considered the values of the identifiable assets acquired and the liabilities assumed of Eltek s.r.o. at the acquisition date to be equal to those as at 31 March 2017.

During the measurement period, the Company and its subsidiary obtained further information on the fair value of the assets and liabilities. The Company has accordingly restated the consolidated financial statements of financial position as at 31 December 2017, as presented herein for comparative purposes.

The amounts of adjustments affecting the consolidated statements of financial position as at 31 December 2017 were summarised below.

(Unit: Million Baht)

**Increase (decrease) in consolidated statements of financial position**

Deferred tax assets	(35)
Goodwill (Note 17)	35

The adjustments do not affect the consolidated statement of financial position as at 1 January 2017 because Delta Greentech (Netherlands) B.V. assumed control over Eltek s.r.o. on 4 April 2017.

**c) Establishment of new subsidiaries**

- On 2 April 2018, a meeting of the Company's Board of Directors approved the incorporation of Delta Energy Systems (UK) Limited, to be a center for the research and development of electronics products registered in Scotland, with a registered capital of GBP 0.7 million that is 100% held by Delta Energy Systems (Singapore) Pte. Ltd.. The incorporation of this subsidiary was completed during the third quarter of the current year.
- On 28 November 2017, a meeting of the Company's Board of Directors approved the incorporation of Delta Electronics (Automotive) Americas Inc., to be a center for the research and development of electronics products registered in the USA, with a registered capital of USD 10 million that is 100% held by Delta Greentech (Netherland) B.V.. The incorporation of this subsidiary was completed during the fourth quarter of the current year.

**14. Investment properties**

The net book value of investment properties as at 31 December 2018 and 2017 is presented below.

(Unit: Million Baht)

	Consolidated financial statements		
	Office building		
	Land for rent	for rent	Total
<b>31 December 2018:</b>			
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)
<b>Net book value (Note 34)</b>	<b>34</b>	<b>203</b>	<b>237</b>



(Unit: Million Baht)

	Consolidated financial statements		
	Office building		
	Land for rent	for rent	Total
<b>31 December 2017:</b>			
Cost	44	247	291
Less: Accumulated depreciation	-	(42)	(42)
Translation adjustment	(7)	(32)	(39)
<b>Net book value (Note 34)</b>	<b>37</b>	<b>173</b>	<b>210</b>

A reconciliation of the net book value of investment properties for the years 2018 and 2017 is presented below.

	Consolidated financial statements	
	<u>2018</u>	<u>2017</u>
Book value at beginning of year	210	211
Acquisition of assets	56	-
Depreciation charged	(8)	(8)
Transfer out due to change in type of use of assets (Note 15)	(11)	-
Translation adjustment	(10)	7
<b>Book value at end of year</b>	<b>237</b>	<b>210</b>

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	Construction in progress	Computer	Others	Total
<b>Cost:</b>									
1 January 2017	875	3,151	6,368	1,209	1,361	139	499	495	14,097
Purchase/transfer in	-	65	991	102	144	732	65	183	2,282
Disposal/write-off/transfer out	(7)	-	(633)	(92)	(78)	(355)	(41)	(144)	(1,350)
Increase from acquisition of investment in subsidiary company during the year	4	534	11	-	7	-	-	10	566
Decrease from sales of investments in subsidiary companies during the year	-	-	(29)	-	(4)	-	(15)	(36)	(84)
Decrease from change in status of investments	-	-	(39)	(2)	(11)	(1)	(60)	(17)	(130)
Translation adjustment	(13)	16	26	-	6	-	1	(5)	31
31 December 2017	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
<b>Accumulated depreciation:</b>									
1 January 2017	-	744	4,559	1,086	859	-	406	363	8,017
Depreciation for the year	-	85	624	116	108	-	65	35	1,033
Depreciation - disposal/write-off	-	-	(629)	(91)	(73)	-	(40)	(15)	(848)
Decrease from sales of investments in subsidiary companies during the year	-	-	(25)	-	(4)	-	(14)	(31)	(74)
Decrease from change in status of investments in subsidiary companies during the year	-	-	(38)	(2)	(7)	-	(54)	(15)	(116)
Translation adjustment	-	2	26	-	2	-	1	(3)	28
31 December 2017	-	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

## 15. Property, plant and equipment (continued)

(Unit: Million Baht)

	Consolidated financial statements								
	Land	Building	Machinery and equipment	Mold	Installation	Construction	Computer	Others	Total
<b>Allowance for impairment loss:</b>									
1 January 2017	-	140	4	-	15	-	-	-	160
Reversal allowance for impairment during the year	-	(40)	-	-	(6)	-	-	-	(46)
31 December 2017	-	100	4	-	9	-	-	-	114
Reversal allowance for impairment during the year	-	-	(3)	-	(6)	-	-	-	(9)
31 December 2018	-	100	1	-	3	-	-	-	105
<b>Net book value:</b>									
As at 31 December 2017	859	2,835	2,174	108	531	515	85	151	7,258
As at 31 December 2018	815	2,625	2,601	133	755	708	124	196	7,957
<b>Depreciation for the year</b>									
Year 2017 (Baht 788 million include in manufacturing cost, and the balance in selling, administrative and research and development expenses)								1,033	
Year 2018 (Baht 1,012 million include in manufacturing cost, and the balance in selling, administrative and research and development expenses)								1,233	

## 15. Property, plant and equipment (continued)

(Unit: Million Baht)

Cost:	Separate financial statements								
	Land	Building	Machinery and equipment	Mold	Installation	Construction in progress	Computer		
			Others	Total					
1 January 2017	313	1,535	5,040	1,199	1,080	103	232	100	9,602
Purchase/transfer in	-	64	872	102	134	570	33	163	1,938
Disposal/write-off/transfer out	-	-	(608)	(92)	(78)	(299)	(25)	(120)	(1,222)
31 December 2017	313	1,599	5,304	1,209	1,136	374	240	143	10,318
Purchase/transfer in	-	16	1,046	138	334	578	84	279	2,475
Disposal/write-off/transfer out	-	(89)	(371)	(40)	(73)	(593)	(47)	(236)	(1,449)
31 December 2018	313	1,526	5,979	1,307	1,397	359	277	186	11,344
<b>Accumulated depreciation:</b>									
1 January 2017	-	446	3,470	1,075	734	-	185	79	5,989
Depreciation for the year	-	41	528	116	91	-	31	5	812
Depreciation - disposal/write-off	-	-	(605)	(91)	(73)	-	(25)	(9)	(803)
31 December 2017	-	487	3,393	1,100	752	-	191	75	5,998
Depreciation for the year	-	29	674	114	126	-	37	5	985
Depreciation - disposal/write-off	-	(2)	(368)	(39)	(73)	-	(47)	(2)	(531)
31 December 2018	-	514	3,699	1,175	805	-	181	78	6,452



## 15. Property, plant and equipment (continued)

(Unit: Million Baht)

	Separate financial statements					
	Land	Building	Machinery and equipment	Mold	Installation	Construction
						in progress
<b>Allowance for impairment loss:</b>						
1 January 2017	-	140	4	-	15	-
Reversal allowance for impairment during the year		(40)	-	-	(6)	(46)
31 December 2017	-	100	4	-	9	-
Reversal allowance for impairment during the year		-	-	(3)	-	(6)
31 December 2018	-	100	1	-	3	-
<b>Net book value:</b>						
As at 31 December 2017	313	1,012	1,907	109	375	374
As at 31 December 2018	313	912	2,279	132	589	359
<b>Depreciation for the year</b>						
Year 2017 (Baht 663 million include in manufacturing cost, and the balance in selling, administrative and research and development expenses)						812
Year 2018 (Baht 863 million include in manufacturing cost, and the balance in selling, administrative and research and development expenses)						985

As at 31 December 2018, certain items of building, machinery and equipment of the Company and its subsidiaries were fully depreciated but are still in use. The gross carrying amount before deducting accumulated depreciation of those assets amounted to approximately of Baht 5,417 million (2017: Baht 5,577 million) (The Company only: Baht 3,870 million, 2017: Baht 4,019 million).

## 16. Land-use rights

The net book value of land-use right as at 31 December 2018 and 2017 is presented below.

	(Unit: Million Baht)
	Consolidated
	financial statements
<b>Net book value as at 1 January 2017</b>	<b>46</b>
Amortisation for the year	(1)
Translation adjustment	(1)
<b>Net book value as at 31 December 2017</b>	<b>44</b>
Transfer in from advance payment for land-use rights	171
Increase during the year	4
Amortisation for the year	(2)
Translation adjustment	3
<b>Net book value as at 31 December 2018</b>	<b>220</b>

In 2016, a subsidiary of the Company, Delta Electronics India Pvt. Ltd., made an advance payment for land-use rights of approximately INR 395 million, or approximately Baht 209 million, to an unrelated company to obtain rights to use land for construction of a design lab and office. On 10 May 2018, the land-use rights were transferred to the subsidiary at a cost of INR 383 million, or approximately Baht 171 million. For the remaining amount approximately INR 12 million or Baht 5 million, the above subsidiary is in the process of refunding from the unrelated company.

## 17. Goodwill

The net book value of goodwill as at 31 December 2018 and 2017 is presented below.

	(Unit: Million Baht)
	Consolidated
	financial statements
<b>Net book value as at 1 January 2017</b>	<b>307</b>
Increase from acquisition of investment in subsidiary company during the year	189
Decrease from sales of investments in subsidiary companies during the year	(92)
Translation adjustment	11
<b>Net book value as at 31 December 2017 - as previously reported</b>	<b>415</b>
Fair value adjustment of assets acquired and liabilities assumed of a subsidiary (Note 13.2.2)	35
<b>Net book value as at 31 December 2017 - as restated</b>	<b>450</b>
Translation adjustment	(12)
<b>Net book value as at 31 December 2018</b>	<b>438</b>

As at 31 December 2018, 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 known as "Delta Energy Systems (Switzerland) AG") in 2003 and the goodwill of approximately Baht 223 million from Delta Greentech (Netherlands) B.V.'s acquisition of Eltek s.r.o. ("Eltek SK") in 2017.

The Company and its subsidiaries 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:

	(Unit: Percent per annum)		
	Power electronics segment related to	DES products	Eltek s.r.o.
Growth rates	3	2	
Pre-tax discount rates	13	15	

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

## **18. Other intangible assets**

The net book value of intangible assets as at 31 December 2018 and 2017 is presented below.

(Unit: Million Baht)

	Consolidated financial statements					Separate financial statements
	Patent rights	Computer	Customer	Others	Total	
		software	relationship		Computer software	
<b>Cost:</b>						
1 January 2017	1,176	238	-	30	1,444	83
Purchase	-	23	-	1	24	2
Disposals	-	(2)	-	-	(2)	-
Increase from acquisition of investment in subsidiary company during the year	-	2	130	-	132	-
Decrease from sales of investments in subsidiary companies during the year	-	(1)	-	(28)	(29)	-
Decrease from change in status of investments	-	(5)	-	-	(5)	-
Translation adjustment	(103)	5	8	-	(90)	-
31 December 2017	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



## 18. Other intangible assets (continued)

(Unit: Million Baht)

	Consolidated financial statements					Computer software
	Patent rights		Computer software	Customer relationship	Others	
<b>Accumulated amortisation:</b>						
1 January 2017	709	224	-	24	957	80
Amortisation for the year	55	15	10	1	81	2
Disposals	-	(2)	-	-	(2)	-
Decrease from sales of investments in subsidiary companies during the year	-	(1)	-	(23)	(24)	-
Decrease from change in status of investments	-	(5)	-	-	(5)	-
Translation adjustment	(63)	5	-	-	(58)	-
31 December 2017	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
<b>Net book value:</b>						
31 December 2017	372	24	128	1	525	3
31 December 2018	316	51	109	-	476	2

## 19. Trade and other payables

(Unit: Million Baht)

	Consolidated		Separate	
	financial statements		financial statements	
	2018	2017	2018	2017
Trade payables - related parties (Note 6)	968	798	246	90
Trade payables - unrelated parties	6,746	5,886	5,884	5,060
Other payables - related parties (Note 6)	570	213	832	471
Other payables - unrelated parties	1,105	923	1,032	871
Accrued expenses - related parties (Note 6)	94	-	94	-
Accrued expenses - unrelated parties	1,844	2,024	1,076	1,289
Advance received	474	636	113	150
<b>Total trade and other payables</b>	<b>11,801</b>	<b>10,480</b>	<b>9,277</b>	<b>7,931</b>

## 20. Other current liabilities

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Forward contracts payable (Note 34)	15	5	-	-
Withholding tax payable	151	116	92	65
Value added tax payable	29	63	-	-
Others	<u>52</u>	<u>55</u>	<u>14</u>	<u>12</u>
Total other current liabilities	<u>247</u>	<u>239</u>	<u>106</u>	<u>77</u>

## 21. Provision for long-term employee benefits

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

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Defined benefit obligation	(1,273)	(1,373)	(282)	(271)
Fair value of plan assets	<u>39</u>	<u>36</u>	-	-
<b>Provisions for long-term employee benefits as at 31 December</b>	<b>(1,234)</b>	<b>(1,337)</b>	<b>(282)</b>	<b>(271)</b>

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b>Defined benefit obligation at beginning of year</b>	(1,373)	(2,431)	(271)	(259)
Included in profit or loss:				
Current service cost	(41)	(48)	(22)	(22)
Interest cost	(25)	(27)	(7)	(7)
Past service costs and gains or losses on settlement	-	1	-	-
Included in other comprehensive income:				
Actuarial gain (loss) arising from				
Demographic assumptions changes	(1)	(4)	-	(4)
Financial assumptions changes	38	(38)	-	-
Experience adjustments	4	(12)	-	-
Effect of change in status of investments	-	8	-	-
Contribution by plan participants	-	(3)	-	-
Benefits paid during the year	66	75	18	21
Decrease from change in status of investments	-	1,117	-	-
Translation adjustments	59	(11)	-	-
<b>Defined benefit obligation at end of year</b>	<u>(1,273)</u>	<u>(1,373)</u>	<u>(282)</u>	<u>(271)</u>

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

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b>Fair value of plan assets at beginning of year</b>	36	972	-	-
Included in profit or loss:				
Interest income on plan assets	2	5	-	-
Contributions by employer	7	15	-	-
Contribution by plan participants	-	3	-	-
Benefits paid during the year	(2)	(12)	-	-
Decrease from change in status of investments	-	(926)	-	-
Translation adjustments	(4)	(21)	-	-
<b>Fair value of plan assets at end of year</b>	<u>39</u>	<u>36</u>	<u>-</u>	<u>-</u>

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

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Government bonds	23	21	-	-
Debentures	13	12	-	-
Others	3	3	-	-

Long-term employee benefit expenses included in the profit or loss consist of the following:

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Current service cost	41	48	22	22
Interest cost	25	27	7	7
Less: Interest income on plan assets	(2)	(5)	-	-
Past service costs and gains or losses on settlement	-	(1)	-	-
<b>Total expenses recognised in profit or loss</b>	<b>64</b>	<b>69</b>	<b>29</b>	<b>29</b>

The Company and its subsidiaries expect to pay Baht 64 million of long-term employee benefits during the next year (The Company only: Baht 13 million) (2017: Baht 60 million, the Company only: Baht 8 million).

As at 31 December 2018, the weighted average duration of the liabilities for long-term employee benefit of the Company and its subsidiaries is 9-21 years (The Company only: 13 years) (2017: 9-22 years, the Company only: 14 years).



Significant actuarial assumptions are summarised below:

(Unit: percent per annum)

	Consolidated		Separate	
	financial statements		financial statements	
	2018	2017	2018	2017
Discount rate	1.8 - 7.7	1.5 - 7.7	2.6	2.6
Future salary increase rates (depending on age)	3.0 - 9.0	3.0 - 9.0	3.0 - 9.0	3.0 - 9.0
Pension increase rate	1.5	1.5	-	-
Turnover rate	0.8 - 13.0	0.5 - 13.0	13.0	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 2018 and 2017 are summarised below:

(Unit: Million Baht)

	As at 31 December 2018							
	Consolidated				Separate			
	financial statements		financial statements		Increase		Decrease	
	0.5%-10%	0.5%-10%	1%-10%	1%-10%	0.5%-10%	0.5%-10%	1%-10%	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				

(Unit: Million Baht)

	As at 31 December 2017							
	Consolidated				Separate			
	financial statements		financial statements		Increase		Decrease	
	0.5%-10%	0.5%-10%	1%-10%	1%-10%	0.5%-10%	0.5%-10%	1%-10%	1%-10%
Discount rate	Decrease 94	Increase 136	Decrease 19	Increase 52				
Future salary increase rates (depending on age)	Increase 45	Decrease 12	Increase 42	Decrease 9				
Pension increase rate	Increase 65	Decrease 60	-	-				
Turnover rate	Decrease 5	Increase 35	Decrease 5	Increase 35				



On 13 December 2018, The National Legislative Assembly passed a resolution approving the draft of a new Labour Protection Act, which is in the process being published in the Royal Gazette. The new Labour Protection Act stipulates additional legal severance pay rates for employees who have worked for an uninterrupted period of twenty years or more. Such employees are entitled to receive compensation at a rate of not less than that of the last 400 days. This change is considered a post-employment benefits plan amendment and the Company and its subsidiaries have additional liabilities for long-term employee benefits of Baht 114 million (The Company only: Baht 114 million). The Company and its subsidiaries will reflect the effect of the change by recognising past services costs as expenses in the income statement of the period in which the law is effective.

## 22. Provisions

(Unit: Million Baht)

	Consolidated financial statements			Separate financial statements		
	Other			Other		
	Warranty	provisions	Total	Warranty	provisions	Total
<b>Balance as at 1 January 2017</b>	510	58	568	265	-	265
Recognition during year	157	40	197	62	-	62
Decrease during year	(32)	(7)	(39)	(27)	-	(27)
Reversal during year	(113)	(39)	(152)	(34)	-	(34)
Increase from acquisition of investment in subsidiary company during year	1	-	1	-	-	-
Decrease from sales of investments in subsidiary companies during year	(75)	(12)	(87)	-	-	-
Decrease from change in status of investments	(9)	(3)	(12)	-	-	-
Translation adjustment/unrealised gain on exchange rate	(29)	(1)	(30)	(26)	-	(26)
<b>Balance as at 31 December 2017</b>	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
<b>Balance as at 31 December 2018</b>	<b>472</b>	<b>40</b>	<b>512</b>	<b>271</b>	<b>8</b>	<b>279</b>

(Unit: Million Baht)

	Consolidated financial statements			Separate financial statements		
	Other			Other		
	Warranty	provisions	Total	Warranty	provisions	Total
Short-term provisions	49	8	57	-	-	-
Long-term provisions	361	28	389	240	-	240
<b>Balance as at 31 December 2017</b>	<b>410</b>	<b>36</b>	<b>446</b>	<b>240</b>	<b>-</b>	<b>240</b>
Short-term provisions	1	12	13	-	-	-
Long-term provisions	471	28	499	271	8	279
<b>Balance as at 31 December 2018</b>	<b>472</b>	<b>40</b>	<b>512</b>	<b>271</b>	<b>8</b>	<b>279</b>

### **Warranty**

The Company and its subsidiaries recognised a provision for the expected warranty claims on products based on past experience of the level of repairs and returns with current sales by the types 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 2018 and 2017 consisted of the followings:

<u>Dividends</u>	<u>Approved by</u>	<u>Total dividends</u>	<u>Dividend per share</u>
		(Million Baht)	(Baht)
Final dividend for year 2017	Annual General Meeting of the shareholders on 2 April 2018	2,744	2.20
Final dividend for year 2016	Annual General Meeting of the shareholders on 31 March 2017	3,742	3.00

## **25. Royalty**

During the current year, the Company entered into the Intellectual Property & Technology License Agreement with Delta Electronics Inc. (“Licensor”), a related company, 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 sales revenue from the licensed products, 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 agreements with Delta Energy Systems (Germany) GmbH, a subsidiary company, and Delta Electronics (Switzerland) AG, an associated company. Under these agreements, the subsidiary company and associated company provide research and development services (design and engineering) to the Company and charge fees equal to the local operational costs incurred on product research and development plus margin on the arm’s length basis. These agreements 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:

	(Unit: Million Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Salaries, wages and other employee benefits	7,984	7,501	4,869	4,521
Raw materials used and purchase of finished goods	33,238	29,482	24,268	20,771
Changes in inventories of finished goods and work in progress	(346)	853	(109)	(48)
Depreciation	1,241	1,041	985	812
Amortisation	92	82	1	2
Commission expenses	609	671	703	802
Marketing fee	34	15	31	13
Design and engineering fee	53	915	1,381	2,184
Services paid	98	174	98	174
Royalty paid	1,257	-	1,257	-

## 28. Income tax

Income tax expenses for the years ended 31 December 2018 and 2017 are made up as follows:

	(Unit: Million Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b>Current income tax:</b>				
Current income tax charge	(164)	(209)	-	(39)
Adjustment in respect of income tax of previous year	(12)	(2)	-	(3)
<b>Deferred tax:</b>				
Increase (decrease) in deferred tax assets	13	(49)	-	-
Increase in deferred tax liabilities	(31)	(7)	-	-
Net increase in deferred tax assets from acquisition of investment in subsidiary company during the year	-	61	-	-
Decrease in deferred tax assets from sales of investments in subsidiary companies during the year	-	(68)	-	-
Net decrease in deferred tax assets from change in status of investments	-	(5)	-	-
Translation adjustment	9	3	-	-
<b>Income tax expenses reported in the statement of comprehensive income</b>				
	<u>(185)</u>	<u>(276)</u>	<u>-</u>	<u>(42)</u>

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

	(Unit: Million Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Accounting profit before tax	5,335	6,464	4,563	4,765
Income tax at Thai corporate income tax rate of 20%	(1,067)	(1,293)	(913)	(953)
Adjust in respect to current income tax of previous years	(12)	(2)	-	(3)
Tax savings from the tax privileges granted by the government	940	1,016	912	967
Tax effect of:				
Difference in tax rates of subsidiaries in overseas countries	(52)	(126)	-	-
Loss for the current year	(11)	(21)	-	-
Non-deductible expenses	(46)	(55)	(6)	(53)
Utilisation of previously unrecognised deferred tax asset on tax losses	33	36	-	-
Exemption of income	13	152	-	-
Others	17	17	7	-
Total	(46)	3	1	(53)
<b>Income tax expenses reported in the statement of comprehensive income</b>	<b>(185)</b>	<b>(276)</b>	<b>-</b>	<b>(42)</b>

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 2018 and 2017, the components of deferred tax assets and deferred tax liabilities are as follows:

	(Unit: Million Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
Deferred tax assets				
Allowance for doubtful accounts	27	18	-	-
Allowance for diminution in value of inventories	137	92	-	-
Bonus payable	8	24	-	-
Provision for warranty	12	13	-	-
Tax savings from promotional privileges	17	47	-	-
Tax loss brought forward	3	4	-	-
Others	35	28	-	-
Total	239	226	-	-



(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b>Deferred tax liabilities</b>				
Difference depreciation for tax purpose	144	113	-	-
Total	144	113	-	-

As at 31 December 2018 the Company and its subsidiaries have deductible temporary differences and unused tax losses totaling 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 (2017: Baht 3,315 million, INR 1,029 million or approximately Baht 523 million, EUR 50 million or approximately Baht 1,939 million, RUB 31 million or approximately Baht 18 million and MMK 639 million or approximately Baht 15 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 Company and its subsidiaries have not recognised deferred tax assets are summarised below:

	(Unit: million Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<b>The five-year limitation period</b>				
31 December 2017	-	12	-	-
31 December 2018	28	28	-	-
31 December 2019	34	35	-	-
31 December 2020	22	22	-	-
31 December 2021	14	14	-	-
31 December 2022	572	-	556	-
31 December 2023	15	19	-	-
<b>Total</b>			<b>556</b>	<b>-</b>
<b>The eight-year limitation period</b>				
31 March 2019	59	147		
31 March 2020	19	66		
31 March 2021	38	20		
31 March 2022	24	42		
31 March 2023	15	26		
31 March 2024	16	49		
31 March 2025	-	18		
<b>No expiry date</b>	<b>1,776</b>	<b>2,093</b>		
<b>Total</b>	<b>2,632</b>	<b>2,591</b>		

As at 31 December 2018, the total amount of temporary differences associated with investments in subsidiaries and associates for which deferred tax liability has not been recognised, is Baht 194 million (2017: Baht 181 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	The Company	A subsidiary in Thailand
1. Certificate No.	1494(2)/2852	1732(2)/2557	1813(2)/2554
2. Promotional privileges for	Manufacturing of DC FAN	Manufacturing of telecommunication equipment and electronics products for vehicle	Manufacturing of Inverter
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 (Maximum amount Baht 124,000,000)	7 years (Maximum amount Baht 155,000,000)
3.2 Exemption from import duty on machinery as approved by the board.	Granted	Granted	Granted
3.3 Exemption from import duty on raw materials and significant supplies used in export production.	Granted	Non - 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
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
3.6 Permission to deduct cost of public utilities at the rate of twenty-five percent in addition to normal depreciation charges.	15 March 2013	10 January 2015	5 January 2017
4. Date of first earning operating income			1 December 2017
5. Additional right and benefit			Granted the additional tax incentive under the Skill, Technology and Innovation

The Company applied to the Revenue Department to be an International Headquarters (IHQ), and this application was approved on 28 May 2018, with a promotion certificate for International Headquarters granted by the Board of Investment. Subject to certain imposed conditions, the Company is eligible for tax privileges including reductions of and exemptions from corporate income tax and specific business tax for the provision of management, technical and support services, for a period of 15 years from 17 May 2018.

The Company's operating revenues for the years ended 31 December 2018 and 2017, divided between promoted and non-promoted operations, are summarised below.

	(Unit: Million Baht)					
	Promoted operations		Non-promoted operations		Total	
	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>	<u>2018</u>	<u>2017</u>
<u>Separate financial statements</u>						
Sales and service income						
Domestic sales	446	393	109	111	555	504
Export sales	39,338	35,261	231	120	39,569	35,381
Total Sales and service income	<u>39,784</u>	<u>35,654</u>	<u>340</u>	<u>231</u>	<u>40,124</u>	<u>35,885</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 1 million.
- Delta Power Solutions (India) Pvt. Ltd. was granted tax privileges by the Government of India for the manufacture of Telecom Power Systems and Uninterruptible Power Supplies on 1 April 2008. The privileges include exemption from corporate income tax for a period of 5 years from the date the promoted operations commence generating revenues and a 30% reduction of corporate income tax on income derived from the promoted operations for a period of 5 years after the tax-exemption period ends and be completed on 31 March 2018.

### 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 Company's and its subsidiaries' operating segments for the year ended 31 December 2018 and 2017, respectively.

	(Unit: Million Baht)									
	Power electronics segment <sup>1)</sup>		Infrastructure segment <sup>2)</sup>		Automation segment <sup>3)</sup>		Others		Consolidated financial statements	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Revenue										
Revenue from external customers	34,404	36,672	16,394	10,496	1,890	1,809	397	247	53,067	49,224
Total revenue	34,404	36,672	16,394	10,496	1,890	1,809	379	247	53,067	49,224
Segment profit (loss)	4,478	5,706	1,331	734	-	42	(1,066)	(911)	4,743	5,571
Unallocated income (expenses):										
Interest income									240	193
Gain on exchange rate									176	64
Gain on sales of investments in subsidiary companies									-	425
Other income									401	379
Loss from a fair value adjustment of investments in associated companies									-	(105)
Other expenses									(270)	(102)
Share of profit from investments in associated companies									53	59
Finance cost									(9)	(20)
Profit before income tax expenses									5,334	6,464
Income tax expenses for the year									(185)	(276)
Income tax expenses resulting from tax assessments									(23)	(1,259)
Profit for the year									5,126	4,929

1) The power electronics segment is a business segment which designs, manufactures, and sells 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)	
	<u>2018</u>	<u>2017</u>
United States	13,220	14,011
China	9,495	8,486
India	7,715	7,386
Netherlands	1,461	4,608
Germany	4,974	2,236
Singapore	2,458	1,024
Taiwan	941	603
Others	12,803	10,870
<b>Total</b>	<b>53,067</b>	<b>49,224</b>

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

	(Unit: Million Baht)	
	<u>2018</u>	<u>2017</u>
Thailand	4,793	4,210
Slovakia	1,541	1,609
India	1,323	1,383
Germany	581	499
Others	432	538
<b>Total</b>	<b>8,670</b>	<b>8,239</b>

#### **Major customer**

For the year 2018 and 2017, the Company and its subsidiaries have 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 (2017: 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 2018 amounting to approximately Baht 104 million (2017: Baht 90 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 2018, the Company and its subsidiaries had significant capital commitments amounting to Baht 267 million, EUR 2 million or approximately Baht 76 million and INR 10,465 million or approximately Baht 4,843 million in respect of the building construction, purchase of machinery and equipment (2017: Baht 171 million, EUR 2 million or approximately Baht 75 million and INR 19 million or approximately Baht 9 million) (The Company only: Baht 267 million, 2017: Baht 171 million).
- 33.1.2 As at 31 December 2018 and 2017, future minimum lease payments required under these operating lease commitments were as follows.

Foreign currency	Amount (Million in foreign currency)	As at 31 December 2018		
		Payable		
		In up to 1 year	In over 1 and up to 5 years	In over 5 years
Indian rupee	43	11	2	6
Euro	1	38	12	1
Total		49	14	7

Foreign currency	Amount (Million in foreign currency)	As at 31 December 2017		
		Payable		
		In up to 1 year	In over 1 and up to 5 years	In over 5 years
Indian rupee	60	12	12	7
Euro	4	84	55	1
Total		96	67	8



### **33.2 Guarantee obligations**

As at 31 December 2018, the Company and its subsidiaries 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 340 million (2017: Baht 684 million) have been issued by banks to meet requirements of the Company (including a letter of guarantee for approximately Baht 307 million (2017: Baht 656 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 954 million or approximately Baht 442 million, EUR 0.3 million or approximately Baht 13 million have been issued by banks to meet requirements of the subsidiaries (2017: INR 810 million or approximately Baht 412 million, EUR 0.3 million or approximately Baht 14 million).

### **33.3 Tax assessment**

- 33.3.1 a. In 2012, the Company received notice of corporate income tax assessment covering the years 2001 through 2004 from the Revenue Department, assessing tax amounting to approximately Baht 401 million (including penalties and surcharges). The Company submitted a letter appealing the assessment to the Tax Appeal Committee of the Revenue Department. During 2013, the Committee rejected the Company's appeal. The Company therefore petitioned the Central Tax Court to consider revoking this tax assessment. On 24 June 2014, the Central Tax Court ordered a reduction of the penalties and surcharges to Baht 201 million from the amount of Baht 270 million previously calculated by the Revenue Department, while the Company's remaining petitions were dismissed. However, the Company did not agree with the Central Tax Court's judgement and therefore submitted a letter appealing the judgement of the Central Tax Court to the Supreme Court.

On 23 January 2018, a Supreme Court judgement dismissed the Company's petition to consider revoking the tax assessments made by the Revenue Department, covering the years 2001 through 2004. As a result, the Company has to pay corporate income tax, penalties and surcharges totaling approximately Baht 401 million to the Revenue Department. During the current year, the Company completed payment of this amount.

- b. 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 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 169 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.
- c. 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 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.
- d. 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 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.

However, the Company has recorded provisions for the tax assessments as mentioned in b. and c., with approximately Baht 216 million (including penalties and surcharges) under the captions of "Liabilities and provision from tax assessments" in the statement of financial position. During the current year, the Company has recorded provisions for the tax assessments as mentioned in d., with approximately Baht 23 million (including penalties and surcharges) under the captions of "Liabilities and provision from tax assessments" in the statement of financial position and recorded this amount under the captions of "Income tax expenses resulting from tax assessments" in the statement of comprehensive income.



33.3.2 The Indian tax authorities assessed corporate income tax of approximately INR 163 million or approximately Baht 75 million, covering the years 2003 - 2016, and sales tax and excise duties of approximately INR 150 million or approximately Baht 70 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 2018 and 2017, the Company and its subsidiaries had certain assets and liabilities that were measured or disclosed at fair value using different level inputs (as mentioned in Note 4.20 to the financial statements) as follows:

(Unit: Million Baht)				
Consolidated financial statements				
As at 31 December 2018				
	Level 1	Level 2	Level 3	Total
<b>Assets measured at fair value</b>				
Foreign currency forward contracts (Note 11)	-	76	-	76
<b>Liabilities measured at fair value</b>				
Foreign currency forward contracts (Note 20)	-	15	-	15
<b>Assets for which fair value are disclosed</b>				
Investment properties (Note 14)	-	-	237	237
(Unit: Million Baht)				
Consolidated financial statements				
As at 31 December 2017				
	Level 1	Level 2	Level 3	Total
<b>Assets measured at fair value</b>				
Foreign currency forward contracts (Note 11)	-	61	-	61
<b>Liabilities measured at fair value</b>				
Foreign currency forward contracts (Note 20)	-	5	-	5
<b>Assets for which fair value are disclosed</b>				
Investment properties (Note 14)	-	-	210	210

(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
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(Unit: Million Baht)

	Separate financial statements			
	As at 31 December 2017			
	Level 1	Level 2	Level 3	Total

**Assets measured at fair value**

Foreign currency forward contracts (Note 11)	-	30	-	30
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**35. Financial instruments****35.1 Financial risk management**

The financial instruments of the Company and its subsidiaries, as defined under Thai Accounting Standard No. 107 "Financial Instruments: Disclosure and Presentations", principally comprise cash and cash equivalents, trade receivables, other receivables, investments, short-term loans, trade payables and other payables. The financial risks associated with these financial instruments and how they are managed is described below.

***Credit Risk***

The Company and its subsidiaries are exposed to credit risk primarily with respect to trade receivables and other receivables. The Company and its subsidiaries manage the risk by adopting appropriate credit control policies and procedures and therefore do not expect to incur material financial losses. In addition, the Company and its subsidiaries do not have high concentrations of credit risk since they have 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 Company and its subsidiaries to interest rate risk relates primarily to their cash at banks, bank overdrafts and short-term loans. However, since most of the financial assets and liabilities of the Company and its subsidiaries bear floating interest rates or fixed interest rates which are close to the market rate.

As at 31 December 2018 and 2017, 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 2018						
	Fixed interest rates			Floating			
	Within 1 year	Over 1-5 years	5 years	interest rate	Non-interest bearing	Total	Interest rate (% p.a.)
<b>Financial assets</b>							
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
<b>Total</b>	<b>4,450</b>	<b>-</b>	<b>-</b>	<b>10,348</b>	<b>12,646</b>	<b>27,444</b>	

**Financial liabilities**

Trade and other payables	-	-	-	-	11,801	11,801
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>11,801</b>	<b>11,801</b>

(Unit: Million Baht)

	Consolidated financial statements						
	As at 31 December 2017						
	Fixed interest rates			Floating			
	Within 1 year	Over 1-5 years	5 years	interest rate	Non-interest bearing	Total	Interest rate (% p.a.)
<b>Financial assets</b>							
Cash and cash equivalents	2,113	-	-	14,340	867	17,320	0.00 - 5.25
Current investments	215	-	-	-	-	215	0.00 - 4.50
Trade and other receivables	-	-	-	-	10,468	10,468	-
Deposits at bank with restrictions	-	43	-	-	4	47	0.00 - 8.75
<b>Total</b>	<b>2,328</b>	<b>43</b>	<b>-</b>	<b>14,340</b>	<b>11,339</b>	<b>28,050</b>	

**Financial liabilities**

Bank overdraft and short-term loans from financial institutions	229	-	-	-	-	229	8.40
Trade and other payables	-	-	-	-	10,480	10,480	-
<b>Total</b>	<b>229</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10,480</b>	<b>10,709</b>	



(Unit: Million Baht)

Separate financial statements						
As at 31 December 2018						
	Fixed interest rates			Floating		
	Within	Over	interest	Non-interest		
	1 year	1-5 years	5 years	rate	bearing	Total
						(% p.a.)
<b>Financial assets</b>						
Cash and cash equivalents	-	-	-	9,712	41	9,753
Trade and other receivables	-	-	-	-	11,048	11,048
<b>Total</b>	-	-	-	9,712	11,089	20,801
<b>Financial liabilities</b>						
Trade and other payables	-	-	-	-	9,277	9,277
<b>Total</b>	-	-	-	-	9,277	9,277

(Unit: Million Baht)

Separate financial statements						
As at 31 December 2017						
	Fixed interest rates			Floating		
	Within	Over	interest	Non-interest		
	1 year	1-5 years	5 years	rate	bearing	Total
						(% p.a.)
<b>Financial assets</b>						
Cash and cash equivalents	-	-	-	11,866	20	11,886
Trade and other receivables	-	-	-	-	9,197	9,197
<b>Total</b>	-	-	-	11,866	9,217	21,083
<b>Financial liabilities</b>						
Trade and other payables	-	-	-	-	7,931	7,931
<b>Total</b>	-	-	-	-	7,931	7,931

### **Foreign currency risk**

The exposure of the Company and its subsidiaries to foreign currency risk arises mainly from trading transactions that are denominated in foreign currencies. The Company and its subsidiaries seek to reduce this risk by entering into forward contracts when they consider appropriate. Generally, the forward contracts mature within one year.

As at 31 December 2018 and 2017, the balances of the financial assets and liabilities denominated in foreign currencies are summarised below:

(Unit: Million foreign currency unit)

As at 31 December

Foreign currency	Consolidated financial statements				Separate financial statements			
	Financial assets		Financial liabilities		Financial assets		Financial liabilities	
	2018	2017	2018	2017	2018	2017	2018	2017
US dollar	196	172	201	153	346	288	193	144
Euro	5	2	3	2	4	2	9	6
Japanese yen	193	139	438	320	184	139	438	320
Czech koruna	17	26	-	-	17	26	-	-
Swiss franc	-	-	-	1	-	-	-	1

(Unit: Baht per 1 foreign currency unit)

Average exchange rate as at 31 December

Foreign currency	2018	2017
US dollar	32.4498	32.6809
Euro	37.1252	39.0273
Japanese yen	0.2931	0.2898
Czech koruna	1.4359	1.5260
Swiss franc	32.9245	33.4067



As at 31 December 2018 and 2017, the outstanding forward contracts are summarised below:

Consolidated financial statements						
As at 31 December 2018						
	Amount		Forward rate		Maturity date	
<b>Forward contracts to “Sell”</b>						
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
<b>Forward contracts to “Buy”</b>						
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
Consolidated financial statements						
As at 31 December 2017						
	Amount		Forward rate		Maturity date	
<b>Forward contracts to “Sell”</b>						
USD/THB	USD	155	million	32.5220 - 33.5250	THB/USD	January - April 2018
EUR/RUB	EUR	1	million	69.3625	RUB/EUR	January 2018
<b>Forward contracts to “Buy”</b>						
USD/INR	USD	13	million	64.3700 - 65.1253	INR/USD	January 2018
EUR/USD	EUR	12	million	1.1785 - 1.1933	USD/EUR	January 2018
USD/AUD	USD	1	million	0.7526 - 0.7590	USD/AUD	January - February 2018
JPY/THB	JPY	45	million	0.2918 - 0.2919	THB/JPY	January - February 2018
Separate financial statements						
As at 31 December 2018						
	Amount		Forward rate		Maturity date	
<b>Forward contracts to “Sell”</b>						
USD/THB	USD	134	million	32.5620 - 33.1640	THB/USD	January - March 2019
<b>Forward contracts to “Buy”</b>						
JPY/THB	JPY	155	million	0.2899 - 0.2940	THB/JPY	January - February 2019
Separate financial statements						
As at 31 December 2017						
	Amount		Forward rate		Maturity date	
<b>Forward contracts to “Sell”</b>						
USD/THB	USD	116	million	32.5220 - 33.1600	THB/USD	January - April 2018
<b>Forward contracts to “Buy”</b>						
JPY/THB	JPY	45	million	0.2918 - 0.2919	THB/JPY	January - February 2018

### **35.2 Fair values of financial instruments**

Since the majority of the Company and its subsidiaries' 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 Company and its subsidiaries had considered counterparty credit risk when determining the fair value of derivatives.

### **36. Capital management**

The primary objective of the Company and its subsidiaries' capital management is to ensure that they have appropriate capital structure in order to support their business and maximise shareholder value. As at 31 December 2018, the Group's debt-to-equity ratio was 0.42:1 (2017: 0.42:1) and the Company's was 0.30:1 (2017: 0.29:1).

### **37. Events after the reporting period**

37.1 On 28 November 2017, a meeting 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., (as mentioned in Note 13.2.2 to the financial statements). The Company made payment for the additional investment on 25 January 2019.

37.2 On 18 February 2019, the Company's Board of Directors' meeting passed the resolution to propose the Annual General Meeting of shareholders approve a dividend payment of Baht 2.3 per share, a total of Baht 2,869 million. The dividend will be paid from the Company's operating results for the year 2018.

### **38. Approval of financial statements**

These financial statements were authorised for issue by the Company's Board of Directors on 18 February 2019.