

SET Sustainability Awards 2017

Delta Electronics (Thailand) PCL.

September 20, 2017



1. Sustainability Strategy and Organization	กลยุทธ์ด้านความยั่งยืนและโครงสร้างการจัดการด้านความยั่งยืนขององค์กร ...3
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1.2 Organizational Sustainability Management Structure	1.2 โครงสร้างการจัดการด้านความยั่งยืน
2. Strengthening Corporate Governance and Corporate Sustainability Culture	แนวทางการเสริมสร้างวัฒนธรรมด้านบรรษัทภิบาลและความยั่งยืนภายในองค์กร ...17
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• Product/ Service	ที่เชื่อมโยงกับกระบวนการธุรกิจ โดยแสดงให้เห็นถึงวิธีดำเนินการและผลลัพธ์ที่เกิดขึ้น
• Environmental conservation	อย่างเป็นรูปธรรมในการสร้างคุณค่าเพิ่มให้กับองค์กรและผู้มีส่วนได้เสียในด้าน
• Employees' well-being	• ผลิตภัณฑ์/บริการ
• Community/ Society's well-being	• สิ่งแวดล้อม
	• พนักงาน
	• ชุมชน/สังคม
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4.2 Supply Chain Management	4.2 การบริหารจัดการห่วงโซ่อุปทาน
4.3 Business and Social Innovation	4.3 การพัฒนานวัตกรรมทางธุรกิจและสังคม

1

กลยุทธ์ด้านความยั่งยืน
และโครงสร้างการจัดการด้านความยั่งยืนขององค์กร
Sustainability Strategy and Organization

1.1 Delta's Highly Efficient Products



Power Electronics

- Components
- Embedded Power
- Fans & Thermal Management
- Automotive Electronics
- Merchant & Mobile Power

vivitek Innergie

Automation

- Industrial Automation
- Building Automation

Infrastructure

- ICT Infrastructure
- Energy Infrastructure

1.1 Delta's Renewables & Industrial Solutions



Industrial Automation



Building Automation



Datacenter



Telecom Energy



Renewable Energy



EV Charging



Display and Monitoring



1.1 Our Mission is our Value Proposition

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

Mission established since 2004



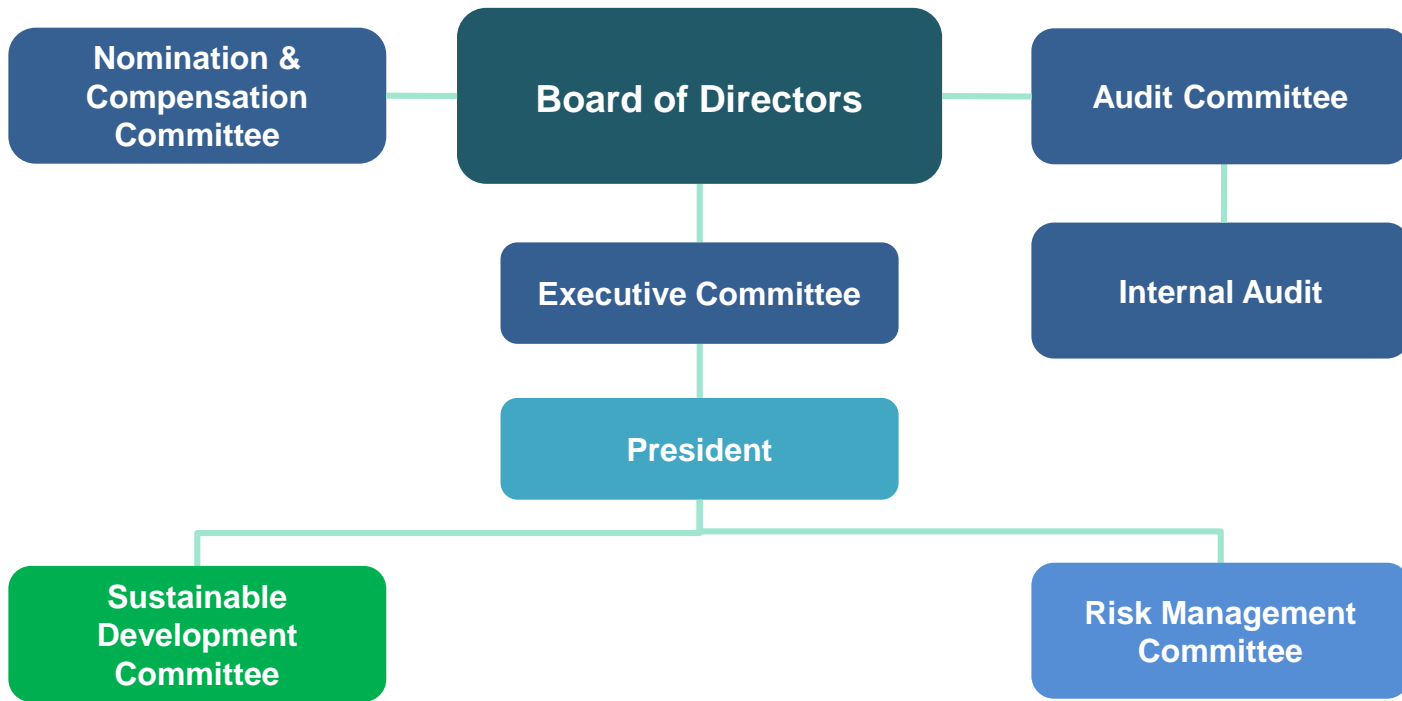
Delta Working with Universities



Delta collaborated with Chulalongkorn University, Kasetsart University, King Mongkut's University of Technology Thonburi, King Mongkut's University of Technology North Bangkok and King Mongkut's Institute of Technology Ladkrabang to set up Delta Automation Academy. The academy provides on-site lab and training, sponsored by Delta, in the field of automation.

By doing so, Delta helps to groom Thai youths for Industry 4.0 era while able to identify talents for the sustainable growth of the company. Delta and the universities also collaborated in research projects.

1.2 Sustainable Development Management



1.2 Example: Management & SD

Top Management Driving SD



Delta's top management has always been actively involved in driving SD and CSR initiatives.

- The image on the left shows Delta President, Mr. Hsieh Shen-yen presenting Delta's SD alignment with UN Sustainable Development Goals (UNSDG) during the Annual Supplier Conference 2016. He also highlighted the importance of compliance with Electronic Industry Citizenship Coalition (EICC).

- Provide employees with a **safe and healthy work environment** where they can live up to their full potential in return for reasonable remuneration and benefits.
- Support **environmental protection** and energy conservation education and encourage employees to take part in community activities.
- Create company **value** and enhance shareholder value.
- Promote **CSR ideals and practices** throughout our supply chain and work together for better performance.
- Develop **environmentally-friendly, energy saving products** and implement sound practices to reduce our impact on the environment to fulfill customer satisfaction.
- Invest in **innovation** and research, develop intellectual property rights, and devote ourselves to the progress of human culture and technology, the development of society and the economy, as well as the sustainable development of the Earth and its environment.
- **All executives** shall extend their collaboration and promote their staff members to fulfill these policies successfully.



http://www.deltathailand.com/about_csr.php

http://www.deltathailand.com/pdf/csr/SDR2016_EN.pdf

2

แนวทางการเสริมสร้างวัฒนธรรม
ด้านบรรษัทภิบาลและความยั่งยืนภายในองค์กร

Strengthening Corporate Governance and
Corporate Sustainability Culture

2. Our Corporate Culture

Cultivating CG and SD at All Levels is Reflected in Our 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

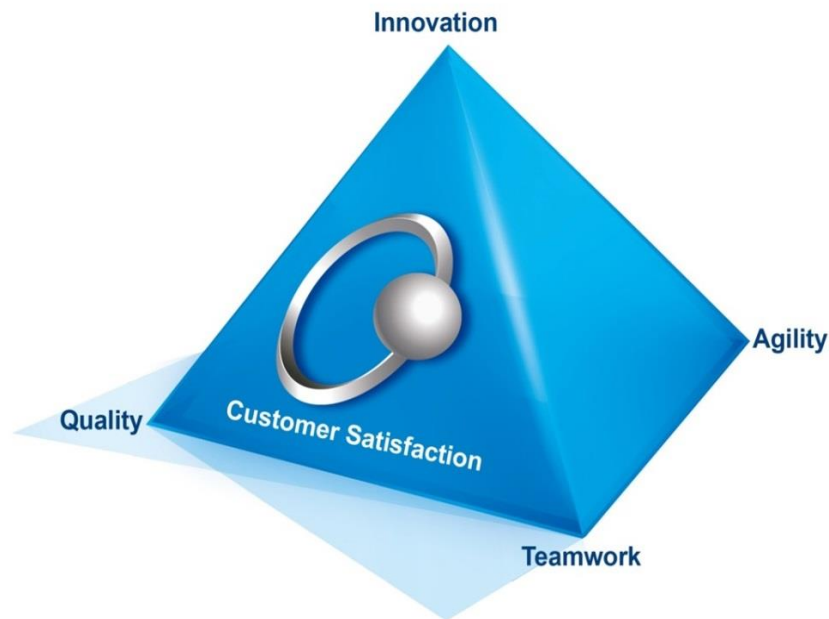
Identify emerging trends and act quickly to capture new opportunities.

Teamwork

Fully leverage global value networks and collaborate to achieve mutual goals.

Customer Satisfaction

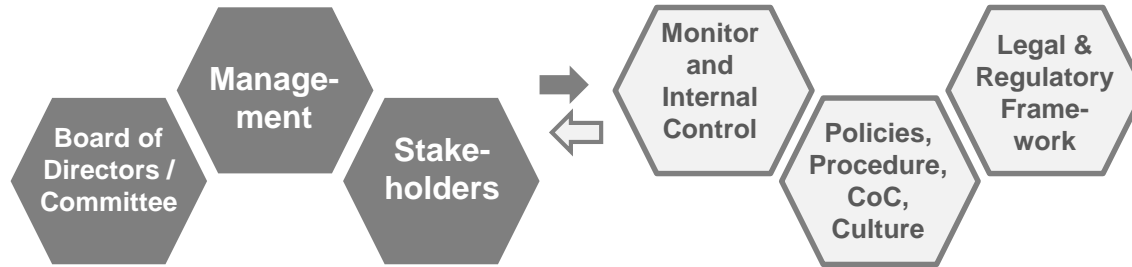
Anticipate customer needs and exceed expectations.





2. CG Excellence = Value Add for Stakeholder

CG Framework



Shareholders

Customer

Employee

Supplier

Community



Top 5 DJSI rank / SET Sustainability Investment 2015-2016



Delta 7200W high-density on-board charger innovation leads EV revolution



Labor Relations and Welfare Award 2010-2016 (Ministry of Labor)



Adopt global Electronic Industry Citizenship Coalition



Delta Automation Academy in 5 major universities

2. CG & SD at All Levels



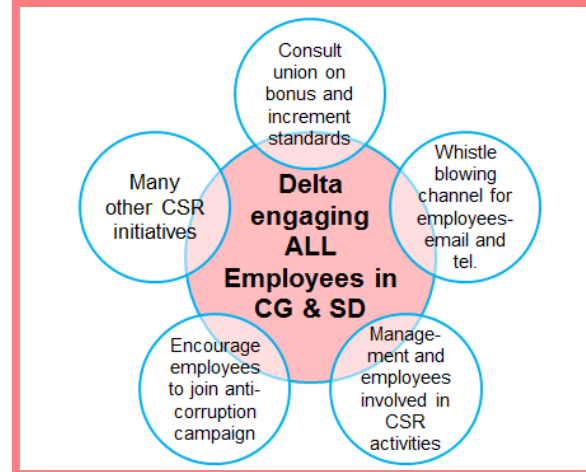
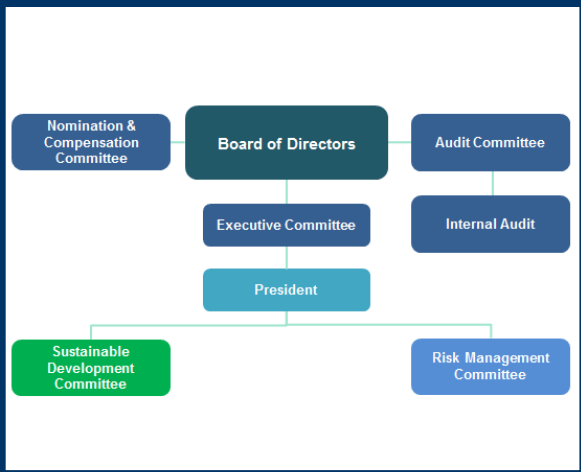
Board of Directors



Management



Employees



2. Example: CG & SD at All Levels

Working Together for the Same Goal



Delta won the Thailand Energy Award 2017 in two categories, namely:

- Outstanding Personnel in Energy Management for Mr. Hsieh Shen-yen, President of Delta, for his support and active involvement in energy conservation.
- Outstanding Energy Management Team for Delta's Facility team comprising of technicians, engineers and managers.

The prestigious award from the Ministry of Energy requires audit of plant and staff interviews during assessment.

Winning the award is proof of management and staff working together at all levels to fulfill Delta's SD goals.

3

แนวทางการดำเนินงานด้านความรับผิดชอบต่อสังคมและความยั่งยืนขององค์กรที่เชื่อมโยงกับกระบวนการธุรกิจ โดยแสดงให้เห็นถึงวิธีดำเนินการและผลลัพธ์ที่เกิดขึ้นอย่างเป็นรูปธรรมในการสร้างคุณค่าเพิ่มให้กับองค์กรและผู้มีส่วนได้เสียในด้าน ผลิตภัณฑ์/บริการ⁽¹⁾ สิ่งแวดล้อม⁽²⁾ พนักงาน⁽³⁾ ชุมชน/สังคม⁽⁴⁾

CSR and Sustainability creating added values for organization and stakeholders through Product / service ⁽¹⁾ environment ⁽²⁾ employees⁽³⁾ and community/ society⁽⁴⁾

การสร้างมูลค่าเพิ่มแก่องค์กรและผู้มีส่วนได้ส่วนเสียด้วยผลิตภัณฑ์และบริการที่มีความรับผิดชอบต่อ

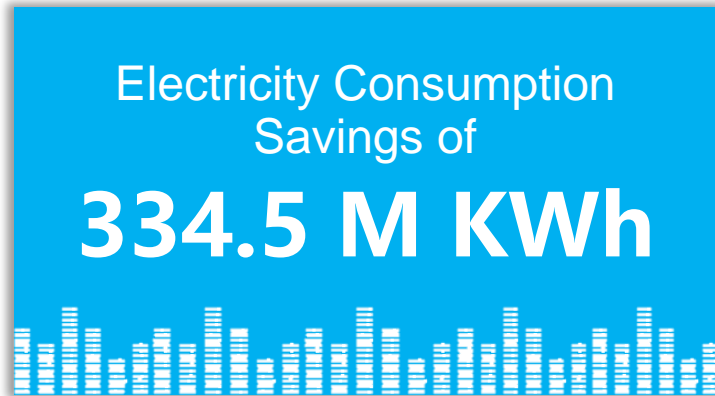
Creating added values for organization and stakeholders
with responsible **Products/ Services**



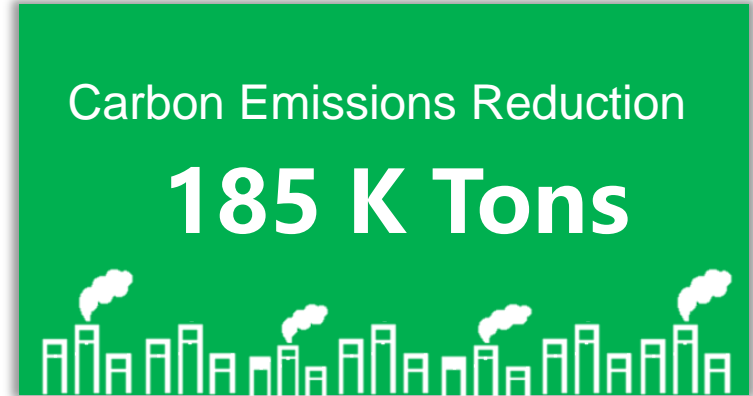
3. Creating Value through Products/ Services

Carbon Emissions Reduction

In 2016,
Delta's high-efficiency products shipped worldwide enabled:



=



2016-2017 Achievement in ESG Revenue Enhancement



Delta Electronics (Thailand) PCL. listed in Thailand Sustainability Investment Award 2016

Target:
Sustainable product and solution innovation management drives innovations for energy environmental conservation

- Launch market leading new technology every 2 years
- Continuous average power efficiency improvement annually
- Continuously reduce carbon footprint in product development through CFR tracking
- Maintain high R&D budget above industry average

Accumulated
185
K Tons of GHG reduced for our global customers

334
M KWh electricity saving for our customers

75%
major customers retained during past 3 years

>5%
R&D Budget



การสร้างมูลค่าเพิ่มแก่องค์กรและผู้มีส่วนได้ส่วนเสียด้วยการอนุรักษ์พลังงาน

Creating added values for organization and stakeholders through **Environmental** conservation

3. Delta Green Building



TARGET:

- Another **30%** energy consumption reduction by 2020
- **100%** suppliers signing on to Integrity Statement and EICC

7 AFFORDABLE AND CLEAN ENERGY



23% energy saving based on LEED Green building project

3 M kWh/year Solar energy for In-house usage

78 SRI Heat Reduction

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



100% RoHS compliance for products

35% Water saving solutions from LEED

13 CLIMATE ACTION



17 PARTNERSHIPS FOR THE GOALS



3. Delta Green Building- Project Overview

Thailand's 1st Green Industrial Factory

LEED - USGBC

LEED Time Frame

Pre-Assessment

**Construction /
Documentation**

**USGBC
Registration (Jan)**

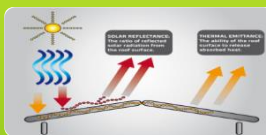
**Final Certification
(Aug)**



Fresh Air Supply
10 cfm/man
- 5M baht



Solar Car Parks
- 2M baht



**Heat Reflective Roof
Coating**
- 1M baht



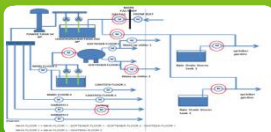
**LEED Documentation
Review**
- 0.77M baht



**Automation control in
Chiller system**
- 0.65M baht



Water Recycle
30 m³ / day
- 0.5M baht



**Install Water metering
and Sub metering**
- 0.47M baht



**Lighting Sensor
(Window Area)**
- 0.25M baht



**Oil-free Chiller
(4 out of 12 installed)**
- 40M baht



**Install Sub-meters for
Split type Air Con.**
- 0.17M baht



**Green Building
Education**
- 0.05M baht



**Heat Reflective Road
(SRI 75)**
- 0.005M baht

Key Renovation and Construction Activities

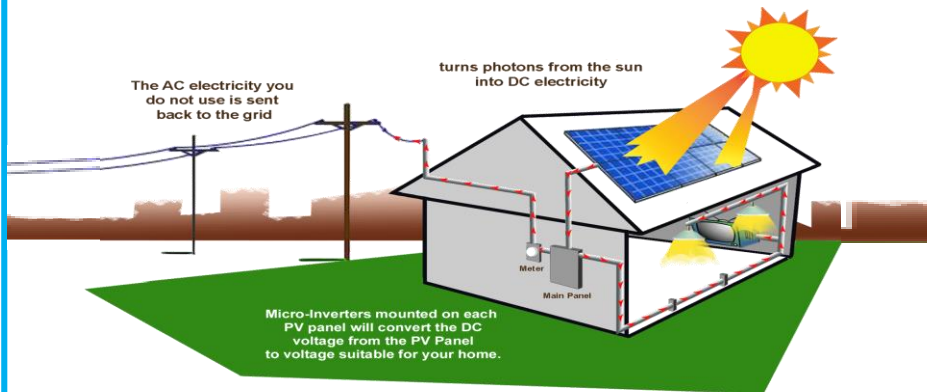
3. Delta Green Building- Solar Power

Delta Solar Rooftop

Definition “Rooftop Solar”

Rooftop Solar is the conversion of energy from sunlight into electricity that has its electricity-generating solar panels mounted on the rooftop of a residential or commercial building or structure.

Processed of “Rooftop Solar”



Return of Investment
7 Year

Energy Saving
24MTHB/Year

Delta's Total Capacity >

4,255 kWp

15,668 kWh/Day
470,040 kWh/Month
5,718,820 kWh/Year



Solar Generate kWh/Year

980 kWh/Day
29,400 kWh/Month
357,700 kWh/Year

7,960 kWh/Day
238,800 kWh/Month
2,905,400 kWh/Year

7,756 kWh/Day
232,680 kWh/Mth
2,792,160 kWh/Year



Delta-1



Delta-5



Delta-6





3. Delta Green Building- Energy Recycle Sys

Energy Recycle System for Burn-In

Production process' Burn-In Test using recycled electricity to main electrical system

Electricity Recycled by Different Delta Product

Delta Energy System



Return **95%** Electricity

High Power Supply



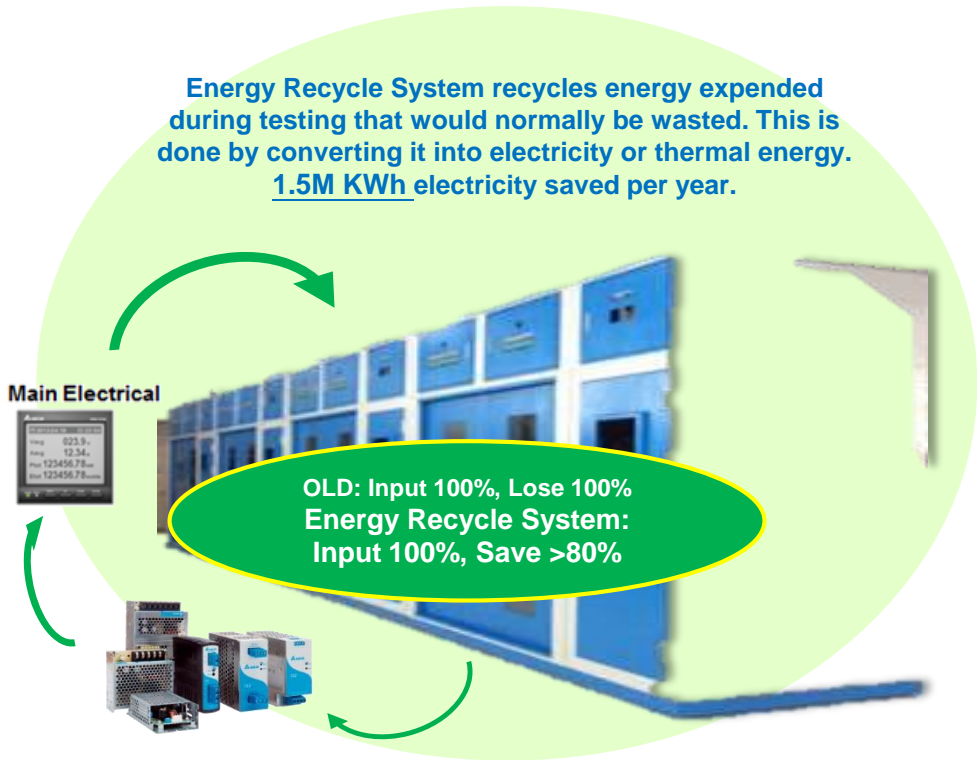
Return **90%** Electricity

Industrials Power Supply



Return **82%** Electricity

Energy Recycle System recycles energy expended during testing that would normally be wasted. This is done by converting it into electricity or thermal energy. 1.5M KWh electricity saved per year.



การสร้างมูลค่าเพิ่มแก่องค์กรและผู้มีส่วนได้ส่วนเสียด้วยการส่งเสริมความเป็นอยู่ที่ดีของพนักงาน

Creating added values for organization and stakeholders
through ensuring **Employees'** well-being

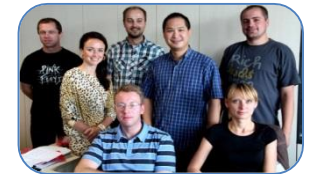
3. Employee Training & Development



ปริญญาโทบริหารธุรกิจ



ปริญญาดุษฎี สาขาการจัดการทั่วไป



คนไทยไปเป็นผู้นำต่างประเทศ



โครงการพัฒนาแนวความคิด
ของพนักงานระดับกลาง



โครงการพัฒนาภาวะผู้นำ (LTD)



โครงการการพัฒนาภาษาอังกฤษ



โครงการพัฒนาภาวะผู้นำกลุ่มในประเทศ
(LTD Thailand)



โครงการพัฒนาภาวะผู้นำกลุ่มในภูมิภาค (RLTD)



3. Example: Breastfeeding Corner



17.2 months adequate natural milk for the children of the participating staff

61 kg. per month of breast milk help our employees to healthily grow their kids without any spending on power milk.



4,890 baht / person / month saved in average for employees and their families on buying cow's milk



7.3 metric tons CO2e per year reduce greenhouse gas emissions for powder milk production process



Up to **2,500 cubic meters per year**. of water reduced for the production of milk powder

3. Example: Disposable Plastic Water Bottle Ban



Delta + Vendors + Employees = Greener Life

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

9.43 metric tonnes
742,500 wasted
plastic bottles reduced
to environment a year

1 NO POVERTY

5,250 Baht
saving/ headcount/ year
for 1.5 litre drinking water daily

3 GOOD HEALTH AND WELL-BEING

1.5 litre/ Person/ day
sufficient quantity of clean drinking
water for each employee

13 CLIMATE ACTION

35.55 metric tonnes/ year
Reduction of CO2e approximately



3. Example: Labor Relations and Welfare Award 2010-2016

Happy Employees Happy Workplace



Mr. Yongyut Pakdougjan, Director of Human Resources (center) and Mr. Patpong Pruemchai, Union Vice President (left) of Delta Electronics (Thailand) PCL. receiving the Award from M.L. Pootrik Samiti, Secretary of Ministry of Labor

การสร้างมูลค่าเพิ่มแก่องค์กรและผู้มีส่วนได้ส่วนเสียด้วยความเป็นอยู่ที่ดีของชุมชนและสังคม

Creating added values for organization and stakeholders
by ensuring **Community/ Society's** well-being

3. Example: Giving Back to Society



Educational Grants & Programs for Employees and Schools



9,764 jobs distributed to society
4,800 THB/ employee's family/ month saving from Breastfeeding project
5,250 THB/ employee's family/ year saving from Drinking Water project
15 schools benefited from our bursaries and scholarship in 2017



422 scholarship granted in 2016
8,318 employees trained for carrier development
33,513 hours of staff training



7 schools in local communities trained in energy conservation & green building in 2016
>90% satisfaction rated on Delta Energy Education Program



9.43 metric tonnes of plastic bottle waste reduced from Green life style encouragement



0 case of community complaint on Delta's Environment Management System

3. Example: Giving Back to Society



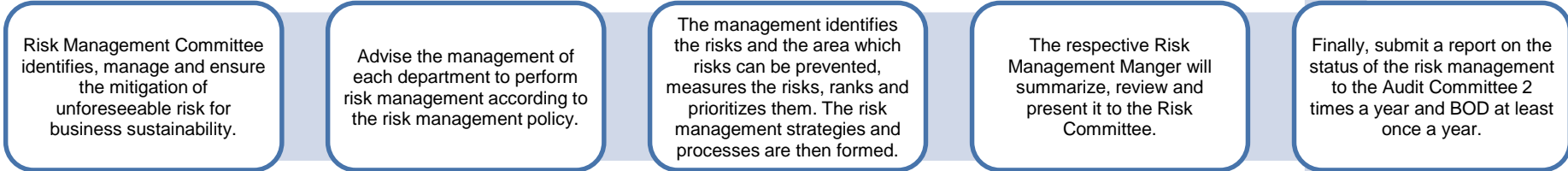
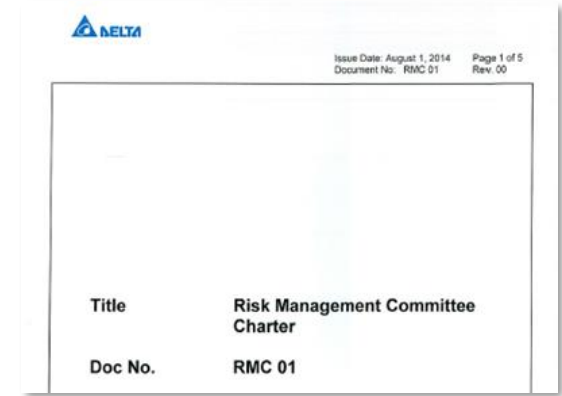
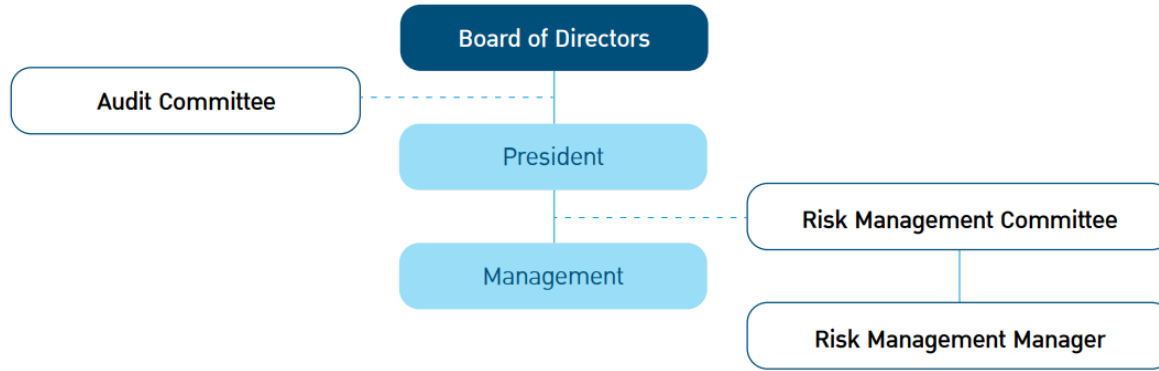
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การบริหารจัดการเพื่อสร้างความยั่งยืนขององค์กร
ด้านการบริหารความเสี่ยง การบริหารจัดการห่วงโซ่อุปทาน
และ การพัฒนานวัตกรรมทางธุรกิจและสังคม

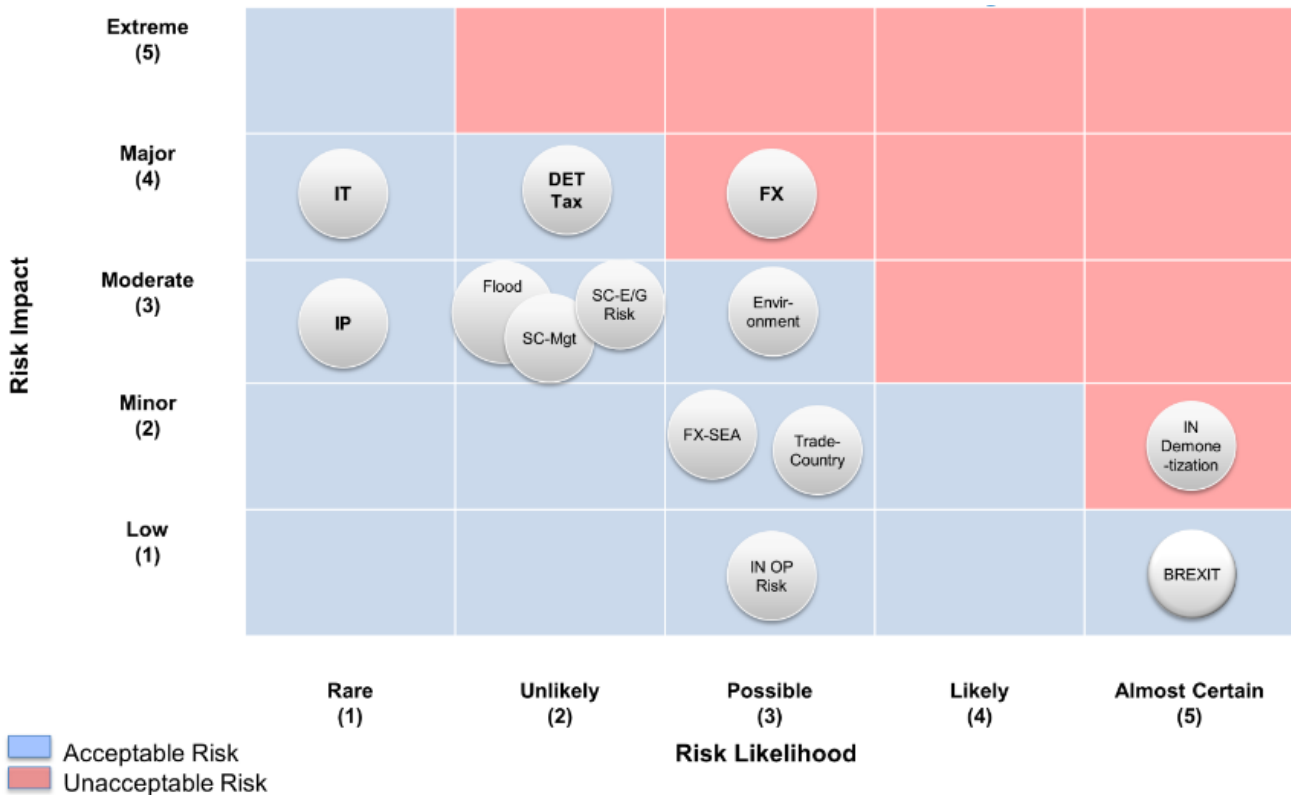
Management for sustainability includes: risk Management, supply chain management and the development of business and social innovation

การจัดการความเสี่ยง
Risk Management

4.1 Risk Committee



4.1 Risk Matrix



Reported in Delta SD Report 2016

การจัดการห่วงโซ่อุปทาน
Supply Chain Management

นวัตกรรมทางธุรกิจและสังคม

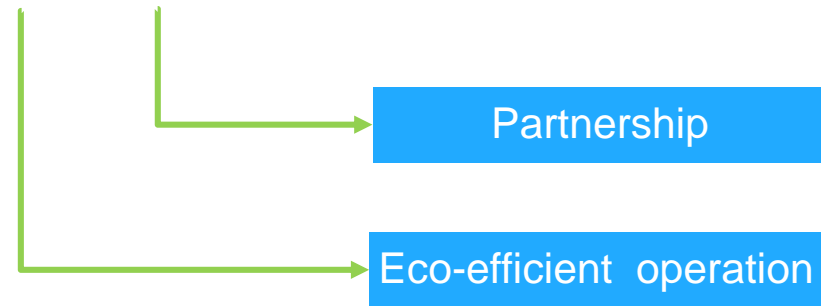
Business and Social Innovation

[Delta's Brand Promise Based on SD Principle]



Innovation

- Top of Delta Corporate Culture (Pg. 16)
- Industry leading investment in R&D
- Systematic Push for Innovation:
 - Patent Incentive
 - Delta Innovation Award
 - Market leading new technology every 2 years
 - Research collaboration with universities and government (Germany, India, Thailand)
 - Delta Cup
 - Delta Automation Academy
 - Delta Angel Fund for startups



4.3 Example: Delta Automation Academy



4.3 Example: Delta Automation Academy

Grooming Thai Youth for Industry 4.0 & Thailand 4.0



Delta + Universities = ICT Industry Development

4 QUALITY EDUCATION



220 future engineering pillars trained in 2016 in advanced technology for ITC Industry

24 students and instructors travel abroad for knowledge exchange With foreign students and experts

8 DECENT WORK AND ECONOMIC GROWTH



Accumulated

166 headcounts recruited through Delta Academy Program

9 INDUSTRY INNOVATION AND INFRASTRUCTURE



Accumulated

60 innovative Industrial Automation project submitted

17 PARTNERSHIPS FOR THE GOALS



Accumulated

5 Thai universities joined the program

4.3 Example: Startup Angel Fund 2016-2017

Developing Thai ICT Industry and Sourcing Business Opportunity



Delta + Government + SME = ICT Industry Development

17 PARTNERSHIPS FOR THE GOALS



- 1 Bank
- 2 Governmental sectors
- 254 Startup teams
- 459 Participants

1 NO POVERTY



13 SMEs
Funded to create more jobs & innovation

8 DECENT WORK AND ECONOMIC GROWTH



20 SMEs
Funded to create more jobs & innovation

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



20 Innovative Projects
Submitted under Smarter. Greener. Together. theme



4.3 Example: Startup Angel Fund 2016-2017



Read Ring Team



Pure LED Team



Internet of Health Thing



Automated Fault Detection and Diagnosis



Smarter. Greener. Together.

To learn more about Delta, please visit www.deltathailand.com
or scan the QR code



Our Website



Our Annual
Report



Our Sustainability
Development
Report

