

**HARN**  
Engineering Solutions

Harn Engineering Solutions Public Company Limited



# 2018

## ANNUAL REPORT

# Quality Living Through Sustainable Engineering



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## 1

# Vision, Mission, Core Values and Target

## Vision

We are committed to be a leading sustainable solution provider of engineering systems in safety, refrigeration and digital printing in Thailand and neighbor countries

## Mission

1

We will maximize our customer satisfaction through high quality products and services, leading technology and excellent business practice.

2

We believe in our employees value and potential and are committed to build a happy, energetic, innovative and dynamic workplace of competent teamwork with integrity, positivity and professional responsibility.

3

We will make a good investment return to shareholders and continually grow our business in a sustainable way.

4

We will create long term values and enhance quality of life for all our stakeholders under prudent management and good corporate governance.

## Core Values

POSITIVE

**Professional Responsibility**

ความรับผิดชอบ  
อย่างมืออาชีพ

**Ownership**

มีความรัก ผูกพัน  
และเป็นเจ้าขององค์กร

**Sustainable Development**

การพัฒนา  
อย่างยั่งยืน

**Integrity**

ความซื่อสัตย์และยึดมั่น  
ในความถูกต้อง  
และเป็นธรรม

**Teamwork**

ความร่วมมือ  
ทำงานเป็นทีม

**Innovation**

ความคิดริเริ่ม  
สร้างสรรค์

**Value Creation**

การสร้างคุณค่า

**Excellence**

การมุ่งมั่น  
สู่ความเป็นเลิศ

## Target



## 2

## Key Financial Information

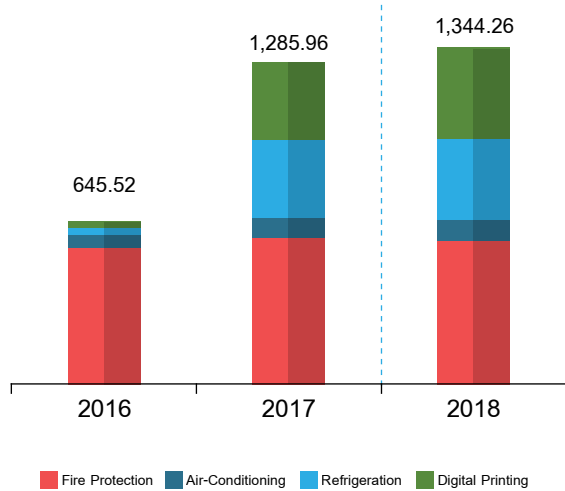
		2018	2017	2016
Financial Position				
Financial Position	Unit			
Total Assets	MB.	1,548.59	1,457.34	1,379.85
Total Liabilities	MB.	281.38	242.66	242.21
Total Shareholders' Equity	MB.	1,267.21	1,214.68	1,137.64
Operating Results				
Revenues from Sales and Services	MB.	1,344.26	1,285.96	645.52
Total Revenues	MB.	1,356.02	1,300.70	662.72
Costs of Sales and Services	MB.	931.22	897.55	487.24
Gross Profit	MB.	413.04	388.41	158.28
Net Profit	MB.	134.36	129.68	40.53
Total Comprehensive Income	MB.	134.36	129.64	45.48
Financial Ratios				
Return on Equity <sup>1)</sup>	%	10.83	11.02	5.72
Return on Assets <sup>2)</sup>	%	11.15	11.36	5.21
Gross Profit Margin	%	30.73	30.20	24.52
Net Profit Margin <sup>1)</sup>	%	9.91	9.97	6.86
Debt to Equity ratio	Times	0.22	0.20	0.21
Total Assets Turnover	Times	0.90	0.92	0.68
Ordinary Shares				
Par Value per Share	Baht	0.50	0.50	0.50
Book Value per Share	Baht	2.17	2.08	1.95
Dividend per Share <sup>3)</sup>	Baht	0.16	0.14	0.09
Earnings per Share	Baht	0.23	0.22	0.11

Remark : <sup>1)</sup> comprehensive income used in calculation

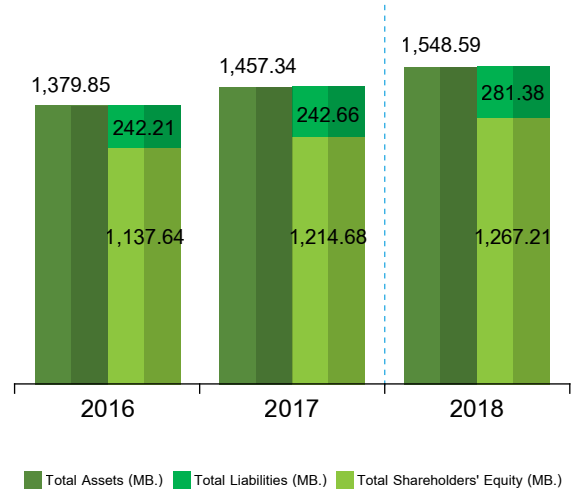
<sup>2)</sup> earnings before interest and tax used in calculation

<sup>3)</sup> not confirmed until the approved by the Annual General Meeting of Shareholders.

## Revenues from Sales and Services (MB.)

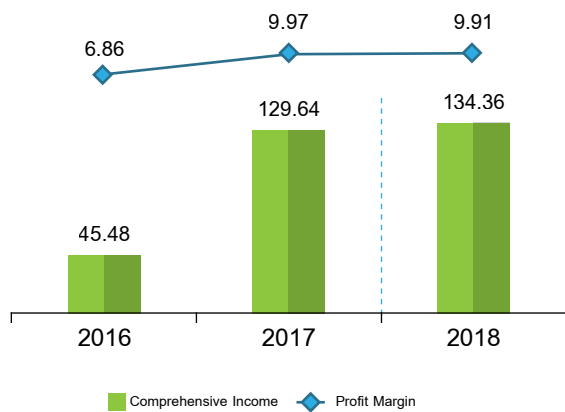


## Assets, Liabilities and Shareholders' Equity

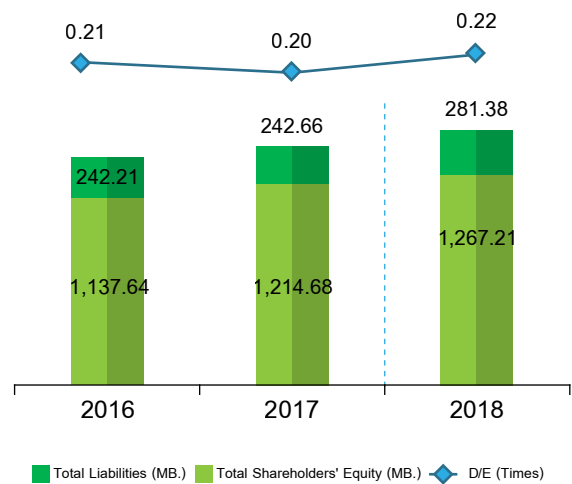


## Comprehensive Income (MB.) and Net Profit Margin (%)

(Comprehensive Income used in calculation)

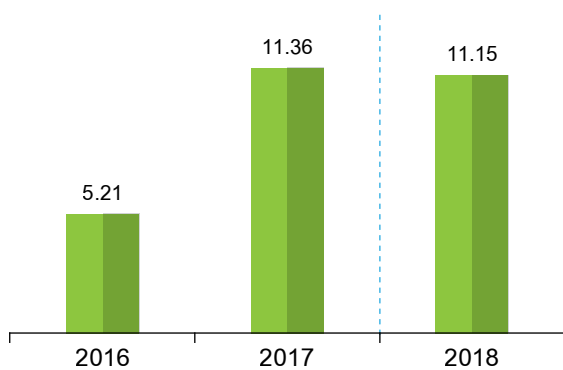


## Debt to Equity ratio (Times) (D/E Ratio)



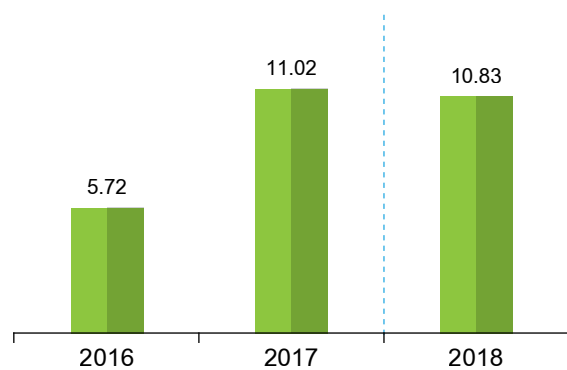
## Return on Assets (%) ROA

(EBIT used in calculation)



## Return on Equity (%) ROE

(Comprehensive Income used in calculation)



## 3

## Message from the Board of Directors



**Mr. Thakol Nunthirapakorn**

Chairman of the Board



**Mr. Wirat Sukchai**

Chief Executive Officer

**H**arn Engineering Solutions Public Company Limited (“Harn” or “the Company”) has engaged in distribution of diverse engineering system products and service provision, comprising fire-fighting, air-conditioning, refrigeration, and digital printing systems. In 2018, due to economic woes following the global trade war, Thai economic growth has slowed to some extent. However, HARN has sales and an increasing profit, as a result of the firm determination of its Board of Directors and employees to carry on the business with consistent growth and progress. Moreover, the company has a plan to expand the business with products or new sales channels including more services domestic and international. In 2019, the Company has planned to establish a branch of the subsidiary in Vietnam to drive its digital printing business. It has developed its personnel to enhance their knowledge gearing up for future business growth. In view of this, the Company is assured of being able to grow its sales and profitability further on.

Harn has attached importance to performing under corporate governance (CG) principles with accountability for all stakeholders and with fairness, transparency and openness to inspection. As a concrete evidence, the

Company has earned a good CG score that is increasing in each year. and been certified as a member of the Collective Action Coalition against Corruption. It has prepared a handbook and instituted policy and procedure with objectives declared and process put in place for the employees, trade partners and the public to inspect and inform of any incidents suspicious of corruption. Training and procedure are also provided to ensure commitment to anti-corruption with a view to grow business sustainably with trust from employees, trade partners and investors at large.

On behalf of the Board of Directors, we would like to express our gratitude to the shareholders, customers, trade partners, business partners, as well as the Board members, executives and staff who have supported and contributed to the successful operation of the Company. Please be assured of the dedication and commitment of all the Board, management and staff members to jointly drive the development of the Company towards sustainable business growth under good corporate governance for the maximum benefits of all stakeholders and the society as well as the country as a whole.

## 4

## Board of Directors

**Dr. Thakol Nunthirapakorn**

**Independent Director, Chairman of the Board  
and Chairman of the Audit Committee**

**Age 73 Yrs.**

- **Shareholding proportion** - None -  
(As at December 31, 2018)
- **Appointment date** September 5, 2012
- **Education**
  - Ph.D. (Accounting, MIS, Economics), University of Arkansas, Fayetteville, Arkansas, USA.
  - M.B.A. (Quantitative Analysis), Northeast Louisiana University, Monroe, Louisiana, USA.
  - B.S. (Finance), West Liberty State University, West Virginia, USA.
  - High Vocational Certificate (Finance and Banking), University of the Thai Chamber of Commerce
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. Role of the Chairman Program (RCP), Class 43/2018
    2. Anti-Corruption the Practical Guide (ACPG) Class 36/2017
    3. Chairman Forum (R-CF), Class 1/2016
    4. Directors Certification Program (DCP), Class 228/2016
    5. Ethical Leadership Program (ELP), Class 3/2016
    6. Audit Committee Program (ACP), Class 8/2005
    7. Director Accreditation Program (DAP), Class 8/2004
- **Work experience in the 5 preceding years**

**Business**

  - 2015 - Present Independent Director, Chairman of the Board of Directors and Chairman of Audit Committee, Harn Engineering Solutions Plc.
  - 2002 - Present Independent Director and Chairman of Audit Committee, Ratchthani Leasing Plc.
  - 2012 - 2015 Independent Director and Chairman of Audit Committee, Harn Engineering Solutions Plc.
  - (Past) Member of Audit Committee, Thai Public Broadcasting Service (TPBS)
  - (Past) Independent Director and Member of Audit Committee, Bangkok Metropolitan Bank Plc.
  - (Past) Director, NS Electronics Bangkok (1993) Ltd.
  - (Past) Director, D.N. Machinery (1980) Co., Ltd.
  - (Past) Chairman of Provident Fund Committee, NS Electronics Bangkok (1993) Ltd.

**Education**

- 2012 - 2015 Dean of Accounting, University of the Thai Chamber of Commerce
- 2005 - 2011 Vice-Rector for Administration, University of the Thai Chamber of Commerce
- Adjunct Professor, University of the Thai Chamber of Commerce
- Director, Development and Establishment Project, University of the Thai Chamber of Commerce New Campus
- Special Instructor, Graduate School, University of the Thai Chamber of Commerce
- Professor of Accounting & Finance, Youngstown State University, Ohio, USA.
- Graduate Council Member, Youngstown State University, Ohio, USA.
- Assistant Professor, College of Business & Industry, Mississippi State University, Mississippi, USA.
- Assistant Professor of Accounting, KSU, Kent, Ohio, USA.
- (Past) Member of Executive Board, University of the Thai Chamber of Commerce
- (Past) Dean, Faculty of Business Administration, National Institute of Development Administration (NIDA)
- (Past) Expert Director, Member of Administrative Committee, Doctoral Program in Business Administration, JDBA
- (Past) Director, NIDA
- (Past) Director and Member of Audit Committee, University of the Thai Chamber of Commerce
- (Past) Chairman of Academic Rank Consideration Committee, University of the Thai Chamber of Commerce

**Social**

- Director, King Rama III Foundation
- Foundation Director, King Rama III Pranangklaio Hospital
- Honorary Advisor, University of the Thai Chamber of Commerce Alumni Association
- President, University of the Thai Chamber of Commerce Alumni Association
- Advisor, NIDA Alumni Association
- (Past) President (Founder) of Lions Club Thailand NIDA Campus

• **Other Positions**

1. Listed Company (1)
  - Ratchthani Leasing Plc.
2. Limited Company - None -
3. Other Organizations/Institutions - None -
4. State Enterprise - None -

• **Conflict of Interest** - None -• **Family Relation with Other Directors** - None -• **Dispute in the 10 Preceding Years** - None -



## Dr. Sothitorn Mallikamas

Independent Director, Member of the Audit Committee and Member of the Nomination and Remuneration Committee

Age 56 Yrs.

- **Shareholding proportion** - None -  
(As at December 31, 2018)
- **Appointment date** September 5, 2012
- **Education**
  - PhD (Economics), University of Wisconsin, USA.
  - MA (Economics), University of Wisconsin, USA.
  - BA (Economics), Chulalongkorn University
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. Director Accreditation Program (DAP), Class 102/2013
- **Work experience in the 5 preceding years**
  - 2018 - present Independent Director, Member of the Audit Committee and Member of the Nomination and Remuneration Committee, Harn Engineering Solutions Plc.
  - 2012 - present Chairman of Bachelor of Arts Program in Economics, Chulalongkorn University
  - 2012 - 2018 Independent Director and Member of the Audit Committee, Harn Engineering Solutions Plc.
  - 2006 - 2009 Dean, Faculty of Economics, Chulalongkorn University
  - 2003 - 2006 Deputy Dean, Faculty of Economics, Chulalongkorn University
  - 1999 - 2003 Director, Economics Research Center, Faculty of Economics, Chulalongkorn University
  - 1992 - 1998 Advisor, Phatra Research Institute, Phatra Securities Plc.
  - 1994 - 1995 Advisor, Monetary and Finance Commission, House of Representatives
- **Other Positions**
  1. Listed Company
  2. Limited Company - None -
  3. Other Organizations/Institutions (1) - None -
    - Chulalongkorn University
  4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** - None -
- **Dispute in the 10 Preceding Years** - None -



## Miss Voranuch Supaibulpipat

Independent Director, Member of the Audit Committee and Chairperson of the Nomination and Remuneration Committee

Age 55 Yrs.

- **Shareholding proportion** - None -  
(As at December 31, 2018)
- **Appointment date** September 5, 2012
- **Education**
  - MBA, Middle Tennessee State University, USA.
  - BA (Economics), Chulalongkorn University
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. Director Accreditation Program (DAP), Class SET/2012
  - Other courses
    - Executive Development Program, Thai Listed Companies Association, Class 10
- **Work experience in the 5 preceding years**
  - 2018 - present Independent Director, Member of the Audit Committee and Chairperson of the Nomination and Remuneration Committee, Harn Engineering Solutions Plc.
  - 2012 - 2018 Independent Director and Member of the Audit Committee, Harn Engineering Solutions Plc.
  - 1987 - 2018 First Senior Vice President, Tisco Financial Group Plc.
- **Other Positions**
  1. Listed Company(1)
    - Tisco Financial Group Plc.
  2. Limited Company - None -
  3. Other Organizations/Institutions - None -
  4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** - None -
- **Dispute in the 10 Preceding Years** - None -



## Dr. Supot Tiarawut

Independent Director and Chairman of the Risk Management Committee

Age 52 Yrs.

- **Shareholding proportion** (As at December 31, 2018) - None -
- **Appointment date** November 1, 2016
- **Education**
  - Doctor of Engineering (Electronic Engineering), The University of Tokyo, Japan
  - Master of Engineering (Information and Computer Sciences), Toyohashi University of Technology, Japan
  - Bachelor of Engineering (1st Class Honor) (Electrical Engineering) Chulalongkorn University
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. How to Develop a Risk Management Plan (HRP), Class 12/2017
    2. Director Certification Program (DCP), Class 195/2014
    3. Finance for Non-Finance Directors (FND), Class 20/2005
- **Work experience in the 5 preceding years**
  - 2016 - Present Independent Director and Chairman of the Risk Management Committee, Harn Engineering Solutions Plc.
  - 2018 - Present Chief Transformation Officer, Chulalongkorn University
  - 2016 - Present Advisor to the President, Chulalongkorn University
  - 2014 - Present Independent Director, Audit Committee, and Chairman of Risk Management Committee, ATP 30 Plc.
  - 2012 - 2018 Director, Blue Phoenix Innovation Co., Ltd.
  - 2014 - 2017 Director, Industrial Liaison Program (ILP), Faculty of Engineering, Chulalongkorn University
  - 2014 - 2014 Executive Vice President, Corporate Strategy, Symphony Communications Plc.
  - 2012 - 2014 Assistant to the President (IT and Strategy), Chulalongkorn University
  - 2007 - 2011 Director, Telecommunication Research and Industrial Development Institute (TRIDI), National Broadcasting and Telecommunications Commission (NBTC)
  - 2004 - 2007 Senior Vice President Corporate Strategy, Senior Vice President Product Development, Secretary of the Executive Committee, Secretary of Risk Management Committee, Vice President Corporate Planning, Vice President Information Technology, TT&T Plc.
  - 2004 - 2007 President, TT&T Subscribers Services Co., Ltd.
  - 2004 - 2007 Director, Triple T GlobalNet Company Limited
  - 1999 - 2004 Vice President, Corporate Planning, Vice President Information Technology, TT&T Plc.
  - 1995 - 1999 Assistant Vice President, New Services and Technology, Corporate Planning, TT&T Plc.
  - 1994 - 1995 Industrial Officer, Office of Industrial Affairs, Royal Thai Embassy, Tokyo, Japan
- **Other Positions**
  1. Listed Company (1)
    - ATP 30 Plc.
  2. Limited Company - None -
  3. Other Organizations/Institutions (1)
    - Chulalongkorn University
  4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** - None -
- **Dispute in the 10 Preceding Years** - None -



## Mr. Wirat Sukchai

Directors, Chairman of the Executive Committee and Member of the Risk Management Committee

Age 53 yrs

- **Shareholding proportion** (As at December 31, 2018) 87,981,135 shares (15.05%)
- **Appointment date** September 5, 2012
- **Education**
  - M.B.A. (E-MBA), National Institute of Development Administration (NIDA)
  - B.B.A. (Sales and Marketing), Bangkok University
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. How to Develop a Risk Management (HRP) Class 12/2017
    2. Successful Formulation & Execution of Strategy (SFE), Class 24/2015
    3. Director Certification Program (DCP), Class 204/2015
    4. Role of Chairman Program (RCP), Class 36/2015
    5. Anti-Corruption for Executive Program (ACEP), Class 14/2015
    6. Director Accreditation Program (DAP), Class SET/2012
  - Other courses
    - ISO 9001 : 2015 Understanding and Implementation
    - 12 Quality Leaders toward Digital Age and AEC Course
    - Risk Management of Organization Course
    - 4 Super Strategic Ideas Course
    - Finance for Non-finance Executive Course
    - Marketing 3.0 : Human Spirit Marketing Course
    - Vice Excellence Course
    - Root Cause Analysis & Corrective Actions Course
    - Academic Development and Enhancement 4<sup>th</sup> Refreshment Program
    - In-depth Discussion on Guidelines for Success in Installation Contractor and Distribution Business
    - Fire Research, Education, Performance Codes & Investigation Course
    - "HYGOOD" Sapphire Fire Suppression System Course
    - TQM : Total Quality Management Course
    - Inspection of Building Fire Safety System Course
- **Work experience in the 5 preceding years**
  - 2016 - Present Chief Executive Officer and Managing Director: Fire Protection System, Air-conditioning System and Sanitary, Harn Engineering Solutions Plc.
  - 2012 - 2016 Managing Director, Harn Engineering Solutions Plc.
  - 2002 - 2012 General Manager, Fire Victor Co., Ltd.
- **Other Positions**
  1. Listed Company - None -
  2. Limited Company - None -
  3. Other Organizations/Institutions - None -
  4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** - None -
- **Dispute in the 10 Preceding Years** - None -



## Mr. Wasan Nantakhwang

Directors, Member of the Executive Committee  
and Member of the Risk Management Committee  
Age 52 Yrs.

- **Shareholding proportion** 28,440,000 shares (4.87%)  
(As at December 31, 2018)
- **Appointment date** November 1, 2016
- **Education**
  - M. Eng. (Faculty of Engineering), King Mongkut's University of Technology North Bangkok
  - B.Eng. (Faculty of Engineering), King Mongkut's University of Technology North Bangkok
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. Director Certification Program (DCP), Class 211/2015
    2. Successful Formulation & Execution of Strategy (SFE), Class 24/2015
    3. Financial Statements for Directors (FSD), Class 28/2015
    4. Director Accreditation Program (DAP), Class 116/2015
  - Other courses
    - IRS SYMPOSIUM AT SCHAUFLEER ACADEMY, Germany
    - 8 Habits of Highly Effective People by Stephen R. Covey
    - Commercial refrigeration training : Bitzer, Germany
    - Michael Porter on Strategy
    - Fresh vegetable and fruit preservation technology
    - Energy Saving in Green BD by Inverter
    - Marketing 3.0 Human Spirit Marketing
    - Decoding E - Marketplace
    - Business Planning and Budgeting
    - Law on debt and checks
    - The Power of Focused Execution
    - The Application of The Balanced Scorecard and KPIs
    - Customer Analysis and Loyalty Program
- **Work experience in the 5 preceding years**
  - 2016 - Present Managing Director: Refrigeration System, Harn Engineering Solutions Plc.
  - 2015 - 2016 Managing Director, Chillmatch Co., Ltd.
  - 2014 - 2016 Directors, QIIS Co., Ltd.
  - 2001 - 2015 General Manager, Chillmatch Co., Ltd.
- **Other Positions**
  1. Listed Company - None -
  2. Limited Company - None -
  3. Other Organizations/Institutions - None -
  4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** - None -
- **Dispute in the 10 Preceding Years** - None -



## Mr. Thammanoon Tripetchr

Directors, Member of the Executive Committee  
and Member of the Risk Management Committee  
Age 51 Yrs.

- **Shareholding proportion** 21,159,399 shares (3.62%)  
(As at December 31, 2018)
- **Appointment date** November 1, 2016
- **Education**
  - B.B.A. (Management), Assumption University of Thailand
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. Director Certification Program (DCP), Class 211/2015
    2. Successful Formulation & Execution of Strategy (SFE), Class 24/2015
    3. Financial Statements for Directors (FSD), Class 28/2015
    4. Director Accreditation Program (DAP), Class 116/2015
  - Other courses
    - P01 : CSR for Corporate Sustainability
    - S01 : Strategic CSR Management
    - S02 : Supply Chain and Stakeholder Engagement
    - S03 : Corporate Social Initiatives for Sustainable Development
    - ISO 9001 : 2015 Understanding and Implementation
    - Safety Officer
    - Development of strategic thinking
    - Marketing, Sales and Service
    - Leadership Skill
    - Internal Quality Audit
    - After Sales Service Strategy
    - Application of KPIs to ISO 9001: 2000
    - CRM - Strategy & Technology
- **Work experience in the 5 preceding years**
  - 2016 - Present Managing Director: Digital Printing System, Harn Engineering Solutions Plc.
  - 2015 - 2016 Managing Director, Q II S Co., Ltd.
  - 2014 - 2016 Directors, Chillmatch Co., Ltd.
  - 2010 - 2015 General Manager, Q II S Co., Ltd.
  - 2002 - 2010 Sales Manager, Q II S Co., Ltd.
  - 2001 - 2002 Sales Manager (Coding & Packaging), Harn Engineering Co., Ltd.
- **Other Positions**
  1. Listed Company - None -
  2. Limited Company - None -
  3. Other Organizations/Institutions - None -
  4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** - None -
- **Dispute in the 10 Preceding Years** - None -



## Dr.Jain Charnnarong

Directors and Member of the Executive Committee

Age 52 Yrs.

- **Shareholding proportion** 72,319,130 shares (12.37%)  
(As at December 31, 2018)
- **Appointment date** September 5, 2012
- **Education**
  - Doctoral Philosophy of Mechanical Engineering, Minor in Management, Massachusetts Institute of Technology, Cambridge, USA.
  - Master of Science in Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, USA.
  - Bachelor of Engineering (First Class of Honor), Chulalongkorn University, Thailand
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. How to Develop a Risk Management Plan (HRP), Class 8/2015
    2. Successful Formulation & Execution of Strategy (SFE), Class 23/2015
    3. Family Business Sustainability (FBS), Class 1/2014
    4. Director Certification Program (DCP), Class 173/2013
  - Training Other
    - Directions and trends of key technologies to Digital Transformation
    - P01 : CSR for Corporate Sustainability
    - S01 : Strategic CSR Management
    - S02 : Supply Chain and Stakeholder Engagement
    - S03 : Corporate Social Initiatives for Sustainable Development
    - S04 : Sustainability Risk and Materiality Analysis
    - S05 : CSR Evaluation and Data Management
    - S06 : Sustainability Reporting
- **Work experience in the 5 preceding years**
  - 2017 - Present Directors and Member of the Executive Committee, Harn Engineering Solutions Plc.
  - 2007 - Present Directors, Harn Engineering Co., Ltd.
  - 2001 - 2014 Founder & CEO, Siam General Aviation Company Limited (SGA)
  - 1999 - 2001 Directors & General Manager, Siam Land Flying Company Limited (SGA)
  - 1998 - 2000 Business Analyst, Siam Commercial Bank Public Company Limited
  - 1997 - 1998 Assist to General Manager, Thai Air Cargo Co., Ltd.
- **Other Positions**
  1. Listed Company - None -
  2. Limited Company (1)
    - Harn Engineering Co., Ltd.
  3. Other Organizations/Institutions - None -
  4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** The younger brother of Mrs. Sirima Iamsakulrat
- **Dispute in the 10 Preceding Years** - None -



## Mrs.Sirima Iamsakulrat

Directors and Member of the Nomination and Remuneration Committee

Age 56 Yrs.

- **Shareholding proportion** 72,649,151 shares (12.37%)  
(As at December 31, 2018)
- **Appointment date** September 5, 2012
- **Education**
  - M.B.A., Stanford University, USA.
  - B.Econ. (Economics), Chulalongkorn University
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. Board Nomination & Compensation Program (BNCP), Class 5/2018
    2. Successful Formulation & Execution of Strategy (SFE), Class 24/2015
    3. Director Certification Program (DCP), Class 211/2015
    4. Director Accreditation Program (DAP), Class SET/2012
  - Training Other
    - P01 : CSR for Corporate Sustainability
    - S01 : Strategic CSR Management
    - S02 : Supply Chain and Stakeholder Engagement
    - S03 : Corporate Social Initiatives for Sustainable Development
    - S04 : Sustainability Risk and Materiality Analysis
    - S05 : CSR Evaluation and Data Management
    - S06 : Sustainability Reporting
- **Work experience in the 5 preceding years**
  - 2018 - Present Directors and Member of the Nomination and Remuneration Committee, Harn Engineering Solutions Plc.
  - 1989 - Present Member of the Executive Committee, Harn Engineering Co., Ltd.
  - 2016 - 2018 Directors and Chairperson of the Executive Committee, Harn Engineering Solutions Plc.
  - 2012 - 2016 Member of the Executive Committee, Harn Engineering Solutions Plc.
  - 2002 - 2016 Member of the Executive Committee, QIIS Co., Ltd.
  - 1989 - 2016 Member of the Executive Committee, Chillmatch Co., Ltd.
  - 2001 - 2012 Member of the Executive Committee, Fire Victor Co., Ltd.
- **Other Positions**
  1. Listed Company - None -
  2. Limited Company (1)
    - Harn Engineering Co., Ltd.
  3. Other Organizations/Institutions - None -
  4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** The sister of Dr.Jain Charnnarong
- **Dispute in the 10 Preceding Years** - None -



## Mr. Parkphum Wongpaitoon

Directors

Age 78 Yrs.

- **Shareholding proportion** 4,230,325 shares (0.72%)  
(As at December 31, 2018)
- **Appointment date** September 5, 2012
- **Education**
  - MSc. (Electrical Engineering), Illinois Institute of Technology, USA.
  - BSc. (Electrical Engineering), University of Illinois, USA.
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. Anti-Corruption for Executive Program (ACEP), Class 14/2015
    2. Role of Chairman Program (RCP), Class 36/2015
    3. Director Accreditation Program (DAP), Class 42/2005
  - Other courses
    - ISO : 2000 Quality System Management Course
    - Self-Improvement (7-Habits) Course
    - Summary of the New Labor Protection Act B.E. 2551 Course
    - Internal Audit and Control for Efficiency Enhancement Course
    - "Lean" Accounting Course
    - EVA for Executives Course
    - Application of the Balance Scorecard & KPIs Course
- **Work experience in the 5 preceding years**
  - 2015 - Present Directors, Harn Engineering Solutions Plc.
  - 1999 - 2017 Directors, Harn Engineering Co., Ltd.
  - 2002 - 2016 Directors, QIIS Co., Ltd.
  - 1999 - 2016 Directors, Chillmatch Co., Ltd.
  - 2012 - 2015 Chairman of the Board, Harn Engineering Solutions Plc.
  - 2001 - 2012 Member of the Executive Committee, Fire Victor Co., Ltd.
  - 1998 - 2001 Managing Director, Harn Engineering Group
  - 1992 - 1997 Managing Director, Thailand Carpet Manufacturing Plc.
  - 1985 - 1991 Director and General Manager, Carpet International Thailand Plc.
  - 1983 - 1984 Deputy General Manager, ITT (Thailand) Plc.
  - 1976 - 1982 Factory Manager, Carpet International Thailand Plc.
  - 1973 - 1975 Production Manager, Goodyear (Thailand) Co., Ltd.
- **Other Positions**
  - 1. Listed Company - None -
  - 2. Limited Company - None -
  - 3. Other Organizations/Institutions - None -
  - 4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** - None -
- **Dispute in the 10 Preceding Years** - None -



## Mrs. Valeeratn Chuerboonchai

Directors

Age 64 Yrs.

- **Shareholding proportion** 8,276,986 shares (1.42%)  
(As at December 31, 2018)
- **Appointment date** September 5, 2012
- **Education**
  - B.B.A. (Accounting), Assumption University
- **Training participation**
  - Training program of Thai Institute of Directors Association (IOD)
    1. Financial Statements for Directors (FSD), Class 28/2015
    2. Director Certification Program (DCP), Class 205/2015
    3. Anti-Corruption for Executive Program (ACEP), Class 14/2015
    4. Director Accreditation Program (DAP), Class SET/2012
  - Other courses
    - 12 Quality Leaders toward Digital Age and AEC Course
    - Risk Management of Organization Course
    - 4 Super Strategic Ideas Course
    - Finance for Non-finance Executive Course
    - The Habits of Highly Effective Working Person Course
    - Marketing 3.0 Human Spirit Marketing Course
    - Insight of Income Tax on Wages and Welfare Course
    - New Accounting Standard and Impact on Business Course
    - Accounting and Finance Data for Executives Course
- **Work experience in the 5 preceding years**
  - 2018 - Present Directors, Nutrix Plc.
  - 2018 - Present Directors, Harn Engineering Solutions Plc.
  - 2012 - 2018 Directors and Member of the Executive Committee, Harn Engineering Solutions Plc.
  - 2012 - 2017 Assistant Managing Director: Operations, Harn Engineering Solutions Plc.
  - 2007 - 2016 Directors and Member of the Executive Committee, Chillmatch Co., Ltd.
  - 2007 - 2016 Directors and Member of the Executive Committee, QIIS Co., Ltd.
  - 2009 - 2015 Director, Promark Co., Ltd.
  - 2007 - 2012 Finance Director, Fire Victor Co., Ltd.
  - 2004 - 2012 General Manager (Finance and General Administration), Harn Engineering Co., Ltd.
  - 1999 - 2004 Accounting and Finance Manager, Harn Engineering Co., Ltd.
- **Other Positions**
  - 1. Listed Company (1)
    - Nutrix Plc.
  - 2. Limited Company - None -
  - 3. Other Organizations/Institutions - None -
  - 4. State Enterprise - None -
- **Conflict of Interest** - None -
- **Family Relation with Other Directors** - None -
- **Dispute in the 10 Preceding Years** - None -

## 5

## Executives and Company Secretary



<b>01</b> <b>Mr.Wirat Sukchai</b> Chief Executive Officer and Managing Director : Fire Protection System, Air-conditioning system and sanitary	<b>02</b> <b>Mr.Wasan Nantakhwang</b> Managing Director : Refrigeration System	<b>03</b> <b>Mr.Thammanoon Tripetchr</b> Managing Director : Digital Printing System	<b>04</b> <b>Mr.Pracha Phromphornchai</b> Project Sales Director : Fire Protection System, Air-conditioning system and sanitary	<b>05</b> <b>Mr.Rattanaphan Mukhariwattananon</b> Sales Director : Fire Protection System, Air-conditioning system and sanitary
<b>06</b> <b>Mr.Suchat Suwatnodom</b> Project Sales Director : (Petrochemical) : Fire Protection System, Air-conditioning system and sanitary	<b>07</b> <b>Mr.Nuntawat Jeerakhom</b> Sales Director : Refrigeration System	<b>08</b> <b>Mr.Sukit Litikorn</b> Engineering Support Director : Refrigeration System	<b>09</b> <b>Mr.Withoon Thamee</b> Sales Director : Digital Printing System	<b>10</b> <b>Mr. Pongsawat Penglengpol</b> Sales Special Products Director : Digital Printing System
	<b>11</b> <b>Mrs.Varinkan Teraumranon</b> Corporate Governance Director and Company Secretary	<b>12</b> <b>Mr. Chatraapichai Earanekkulchai</b> General Management Director	<b>13</b> <b>Mr.Wisit Wachiralappaition</b> Finance Director	

## 6

## General Information

<b>Name</b>	HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED
<b>Symbol</b>	HARN
<b>Registration No.</b>	0107557000217
<b>Stock Market</b>	Mai
<b>Industry Group</b>	Service
<b>Trading Start Date</b>	13 November 2014
<b>Par Price</b>	Baht 0.50
<b>Registered Capital</b>	Baht 292,250,000 (totaling 584,500,000 ordinary shares)
<b>Paid-up Capital</b>	Baht 292,250,000 (totaling 584,500,000 ordinary shares)
<b>Nature of Business</b>	import and distribution of products used in building engineering system, i.e. fire suppression system, air-conditioning system, sanitary system, refrigeration system and digital printing including the provision of consulting, designing services in projects and provision of engineering solutions complete.
<b>Head Office Location</b>	19/20-22 Soi Soonvijai, Rama 9 Road, Bang Kapi Subdistrict, Huai Khwang District, Bangkok 10310 <b>Tel.</b> +66 (2) 203-0868 <b>Fax.</b> +66 (2) 203-0245
<b>Soonvijai Warehouse Location</b>	503/1 , 509 Soi Soonvijai, Rama 9 Road, Bang Kapi Subdistrict, Huai Khwang District, Bangkok 10310 <b>Tel.</b> +66 (2) 719-7285, +66 (2) 716-9070 <b>Fax.</b> +66 (2) 318-8624
<b>Motorway Warehouse Location</b>	6, 8 Moo 15 Motorway Frontage Road, Sapan Sung Subdistrict, Sapan Sung District, Bangkok 10240 <b>Tel.</b> +66 (81) 914-2236, +66 (85) 480-2420
<b>Website</b>	www.harn.co.th
<b>Company Secretary</b>	Mrs. Varinkan Teraumranon Tel. +66 (2) 203-0868 E-mail : varinkan.t@harn.co.th
<b>Investor Relations</b>	Mr. Wirat Sukchai Tel. +66 (2) 203-0868 E-mail : wirat.s@harn.co.th
<b>The Most Responsible Person in Accounting and Finance</b>	Mr. Wisit Wachiralappaatoon Tel. +66 (2) 2203-0868, E-mail : wisit.w@harn.co.th
<b>Accounting Supervisor</b>	Miss Ananya Proyngoen Tel. +66 (2) 2203-0868, E-mail : ananya.p@harn.co.th
<b>Information of Subsidiary</b>	-None-

## Name and Address of Other References

<b>Securities Registrar</b>	The Stock Exchange of Thailand Building 93 Ratchadaphisek Road, Dindaeng Subdistrict, Dindaeng, Bangkok 10400 Thailand <b>Tel</b> : +66 (2) 009-9000 <b>Fax</b> : +66 (2) 009-9991 website : www.set.or.th/tsd
<b>Auditor</b>	Dharmniti Auditing Co.,Ltd 178 Dharmniti Building 6-7th Floor, Soi Permsap (Pracha Chuen 20), Pracha Chuen Road, Bangsue, Bangkok, 10800 Thailand <b>Tel</b> : +66 (2) 596-0500 <b>Fax</b> : +66 (2) 596-0539

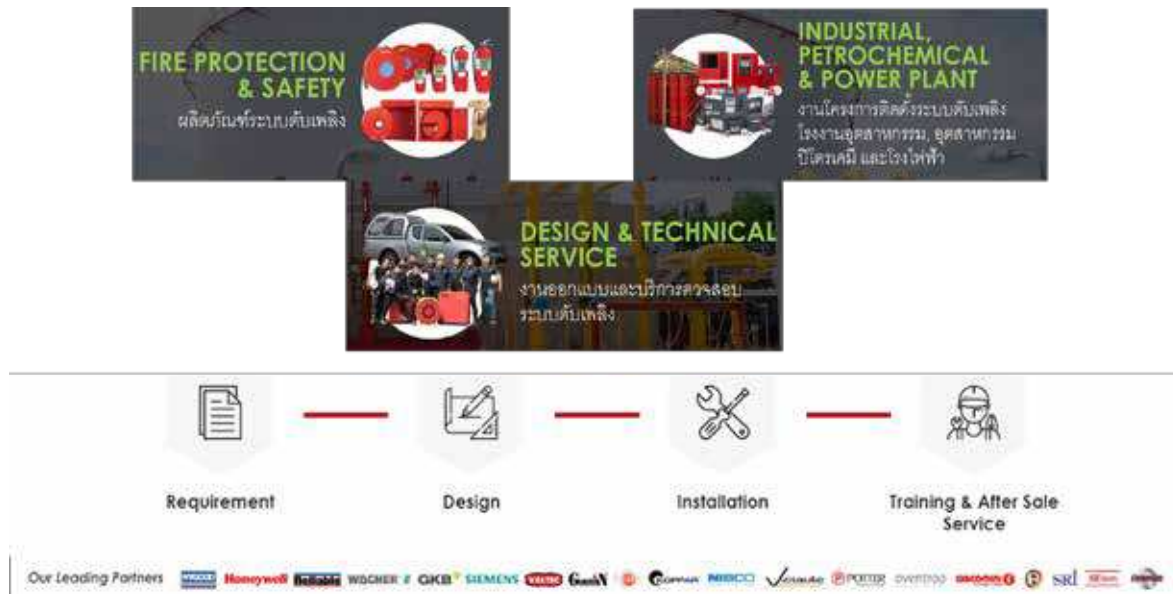
For more information, please see our Annual Registration Statement (Form 56-1) which is posted on The Office of the Securities and Exchange Commission's website at [www.sec.or.th](http://www.sec.or.th) or visit the Company's website at [www.harn.co.th](http://www.harn.co.th)

## 7 Nature of Business

### Description of Products and Services

The Company's products and services can be divided into four categories as follows:

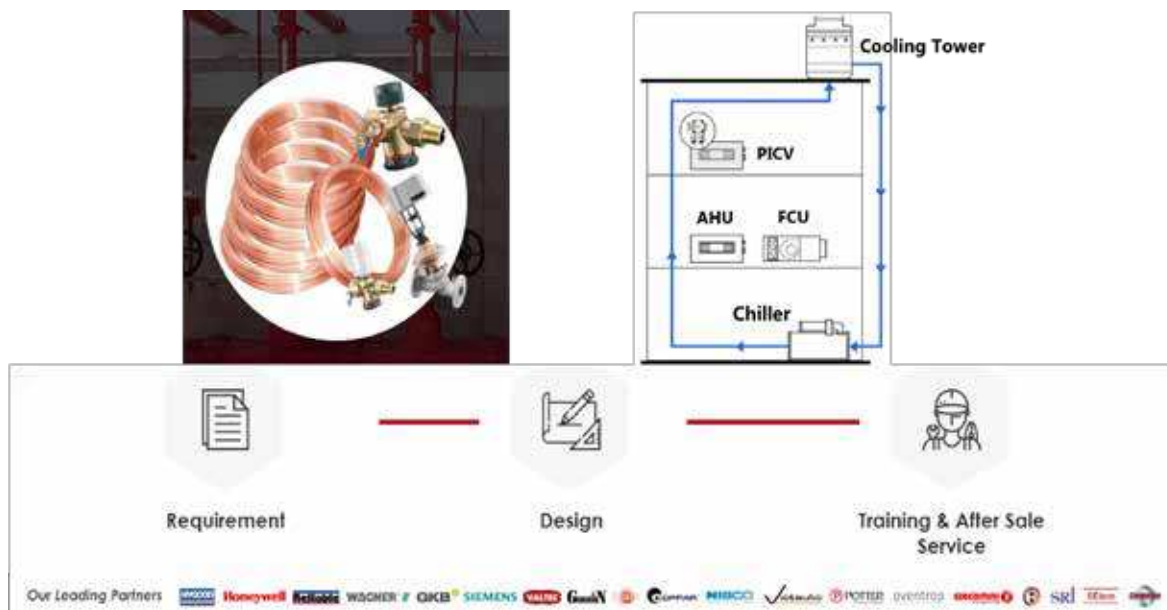
#### 1) Fire Protection & Safety



Fire suppression products are part of engineering systems of buildings, small and large factories, power plants, and petrochemical industrial plants, used for prevention, alarming and control of fire and smoke. The products distributed by the Company include valves and fittings that are erected in the fire protection system. Valve is a device used for starting or stopping the flow of water in the fire protection system and is fixed with a pipeline in such system. There are valve for controlling the flow of water, valve for starting or stopping the flow of water during repair and maintenance of the system, valve for preventing reversal of water, and so on. Equipment for fire protection system serves as a component or an auxiliary device applied jointly with the main equipment in order to allow for complete functioning of the fire protection system, including other firefighting devices such as fire hose cabinet, fire hose, fire extinguisher and sprinkler systems (fire sprinkler head), etc.

The Company also provides consulting, designing and installation services for all types of firefighting systems. It has a skillful engineering team to coordinate with customers, introduce the Company's products, and design and offer products and services to customers according to the international fire protection standards, as well as post-installation system test-run service.

## 2) Air-conditioning and sanitary products



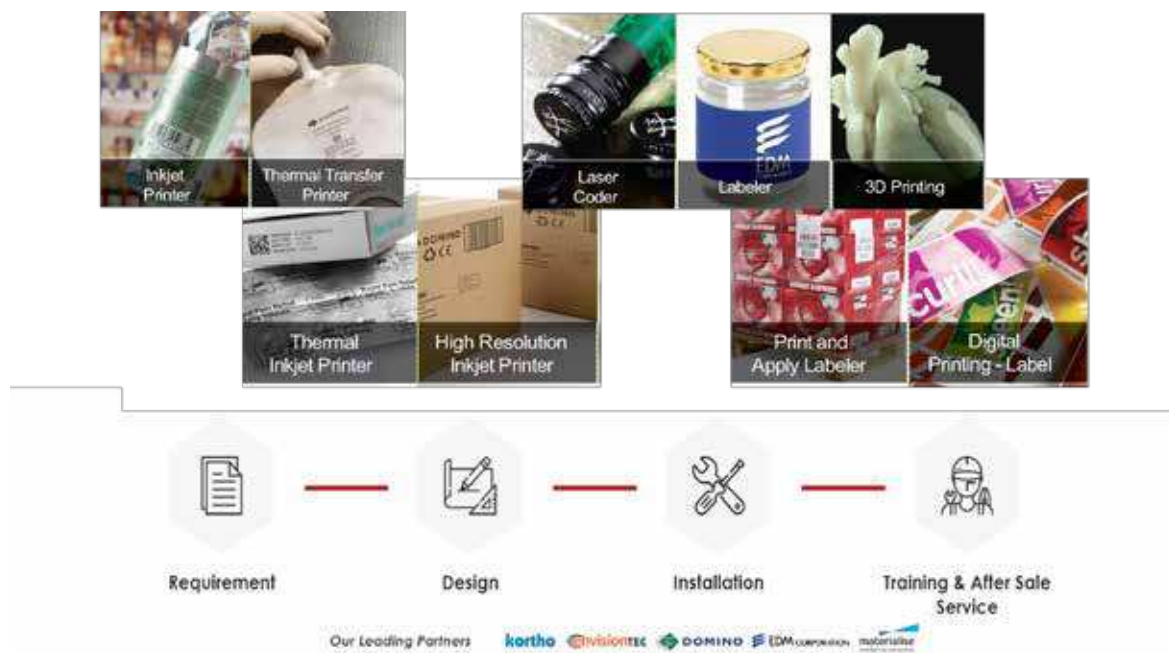
Air-conditioning products are devices incorporated to main water-based air-conditioning system of large buildings, used for controlling temperature and air quality at an appropriate level. Meanwhile, sanitary products in the building engineering system include water supply system, water drainage system, ventilation system, etc. The Company distributes products that are devices in air-conditioning and sanitary systems, such as valves which open and close to control and stabilize the flow of cold water to ensure efficient functioning of the air-conditioning system and the sanitary system and are fixed with a pipeline in such system. In the sanitary and air-conditioning system, there are also other major components or auxiliary devices such as copper tube, fitting, water pressure and temperature measurement unit, flow switch, etc.

## 3) Refrigeration products



Refrigeration products are equipment used in cold storage system or goods transport system for freezing or lowering the temperature of products that require a stable temperature control. In general, a cooling system can lower the temperature to between  $-30^{\circ}\text{C}$  and  $+25^{\circ}\text{C}$ . The Company offers a complete range of refrigeration products, as illustrated in the cooling system diagram, consisting of condenser, evaporator, defrost on demand (DOD) equipment, etc., including valve which is an important device in the refrigeration system used for starting or stopping the liquid flow and the cooling pressure. The Company has also designed and produced condensing units by integrating all equipment and cooling concepts into one product unit that can be used for prompt installation of a cold storage system or goods transport system.

#### 4) Digital printing products



- 4.1) Digital printing product group for printing of manufacture/expiry dates and lot number consists of machine for printing texts on packages, feeder, printing equipment, various types of supplies, etc. The Company's products are coding printers for printing manufacture/expiry dates and texts such as lot numbers as well as graphics, barcode, 2D Datamatrix, QR code, prize drawing code numbers on such surfaces as plastic bottle packaging, glass bottle, metal/aluminum can, paper box, glossy paper, plastic envelope, aluminum foil, plastic cup and others. It employs technologies such as inkless laser coding, non-contact inkjet printing, printing with ink ribbon, printing with ink cartridge, etc.
- 4.2) Digital printing product group for 3D printing, distributes and provides digital file printing service and packaging. For the Thailand 4.0 medical industry, i.e. conversion of MRI/CT scan file into 3D PDF file to have higher quality images that enable users to have comprehensive views of normal and abnormal spots and printing of organ model from MRI/CT scan which can well support medical analysis, research and development with digital technology.
- 4.3) Digital UV inkjet printing product group for printing of label stickers with digital technology to generate clear, sharp, bright-colored, superior quality texts and images with high speed and at lower cost for label sticker manufacturers.
- 4.4) After-sales services for all product groups distributed to end-users encompass advice and consultancy for selection of product specifications that meet requirements, installation of the machines, training, and repair and maintenance, as well as insurance, etc

## Products insurance

The Company insures the damages or defectives of products following the insurance conditions of the products that the Company distributes or installs for the customers for 1 year or 6 months for the machines and the spare parts, respectively. The products of the Company had been insured already by the suppliers for at least 1 year and 6 months as well.

For project sales, after completion of installation work, the Company insures the installed products under the conditions for 1 year where the suppliers also insure the products to the Company for 1 year as well.

## Quality and standard of the products

The Company emphasizes on the quality and the standard of the distributed products so that the customers can be confident in the quality and the safety of the products that follows the terms and conditions agreed upon with the Company. The products sold by the Company are mostly certified by the UL (Underwriters Laboratories)<sup>1</sup> and/or FM (Factory Mutual)<sup>2</sup> and/or BS (British Standard)<sup>3</sup> and/or TIS (Thai Industrial Standards)<sup>4</sup> and/or EN (European Standard). As for the Company's OEM, these are produced under BS or ASTM International, including all aspects of the Company's operation is certified by the ISO 9001:2015.

## Significant Changes and Developments

Harn Engineering Solutions Public Company Limited (previously known as Fire Victor Public Company Limited) was originally set up as a section of Harn Engineering Company Limited ("Harn"). Later on May 9, 2001, the Company was incorporated as a juristic entity named "Fire Victor Company Limited" ("FIRE" or "the Company") by Charnnarong Group<sup>5</sup> and Mr. Wirat Sukchai, former executive of Harn overseeing sales of valves and equipment for firefighting system, following a corporate restructuring from family business management to professional management. With an initial registered capital of Baht 1 million, the Company was established to engage in import and distribution of valves and equipment for fire protection system and valves and equipment for sanitary system and air-conditioning system, including fire protection system installation services. On February 21, 2003, July 24, 2006 and October 10, 2012, the Company increased its registered capital to Baht 3 million, Baht 4 million and Baht 65 million, respectively, for use as working capital in its business operation.

In 2003, the Company expanded its business by adding Project Sales Division to provide consultation, designing and installation services of all types of fire protection system such as automatic sprinkler system, foam fire protection, and fire suppression and alarm systems, all of which are to be carried out by a skillful, specialized engineering team, with focus on not so large projects, i.e. small- and medium-sized factories, and in 2005, the Company added carbon dioxide (CO<sub>2</sub>) extinguishing system and FM200<sup>6</sup> system into the Company's product line. In 2007, the Company received an Outstanding Distributor Award presented by NIBCO Inc., USA. The Company received ISO 9001 : 2015 certification from UKAS (United Kingdom Accreditation Service), a UK-based world-class certification body, with quality inspection and verification conducted by SGS (Thailand) Company Limited.

<sup>1</sup> Underwriters Laboratories (UL), safety standards by the Underwriters' Laboratories Inc. (UL), non-profit independent organization from the USA. Responsible in testing and prepares the safety standards and safety insurance of the products.

<sup>2</sup> Factory Mutual (FM), responsible in testing protective and fire extinguisher equipment of the insurance group in the USA.

<sup>3</sup> British Standard (BS), safety standards by the British Standard Institution (BSI)

<sup>4</sup> Thai Industrial Standards (TIS), industrial standards, products guaranteed by the Thai Industrial Standard Institute.

<sup>5</sup> The Charnnarong Group consisting of Mrs. Prayoonsri Charnnarong, Mrs. Sirima Iamsakulrut and Mr. Jain Charnnarong

<sup>6</sup> FM 200 firefighting system is a clean agent fire protection system with UL/FM standard certification for using substances that cause no harm to computers, electronics equipment and human beings, hence being safe for installation in server rooms, data centers and UPS rooms.

Important developments of the Company over the past five years can be summarized as follows:

2018	<ul style="list-style-type: none"> <li>• May 15, 2018, the Company signed a non-disclosure agreement and received an innovation fund for the creation of 3DMed replica of human organs by advanced 3D printing technology for research and effective medical treatment plan from National Innovation Agency (Public Organization).</li> <li>• November 6, 2018, the Company was certified as a member of the Private Sector Collective Action Coalition against Corruption in the quarter 3/2018 round.</li> </ul>
2017	<ul style="list-style-type: none"> <li>• March 21, 2017, the Company participated in the declaration as a member of the Private Sector Collective Action Coalition Against Corruption (CAC).</li> <li>• The Company supported International Packaging and Printing Exhibition for Asia (PACKPRINT INTERNATIONAL 2017) at Bangkok International Trade &amp; Exhibition Center (BITEC) during September 20-23, 2017 and received Certificate from Thai Printing Association, Thai Packaging Association, and Messe Dusseldorf Asia.</li> <li>• The Company participated in the innovation capability promotion scheme for innovative public organizations in the Stock Exchange of Thailand (SET) and Market for Alternative Investment (MAI) and earned Total Innovation Management Awards 2017 on October 6, 2017.</li> <li>• November 23, 2017, the Company received ISO 9001:2015 certification from SGS (Thailand) Ltd.</li> <li>• The Company won the Highest Revenue Growth in Asia-Pacific Awards 2016 from Domino Printing, a leading provider of printing solutions in the UK, for the third straight year for its digital printing business, and licensed as Domino's distributor in Thailand, Myanmar and Cambodia, with business value generated ranking the 4th in Asia following Japan, South Korea and Taiwan.</li> <li>• The Company was appointed as distributor of kitchen fire suppression system, i.e. Lehavot wet chemical system from Israel.</li> <li>• The Company was appointed as distributor of EVAPCO evaporative condensers from the USA.</li> <li>• The Company was appointed as distributor of DANFOSS refrigeration condensing units from Denmark.</li> </ul>
2016	<ul style="list-style-type: none"> <li>• November 1st 2016 the 1st Extraordinary Meeting of Shareholders is of the opinion to buy and receive the business transfer of Chillmatch Co., Ltd and its subsidiaries under the entire business transfer process and signing in all related contracts. To this, the Company paid for the business transfer with the Company's common stocks from the increased capitals of 234,500,000 stocks at the value of 0.50 Baht per stock. The value of increased capital in common stock was at 2.62 Baht per stock. The Company will issue the common stock for the capital increase at 234,500,000 stocks at 0.5 Baht per stock to the shareholders of Chillmatch Co., Ltd instead of paying with cash.</li> <li>• November 2, 2016 the listed company had changed the name from Fire Victor Public Company Limited to Harn Engineering Solutions Public Company Limited and changed the Company's assets abbreviation from "FIRE" to "HARN" in the Stock Exchange of Thailand (effective on the November 7, 2016) in order to support the entire business transfer of Chillmatch Co., Ltd. and its subsidiaries, following the resolution of the 1st Extraordinary Meeting of Shareholders.</li> </ul>

## 2015

- The Company was appointed as a distributor of SIEG gaseous fire suppression products, Kingdom of Spain.
- The Company expanded distribution its market to neighboring countries, such as Kingdom of Cambodia.
- The Company set up a project sales department for petrochemical products to increase distribution channels for full-scale fire protection systems in heavy industrial zones.
- The Company upgraded its ERP (Enterprise Resource Planning Application) with SAP in specific to manage its business processes by linking all sub systems into one, streamlining the processes, and producing timely and most accurate financial reports to enhance data analysis and decision making.

## 2014

- The Company was appointed as a distributor of balancing and control valves of OVENTROP, Federal Republic of Germany.
- March 19, 2014 the Annual General Meeting of Shareholders concluded that the Company will increase its registered capital from 65 million Baht to 130 million Baht by issuing 6,500,000 new common stocks at the value of 10 Baht per stock for the original shareholders at the rate of 1 original stock to 1 new stock at 10 Baht per stock. The money received from the capital increase will be used as cash flows from the business operation in which the Company had already registered for the capital increase to the Department of Business Development, Ministry of Commerce on the April 21, 2014.
- May 15, 2014 the 1st Extraordinary Meeting of Shareholders approved the change of the Company from company limited to public company limited and the increase of the registered capital of 130 million Baht to 175 million Baht by issuing 45,000,000 new common stocks at the value of 1 Baht per stock for initial public offering (IPO) together with enlisting the Company's stocks to the Market of Alternative Investments (MAI).
- May 22, 2014 the Company was listed as the public company limited under the name "Fire Victor Public Company Limited"
- September 19, 2014, 1st Extraordinary Meeting of Shareholders approved the change in the value of the Company from 1 Baht to 0.50 Baht per stock, which increases the registered capital stocks of the Company from 175,000,000 stocks to 350,000,000 stocks and approved the IPO after the change of the stocks' value, the amount had increased from 45,000,000 stocks to 90,000,000 stocks. The Company had registered the changing of the stocks' value to the Department of Business Development, Ministry of Commerce on the September 22, 2014.
- November 13, 2014, the Company became the listed company in the MAI and began trading with 350,000,000 registered stocks.

## 8

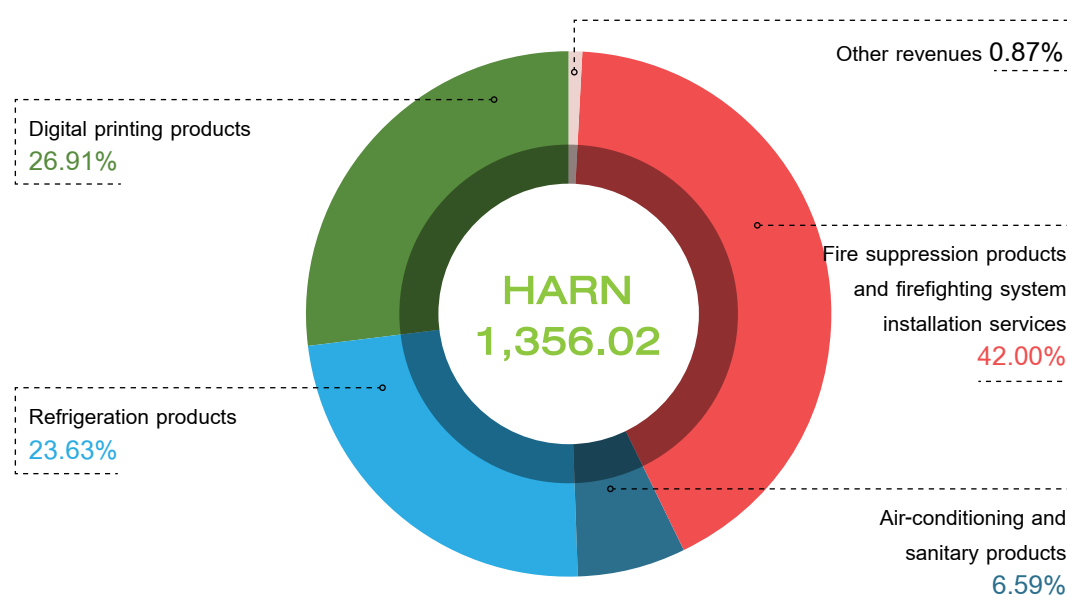
## The Company's revenue structure

Type of Revenue	2018 <sup>1)</sup>		2017		2016	
	MB	%	MB	%	MB	%
<b>Revenues from sales and services</b>						
1. Fire suppression products and firefighting system installation services	569.59	42.00	579.54	44.56	546.09	82.40
2. Air-conditioning and sanitary products	89.33	6.59	86.17	6.62	48.53	7.32
3. Refrigeration products	320.39	23.63	312.51	24.03	23.97	3.62
4. Digital printing products	364.96	26.91	307.74	23.66	26.93	4.06
<b>Total revenues from sales and services</b>	<b>1,344.26</b>	<b>99.13</b>	<b>1,285.96</b>	<b>98.87</b>	<b>645.52</b>	<b>97.40</b>
<b>Other revenues<sup>2)</sup></b>	<b>11.76</b>	<b>0.87</b>	<b>14.74</b>	<b>1.13</b>	<b>17.20</b>	<b>2.60</b>
<b>Total revenues</b>	<b>1,356.02</b>	<b>100.00</b>	<b>1,300.70</b>	<b>100.00</b>	<b>662.72</b>	<b>100.00</b>

Notes : <sup>1)</sup> Referring to Harn Engineering Solutions PCL.'s audited financial statements

<sup>2)</sup> Other income included gains/losses on investment in mutual funds and marketable securities, interest receivable, dividend income, and foreign exchange gains/losses, Including rental and service income from investment properties etc.

## Revenue Structure 2018



## 9

# Industry and Competition Overview

## 1. Industry Overview and Competition

The Company has engaged in import and distribution of Fire Suppression products Air-conditioning and Sanitary products, Refrigeration products, and Digital Printing products for industrial use, as well as provision of consulting, designing and installation services for fire protection systems in projects. Most of its products, which are relevant to building engineering such as fire protection, air-conditioning, sanitary and cooling systems and account for more than 50% of its total sales revenues, are supplied mainly to contractors of building construction projects, government sector projects or factory buildings, including office buildings, condominiums, hospitals, shopping malls, electric trains, industrial plants, cold storages, and so on. As such, the Company's business operation relates directly to the construction industry which grows in tandem with the country's economy, or gross domestic product (GDP), but is prone to more volatility. That is, when the economy begins to recover, construction of various properties will expand at a greater and more rapid pace, but in the wake of economic slowdown it will decelerate faster and in line with the permitted areas of construction in each year.

### Economic and industrial conditions in 2018 and economic outlook for 2019

Thai economic growth in 2018 was 4.2%, consistently improving from that of 3.9% and 3.3% in 2017 and 2016 respectively. Inflation in 2018 was expected at 1.1%. Current account surplus represented 6.4% of GDP, compared with the surplus of 11.0% of GDP in 2017. The economy in quarter 3 of 2018 expanded at a lower rate than that predicted mainly due to lower-than-targeted export growth, especially a 5.5% decline in export value in September 2018 principally as a result of (1) the US's announcement of upward adjustment of import tariff on Chinese goods, and (2) a drop in Thailand's car export to major markets owing to changes in car models and economic slowdown signals from such major importing countries.

The number of and income from foreign tourist inflows in 2018 expanded at the rates lower than the prediction. This was caused by the decline in the number of Chinese and European tourists by 8.8% and 1.5% following the tourist boat capsizing incident in July and FIFA World Cup tournament in Russia in June.

### Global economic outlook for 2019

Global economic growth in 2019 is forecast at 3.8%, slowing from that of 4.0% in the previous year in line with the world's major economies, particularly the US, China, Eurozone countries and Japan, thus pulling down economic growth of other developed and developing countries, especially the countries that depend heavily on exports.

### Thai economic outlook for 2019

Thai economic growth for 2019 is forecast to be in a range of 3.5-4.5%, or an average of 4.0%, which is a decelerating rate from the growth of 4.2% in 2018. Inflation is predicted to be around 0.7-1.7% and current account surplus 5.8% of GDP. Challenges still lie ahead in relation to global economic and financial volatility. However, Thai economy is still predicted to expand as targeted driven by improvement of domestic demand in respect of household spending, private sector investment, and public sector investment, in conjunction with the improving tourism and the shifting international trade and manufacturing belt. This will accordingly offset the impact from the forecasted global economic slowdown and the elevation of trade protectionism measures which would cause the growth of Thai economy and export in 2019 to gradually slow from that in the foregoing year

**Relevant factors to be closely monitored and assessed**

Household spending tends to expand favorably which should support further economic growth of the country. Household spending in 2018 recorded a high rate of expansion as accelerated gradually from 3.7% in quarter 1 to 4.5% and 5.0% in quarter 2 and quarter 3 respectively. This was in line with the expansion of revenues base in the economic system as contributed by the earlier improvement in revenues from tourism, export and industrial sectors, coupled with the improved revenues base of the agricultural and job employment sectors with the employed workforce in the industrial sectors rising by 7.1%, the highest in 63 months.

The expansion of private sector investment has tended to improve gradually and consistently as stimulated by (1) the increase in capacity utilization rate in 2018, the average of which was 68.5% in the first 9 months and with a rising trend toward 2019 in line with industrial manufacturing expansion especially in the sectors with capacity utilization rate of as high as 75.08%. \*In quarter 3 of 2018, the sectors with capacity utilization rate of more than 75% comprised plastic and rubber (97.4%), automotive (90.6%), petroleum products (85.9%), meat preservation and processing (81.6%), electronics equipment (78.7%), and computers and peripherals (78.0%), particularly those which are export-oriented, (2) the progress of public investment projects, which started to clearly drive expansion of private sector investment as evident from investment in construction sector in quarter 3 of 2018, and (3) the relocation of manufacturing and investment bases of foreign companies supported by the increase in international trade protectionism between major global economies.

Moreover, there was an increased driving force relating to tourism in the latter half and the entire year of 2018 in term of both the tightening of safety measures for tourists and implementation of additional tourism stimulus measures in Chinese market and markets elsewhere.

Export has tended to expand at a satisfactory rate in 2019 which will be conducive to the continued growth of the economy, despite at a declining rate from that in 2018 in tandem with the slowing economy of Thailand's major trade counterparts, the US and China in particular. The year 2019 is anticipated to see global economy and trade expand by 3.8% and 3.8% respectively, which should be able to sustain Thailand's continued export growth.

With the shifting direction of global trade, manufacturing and investment, goods and manufacturing sectors that are seen to benefit from such shifting of international trade and manufacturing belt, i.e. export, capacity utilization and relocation of production bases, are meat processing, animal feeds and raw materials, computers and parts, and auto parts. Major target destinations are ASEAN countries, India, Mexico and Bangladesh.

Source : Excerpt from article of Office of the National Economic and Social Development Board

**Fire Extinguisher, Air-conditioning and Sanitary Equipment Business**

Market conditions of fire extinguishing and air-conditioning business has remained steady. Major customers who are contractors mostly have in hand condominium projects in Bangkok and Greater Bangkok. Condominium projects, particularly those along the mass rapid transit networks and inner Bangkok are still popular among consumers. Demand from industrial manufacturing sectors has begun to recover. Meanwhile, public sector investment projects are under implementation phases. Delivery of public project work is expected to start from 2019 onward in a gradually increasing volume. Property development business in Bangkok and Greater Bangkok still have good prospects with gradual launches of new projects and increasing focus on middle- to high-end markets. However, there may be certain negative factors like the rising trend of interest rates and the tightened loan underwriting criteria as well as minimum down payment measure imposed by the Bank of Thailand requiring second-home buyers and buyers of home priced higher than 10 million baht to make down payment of at least 20% of the home price.

**Industrial Factories Fire Extinguisher :** Sales of industrial factory fire extinguishers in 2018 brought in an increase in gross profit from the previous year with continued delivery to be made for several large scale projects. Air-conditioning products such as controlling valves recorded good progress in market making. Copper tube sales in 2018 expanded year-on-year with continued rising trend in 2019. The past year also saw the Company start to level up its after sale services with good prospects ahead and expected to help boost its sales afterward.

**Air Conditioning System and Fire Extinguisher Equipment :** For project installation sales in 2018, there were a number of projects under installation. The Company also had an additional number of projects in pipeline. Sales of fire extinguishing system in 2018 were outstanding with of projects now under installation process and a large number of big projects waiting for installation and delivery in 2019. Sales of fire extinguishing system are expected to continue expanding. There was keen competition in the market for highly sensitive fire alarm and smoke detection system in several projects. Fire extinguishing system testing service also grew considerably in the past year from the installation projects, which were likely to expand every year.

**Extinguisher System for Petrochemical and Power Plant Projects :** The Company's Petrochemical and Power Plant Project Department had a number of projects under installation, and followed up certain large projects for which bidding would start in 2019. There are growth prospects for these projects in 2019 attributable to further expansion of petrochemical plants and improvement of fire extinguishing equipment.

### Refrigeration System Business

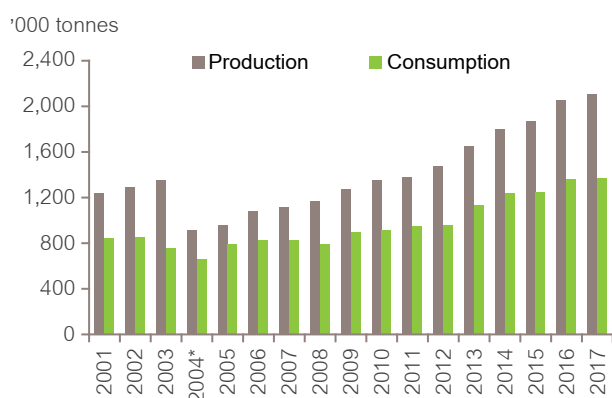
Market conditions for refrigeration system equipment expanded only slightly with fierce competition among players as a result from the overall domestic economic conditions, decline in purchasing power, and not so many capacity expansion plans from industrial entrepreneurs.

However, there are certain industrial sectors that have future growth prospects comprising :

#### 1. Frozen and processed chicken sector

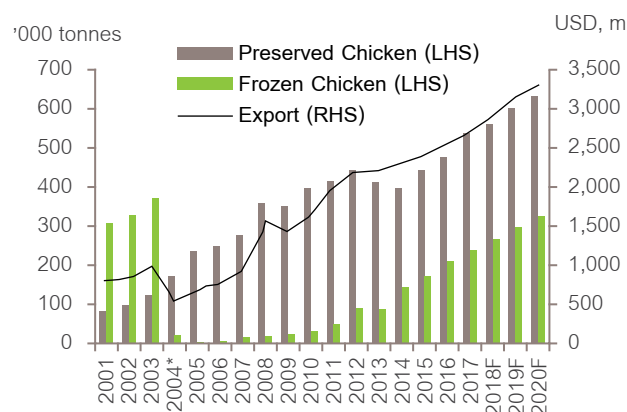
Thailand's frozen and processed chicken industry in 2018-2020 has tended to grow in line with increasing demand for consumption in export markets with accelerated growth driven by 1) trade counterpart countries' gradual lifting of bans on import of Thai frozen chicken, 2) expansion of new export markets for Thai products in Asia and the Middle East, and 3) the spreading of bird flu epidemic in several countries, hence an opportunity for Thailand to grow its export of frozen and processed chicken.

Figure 3 : Thai Chicken Product and Consumption



Note : \*Bird flu outbreak in Thailand  
Source : Office of Agricultural Economics (QAE)

Figure 10 : Forecast Thai Chicken Exports



Note : \*Bird flu outbreak in Thailand  
Source : Ministry of Commerce (MOC)

## 2. Retailing business

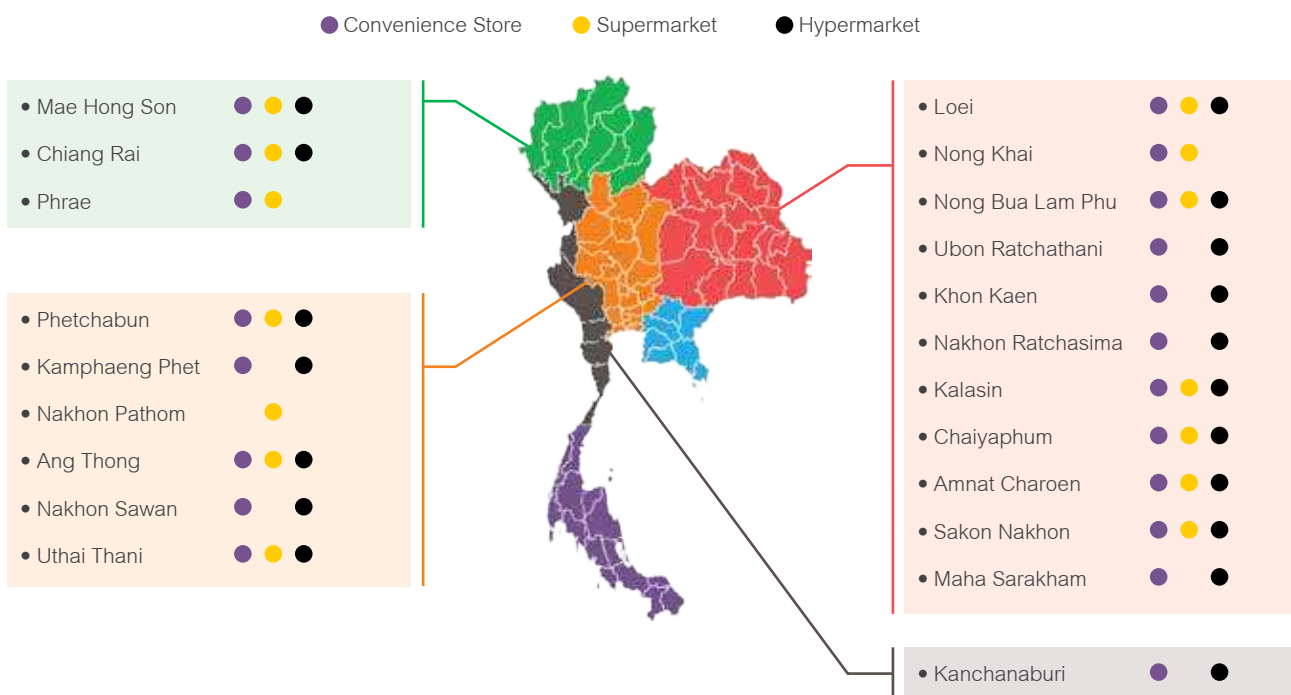
**Modern trade retailing** : There have been continued growth prospects during 2018-2020 as stimulated by improvement of purchasing power in tandem with Thai economic recovery, tourism expansion, and urbanization.

Consistent branch expansion of entrepreneurs: To expand customer base in both Bangkok and principal provinces to accommodate business opportunities following the urbanization to suburban areas. Entrepreneurs have gradually expanded online trade channels to boost proportion of income from e-commerce business which has accelerated growing trend. However, competition has also been intensifying.

**Discount store / Hypermarket / Supercenter** : Revenues are expected to grow slightly higher at 2-4% per year. Price competition has still been keen especially with other retail businesses including new foreign ones having planned to join the playing field. However, as an oligopoly market and with expanding customer base from business growth, this business still has bright prospects.

**Supermarket** : This business in overall has continued growth potential and should expand by 8.5-9.5% per year attributable to strong purchasing power of middle- to high-end segment. The supermarket model and product quality strength as well as advantage in term of size and branch coverage in large communities can well respond to niche market demand. Thus, continued profitability is expected for this business.

**Convenience store / Minimart** : Sales in overall are predicted to grow by 3.0-4.0% per year following expansion of branches to cover small communities, residential units along the mass rapid transit lines, and newly opened shopping centers coupled with the changing consumer behaviors toward preference for greater convenience with accessible nearby shops. However, competition has been on the rise due to direct competitors' opening of branches in the same areas, hence congested with shops, and such indirect competitors as supermarkets which vie in form of mini supermarkets for new customer base, resulting in narrowing market making area for each branch and accordingly pulling down income per branch to lower than that in the past. Convenience stores that are franchisors can still bring in profit while those in general have to bear business risks.



Most of the areas with potential for branch expansion are in Northeastern and Central regions. Source: Analysis by EIC from data of SES and NESDB

## Digital Printing Business

The main target groups of the Company's digital printing products are industrial factories and end-users. Printing on packages is one of the crucial steps in manufacturing process of industrial plants, encompassing the printing of Date of manufacture / expiration or lot numbers or texts on products and packages before distribution. The target customers also include newly opened factories, factories with production line expansion, and factories needing to replace the existing system and products that have depreciated according to their useful life. The Company currently sells digital printing products to a broad variety of industries since there is demand for such products in all industry sectors. The industries that are major end-users of its products are food and beverages, consumer products, construction, electrical appliances and electronics, etc. Hence, the trend of digital printing products relates closely to the private sector investment index and the industrial factory construction value, which could mirror the overall situation of all industries.

## 2. Competition

**Importing and distributing fire extinguisher products** has medium level of competition from existing competitors. This is because the products are concerned with safety; therefore the equipment must be of good quality with certified international standards and reliable distributors. The core competitors of the Company are companies that distributes the products from overseas in which the numbers are not very high due to limited recognition of the brands at the global level. Also, most of the producers have the policy of dealing with only one distributor, or appoint few representatives in order to prevent inside competitions between the distributors. However, there are about 4-5 direct competitor who imports fire extinguisher products for the buildings and factories market. In some cases of the business operation, the competitors may become the trade partners in buying products from the Company as well. When considering the market share of the Company by comparing with the revenue of the 3 main competitors who holds approximately 80% of the market share, the Company owns about 25% of the market share. Our fire protection product sales presumably occupies 10% of total industrial market share of fire protection products in general.

**Servicing contract projects, designing, supplying, installing and testing the fire extinguisher system** has few competitors. This is because installing the fire extinguisher system requires specialize skills of design engineer. The main competitors are the group that distributes and contract the fire engineering projects. This business still has the potential to grow since the government had issued the stricter law to prevent fire including the renovation of buildings and factories in accordance with the Thailand Building Control Act B.E. 2535 (1992), resulting in higher demands for goods and services relating to the fire extinguisher system.

**Importing and distributing products for sanitary and air conditioning system** have fierce competition. However, due to the large market size and the large diversity of the Company's products as well as product acceptance by customers, continued growth is anticipated with greater distribution channels to the customers. The Company has the advantage of selling various products that are well known in the market and can reach both general customers and contractors equally.

**Importing and distributing products for refrigeration system** in 2018 had faced high level of competition following the growth of the food, food processing and frozen food industries, since Thailand still remains to be the country with high food producing capacity from the fundamental basis of agriculture and fishing and with advance technology under the international standards. The relating businesses that had been growing together are convenience stores which have expanded only slightly. Entrepreneurs still have preference for small sized shops like convenience stores. Meanwhile, such large sized ones as hypermarkets have increasingly been pressured by limited space, and supermarkets have recorded lower sales per square meter. Moreover, several retail business operators have started to adopt the omni-

channel strategy, i.e. developing online channel in conjunction with their physical shops. They have also developed new business models and applied technology to create product differentiation and enhance competitiveness of modern consumer product retailing businesses looking forward. The number of convenience stores and supermarkets in 2018 is expected to increase by 10% and 7% respectively. The existing major players are 7-Eleven, Family Mart, Tesco Express, etc., and the new ones such as CJ Express, which currently has more than 250 branches and expected to increase to 600 branches by 2020.

There are opportunities for business expansion due to the supporting factors from entering the AEC, which will create regional trade and investment connections, and also follows by the connection between the supply chains, for example, convenience stores in Myanmar which had been growing rapidly in the past 4-5 years since some brands had already been expanded by investors from the modern trade market such as the supermarket and the hypermarket within the country while some other brands had joint ventures with foreign investors such as Singapore, Thailand and Malaysia.

Encourage new trading routes for the transportation of goods, for example, transporting fruits and vegetables from China to Thailand through the R3A in Chiang Rai and all the way to Talad Thai and Iyara Market which will help the growth of the food business, restaurants and the storage and transportation business that has controlled temperature as well.

As for the fishing industry, problems have prevailed regarding illegal fishing and lack of reporting and control, which are legacy problems, and relating to fishing labor shortage problems. Moreover, with the significantly stronger baht, revenues in baht of seafood exporters have contracted. Any further investment to expand the business has thus been made prudently and with focus on control of expenses.

**Importing and distributing digital printing system** has seen medium level of competition. This is because the customers emphasize more on good after sales services and the readiness of after sales staffs, inventories, and spare parts that the customers need to use regularly. Most of the goods sold are well known brand with high quality and had been appointed to solely be the distributor. The revenue structure can be divided into 3 categories; 1) The revenue from selling the machines 2) The revenue from selling supplies 3) Revenue from spare parts, services and servicing contracts. The main competitors are companies that are the distributors of the products from foreign countries which there are not many since the brands that are accepted worldwide are very limited. Therefore, the customers in the medium and large size factories will mainly choose the brands with the international standards. When comparing the revenue of the digital printing business with 4 other competitors for the total of 5 companies, it is discovered that the Company's market share is among the top 3 in the market with approximately 24.12% market share (Source: Department of Business Development, sales in 2017).

### 3. Environmental Impacts

- None -

### 4. Undelivered Works

As of December 31, 2018, there were backlog order total about 491.36 million baht, comprising the installation works of fire protection system, e.g. Installation of fire extinguishing system for gas, installation of fire extinguishing system for power plant, installation of sprinkler, system foam fire protection system and petrochemical system total about 147.50 million baht and the value of the product in the sales of Fire Suppression products and Air-conditioning products total about 158 million baht, Refrigeration products total about 121.60 million baht and Digital Printing products total about 64.26 million baht. PO have been awarded by customers and wait to be delivered in 2019.

# 10 Risk Factors

## Risk Factors

The Company determines to continuously develop its Risk Management for realizing its business risk complexity and severity from both internal and external factors. In order to ensure sustainable development, it is essential to lay down solid foundation of risk management that will sufficiently prevent and reduce our exposure from the variation of risk factors. The Company has adopted Risk & Control Self-Assessment (RCSA) to help us analyze the risk factors and identify dominant ones. So on to come up with measures that will not only soften the impact but also prevent them to happen. We have also identified risk indicators to monitor as well as those who are responsible for each individual measure in order to ensure that our business will reach its goals in the direction we have set forth. Our risks can be illustrated as the followings:

## Operation Risks

### 1. Exchange rate risk

The products distributed by the Company are mainly imported from abroad. Its import volume in 2017 and 2018 made up 80.24% and 89.15% of total volume of product procurement respectively. Price offer and payment for products are primarily denominated in US dollar, Pond Sterling and Euro currency totally 95.16% and 98.98% respectively of the foreign purchase volume, while the products are almost entirely for local distribution in Thai baht. In some cases, the Company is unable to promptly adjust product prices upward in line with the rising cost and is thus vulnerable to foreign exchange fluctuation, which will further affect its costs of products and gross profits.

Well aware of such impact, with the exchange rate management policy as the follow :

- The Company has executed forward contracts with financial institutions to provide hedging against such risk. The contract value covers all existing foreign trade account payables.
- The Company will consider buying foreign currency in advance according to the total sums of the invoice for each purchase and also continuously monitor the trend in the change of the currency for the purpose of evaluation and to manage the risks from the exchange rate closely.

In 2017 and 2018, the Company bought foreign currency in advance totaling Baht 502.00 million and Baht 637.24 million, or 75.80% and 85.64% of its import volume. Furthermore, the Company managed its exchange rate risk by always keeping abreast of foreign exchange movement, resulting in only minimal risk exposure as can be seen from its exchange risk management outcome. In 2017 and 2018 which recorded foreign exchange gains of Baht 5.05 million and Baht 2.40 million, respectively. The Company assessed the risk control at a satisfactory level.

In addition, if foreign exchange rates change to the level that leads to sharp increase in its cost, the Company will revise its selling prices based on market conditions with prior notice thereof to its customers. The Company also keeps a stock of products to accommodate product distribution in advance. Therefore, foreign exchange volatility does not have any significant impact on the revenues and costs of the Company.

## 2. Risk from loss of distributorship status

The Company is a distributor of Fire Suppression products Air-conditioning and Sanitary products, Refrigeration products, and Digital Printing products with a diverse range of products under world-class brands. The top three brands with highest sales volume altogether made up about 28.00% and 20.00% of its total sales in 2017 and 2018 respectively. As such, a loss of its distributorship right to the significant brands could affect its sales.

Having distributorship authorization is highly essential to the Company's business. There are two types of distribution authorization, i.e. with expiration and without expiration. However, for most of the brands distributed by the Company, it has not yet officially entered into distributorship contract with the brand owners. The Company is thus exposed to risk if its distributorship is revoked or its distributorship contract has been terminated under whatever circumstances, for example, trade partner entering joint venture with another company or trade partner discontinuing business, etc. In whichever case, there may be negative impact on the Company's sales. Since 2011, the Company's brands had never been revoked since being authorized as the distributor. However, in view of our experience in this business and longstanding relationship with brand owners, its distribution coverage of over 60 brands, good service quality, and good relationship with customers, as well as a large customer base of over 2,500 customers, the Company is confident that if it loses distribution authorization of any brand, it will be able to secure alternative brand to satisfy the market demand. In 2018, the company was appointed as a distributor of one additional brands. The Company has also developed its house brands for some product items to mitigate risk of dependence on other brands.

In addition, throughout the past years, the Company has honored all trade terms and conditions as agreed upon and as trusted for being distributor of the respective brands. This can be witnessed from its continuously rising growth of sales. Coupled with its efficient distribution channels, a strong sales team and distributorship of brands that allows it to achieve ongoing growth of sales, the Company is confident that brand owners will continue to assign the Company as their distributor through the years ahead. The Company assessed the risk control at a satisfactory level.

## 3. Risk from brand owners implementing marketing by themselves

If a foreign brand owner wishes to operate business in Thailand without dependence on the Company, the Company could risk losing its distribution authorization for any such brand and may otherwise have to compete with that brand owner.

Nonetheless, the Company believes that there is a slim chance for such risk to occur, considering that it is not worthwhile for the brand owner to make such investment and implement the marketing by itself. In the distribution of valves and equipment for fire protection system, air-conditioning system and sanitary system, Refrigeration system, and Digital Printing system, the distributor must be able to offer a broad variety of products and comprehensive solutions to satisfy customers' requirements. Customers prefer convenience in ordering products from the distributor who has all products to completely serve their needs. Over the past years, some brand owners from abroad assigned their subsidiaries to directly operate on their behalf, but they failed, so they have switched back to the original distribution method through distributors. The Company assessed the risk control at a satisfactory level

#### 4. Human Resource Risk involves the lack of man power as well as the lack of competency to support the realization of our vision

The Company is aware of the adequacy of manpower which corresponds to the strategic expansion. HARN manages the risk through the following measures:

- The Company has reviewed its organization structure and required human resource plan.
- We have improved our recruiting effectiveness by enhancing the recruiting channels.
- We have identified human resource development plan according to our vision and mission as well as to constantly communicate among executives to ensure successors as needed. All along, we have stimulated our staff and management of the future goals and so they can accelerate self-development.
- Personnel retention through the organization of activities to continually strengthen cordial relationships between employees and HARN, such as New Employee Orientation, Annual Company Tour, New Year's Party and Family Day & Sports Day activities, with an Employee Opinion Survey undertaken annually to use the results and other recommendations for the improvement of work processes and work environment..

By the year 2018, the evaluation was 68%, compared with 81% in 2017, down from 13% in 2017. The company has analyzed the causes of the top-ranked decline including the internal communication difficulties, leadership and work environment and as well facilities which the company has assigned the relevant department to make a revised plan in 2019.

In 2018, the resignation of employees decreased from 12.40% in 2017 to 9.7%, and the rate of recruitment to fill the vacancies was 14.80%, which was lower than the set target due to the recruiting position is the sales position together with the line of recruitment in digital technology products making it difficult to find applicants who meet the requirements. Hence the company has looked back to the compensation structure by comparing the remuneration in the labor market at the same level.

However in 2019 the Company will put great emphasis on the progress of HR Master Plan.

#### 5. Risk from impairment of goodwill

The Company has to record goodwill from a fair value of the consideration for the purchase and acceptance of entire business transfer of net assets of Chillmatch Co., Ltd. and its subsidiary, which is higher than a fair value of Chillmatch Co., Ltd. and its subsidiary as of the date of issuance of new ordinary shares as a consideration for the said entire business transfer. In this respect, the Executive of Company will conduct an impairment test in every year and set aside an allowance for impairment loss (if any). The Company may therefore be exposed to risk in case the auditor considers that the goodwill is impaired and such impairment will then affect its income statement with regard to net profit, equity and debt to equity ratio as a whole according to the value in use.

The management conducted the impairment test of goodwill. The goodwill derived from the entire business transfer of Chillmatch Co., Ltd. and its subsidiary QIIS Co., Ltd. The management estimated the expected free cash flow “sometimes called realizable value” of the two business units. Those cash flow are consisted of forecasted sales, cost of goods sold, selling and administrative expenses (depreciation and amortization excluded), income tax, capital budgeting and also the changes in relevant working capital such as accounts receivable, inventory and accounts payable. Those annually free cash flows were discounted into present value to determine the net realizable value. The discount rate used is a pre-tax rate that reflects the specific risk of the Company.

The management’ free cash flow valuation based on reasonably business assumptions and most likely possibility according to the current economic circumstances. As the result the realizable value is greater than the carrying amount of the goodwill and customer relationship. Therefore, there is no indication of impairment of goodwill and other intangible asset obtained for the entire business transfer as of December 31, 2018. Likewise the overall process complied the financial reporting standards was audit by the certified public accountant.

## 6. Risk from corruption

The company is a distributor of valve products, fire extinguishing equipment, sanitary system, air conditioning system, cooling system and digital printing systems which imported from abroad and distributed to private and government sectors. In accordance to these processes may cause corruption just in case the company operates inaccurately such as importing goods, customs clearance or bidding further to offering high-value projects. Moreover, the internal processes which may be caused by neglect of non-compliance with the work practices of staffs such as procurement, control of goods or assets, disbursement of various expenses which forms of corruption may be caused by venality paying or being called to pay from government officials and as well disbursement of improper expenses or incorrect accounting records.

The company has established a Risk Management Committee to assess, analyze and determine to manage business risks including corruption both at the organization and operation levels. In regards to provide an internal control system and audited from efficient auditors externally including to internal quality monitor according to ISO 9001: 2015 quality standards

The Company joined the Thai Private Sector Collective Action Coalition against Corruption (CAC) on November 5, 2018 to demonstrate its commitment to anti-corruption in all forms including the establishment of anti-corruption policies and guidelines communicated to the Board of Directors, executives, staffs at all levels and all relevant stakeholders to be acknowledged in the specified channels and report to the Board of Directors on a quarterly basis.

Provide complaints channels and reporting clues; the company assesses this risk control at a satisfactory level.

## 11

## Shareholder structure

The Company has a registered and paid-up capital of Baht 292,250,000 divided into 584,500,000 ordinary shares with a par value of Baht 0.50 per share.

Major shareholders of the Company as of December 31, 2018 are as follows:

	No. of shareholders	No. of Shares held	%	Juristic person			Individual person		
				No. of shareholders	No. of shares held	%	No. of shareholders	No. of shares held	%
Thai shareholders	2,110	510,583,525	87.35	8	1,796,253	0.31	2,102	508,787,272	87.04
Foreign shareholders	2	73,916,475	12.65	1	73,316,475	12.55	1	600,000	0.10
<b>Total</b>	<b>2,112</b>	<b>584,500,000</b>	<b>100.00</b>	<b>9</b>	<b>75,112,728</b>	<b>12.86</b>	<b>2,103</b>	<b>509,387,272</b>	<b>87.14</b>

The Company has not yet invested in associated companies or other subsidiaries.

Major shareholders of the Company as of December 31, 2018 are as follows:

No	Names of shareholders		No. of shares held	% of total shares
1	Mr. Wirat	Sukchai	87,981,135	15.052
2	Nice Noble Limited		73,316,475	12.543
3	Mrs. Sirima	Iamsakulrat	72,649,151	12.429
4	Mr. Jain	Charnnarong	72,319,130	12.373
5	Mr. Wasan	Nantakwang	28,440,000	4.866
6	Ms. Nopporn	Charnnarong	26,407,444	4.518
7	Mr. Chaiwat	Taepaisitpong	21,604,000	3.696
8	Mr. Thammanoon	Tripetchr	21,159,399	3.620
9	Ms. Panatda	Thongliam	14,832,149	2.538
10	Mrs. Nopparat	Sukchai	13,000,000	2.224
11	Mr. Pracha	Phromphornchai	11,311,315	1.935
12	Miss Winyoo	Nana	10,621,500	1.817
13	Mrs. Valeeratn	Chuerboonchai	8,276,986	1.416
14	Miss Tarada	Tripetchr	7,504,024	1.284
15	Miss Urairat	Hanthaweepat	6,841,852	1.171
16	Mr. Parkphum	Wongpaitoon	4,230,325	0.724
17	Mr. Thanasak	Treenuson	3,441,700	0.589
18	Mr. Rattanaphan	Mukhariwattananon	3,306,864	0.566

Shareholding information board of directors and executives, including related parties and persons with relationship as of December 31, 2018

No	Names of shareholders		No. of shares held	% of total shares
Board of Director				
1.	Mr. Thakol	Nunthirapakorn (1) <sup>/</sup>	-	-
2.	Mr. Sothitorn	Mallikamas (1) <sup>/</sup>	-	-
3.	Miss Voranuch	Supaibulpipat (1) <sup>/</sup>	-	-
4.	Mr. Supot	Tiarawut (1) <sup>/</sup>	-	-
5.	Mr. Wirat Sukchai Group (2)			
	5.1 Mr. Wirat	Sukchai	87,981,135	15.052
	5.2 Mrs. Nopparat	Sukchai (spouse)	13,000,000	2.224
6.	Mr. Wasan	Nantakhwang (1)	28,440,000	4.866
7.	Mr. Thammanoon Tripetchr Group (2)			
	7.1 Mr. Thammanoon	Tripetchr	21,159,399	3.620
	7.2 Miss Tarada	Tripetchr (daughter)	7,504,024	1.284
8.	Mr. Jain Charnnarong Group (3)			
	8.1 Mr. Jain	Charnnarong	72,319,130	12.373
	8.2 Mr. Harn	Charnnarong (father)	1,000,000	0.171
	8.2 Mrs. Prayoonsri	Charnnarong (mother)	733,900	0.126
9.	Mrs. Sirima	Iamsakulrat (1)	72,649,151	12.429
10.	Mr. Parkphum Wongpaitoon Group (3)			
	10.1 Mr. Parkphum	Wongpaitoon	4,230,325	0.724
	10.2 Mrs. Thiamjan	Wongpaitoon (spouse)	21,500	0.004
	10.3 Mr. Pheem	Wongpaitoon (son)	890,000	0.152
11.	Mrs. Valeeratn Chuerboonchai (3)			
	11.1 Mrs. Valeeratn	Chuerboonchai	8,276,986	1.416
	11.2 Mr. Thanit	Sajjaritanun (son)	247,200	0.042
	11.3 Miss Suthida	Sajjaritanun (daughter)	40,000	0.007

Note : \* Independent Director

Executives				
1.	Mr. Pracha Phromphornchai Group (2)			
	1.1 Mr. Pracha	Phromphornchai	11,311,315	1.935
	1.2 Miss Sukanya	Limkhamsuk (spouse)	200,000	0.034
2.	Mr. Rattanaphan Mukhariwattananon Group (2)			
	2.1 Mr. Rattanaphan	Mukhariwattananon	3,306,864	0.566
	2.2 Mrs. Rabeab	Mukhariwattananon (mother)	140,000	0.024
3.	Mr. Suchat	Suwatnodom (1)	443,604	0.076
4.	Mr. Nuntawat	Jeerakhom (1)	65,986	0.011
5.	Mr. Sukit	Litikorn (1)	276,776	0.047

6.	Mr. Withoon	Thamee (1)	419,571	0.072
7.	Mr. Pongsawat	Penglengpol (1)	32,300	0.005
8.	Mr. Chatraapichai	Earanekkulchai (1)	-	-
9.	Mrs. Varinkan	Teraumranon (1)	949,823	0.163
10.	Mr. Wisit	Wachiralappaitoon (1)	223,867	0.038

Table summarizing change in shareholding proportion of the Board of Directors and top executives of the Company as of December 31, 2018:

No.	Names of directors/executives		At Date		Increase (Decrease)
			December 31, 2018	December 31, 2017	
Board of Director					
1.	Mr. Thakol	Nunthirapakorn <sup>/1</sup>	-	-	
2.	Mr. Sothitorn	Mallikamas <sup>/1</sup>	-	-	-
3.	Miss Voranuch	Supaibulpipat <sup>/1</sup>	-	-	-
4.	Mr. Supot	Tiarawut <sup>/1</sup>	-	-	-
5.	Mr. Wirat	Sukchai	87,981,135	87,697,361	283,774
6.	Mr. Wasan	Nantakhwang	28,440,000	28,440,000	-
7.	Mr. Thammanoon	Tripetchr	21,159,399	20,967,423	191,976
8.	Mr. Jain	Charnnarong	72,319,130	68,515,420	3,803,710
9.	Mrs. Sirima	Iamsakulrat	72,649,151	68,845,441	3,803,710
10.	Mr. Parkphum	Wongpaitoon	4,230,325	4,230,325	-
11.	Mrs. Valeeratn	Chuerboonchai	8,276,986	8,276,986	-

Note : <sup>/1</sup> Independent Director

Top Executives					
1.	Mr. Pracha	Phromphornchai	11,311,315	11,241,584	69,731
2.	Mr. Rattanaphan	Mukhariwattananon	3,306,864	3,236,849	70,015
3.	Mr. Suchat	Suwatnodom	443,604	567,967	(124,363)
4.	Mr. Nuntawat	Jeerakhom	65,986	30,526	35,460
5.	Mr. Sukit	Litikorn	276,776	322,004	(45,228)
6.	Mr. Withoon	Thamee	419,571	391,693	27,878
7.	Mr. Pongsawat	Penglengpol	32,300	-	32,300
8.	Mr. Chatraapichai	Earanekkulchai	-	-	-
9.	Mrs. Varinkan	Teraumranon	949,823	903,610	46,213
10.	Mr. Wisit	Wachiralappaitoon	223,867	154,703	69,164

## 12

## Dividend Policy

The Company has a policy of paying dividend at not less than 40% of net profit after income tax and reserves of all types as required by law and according to the separate financial statements. Dividend payment depends on the Company's cash flow, adequacy of working capital in business operation, investment plan, loan repayment, terms and conditions the agreements binding the Company, legal restrictions, and other circumstances as necessary and appropriate in the future.

The Board of Directors' resolution on dividend payment shall be subject to the approval of the shareholders' meeting, unless it is interim dividend which the Board of Directors shall have the authority to approve from time to time when it considers that the Company has sufficient profit to do so as appropriate. In such case, the interim dividend payment shall be submitted to the next shareholders' meeting for information.

Dividend payment	2018	2017	2016	2015
Interim dividend payment (Baht per share)	-	-	-	-
Annual dividend payment (Baht per share)	0.16	0.14	0.09	0.10
Stock dividend (Baht per share)	-	-	-	-
Earnings per share (Baht)	0.23	0.22	0.11	0.13
Dividend payout ratio (%)	69.57	63.64	81.82	76.92
Par Value (Baht per share)	0.50	0.50	0.50	0.50
Outstanding ordinary shares (Share)	584,500,000	584,500,000	584,500,000	350,000,000

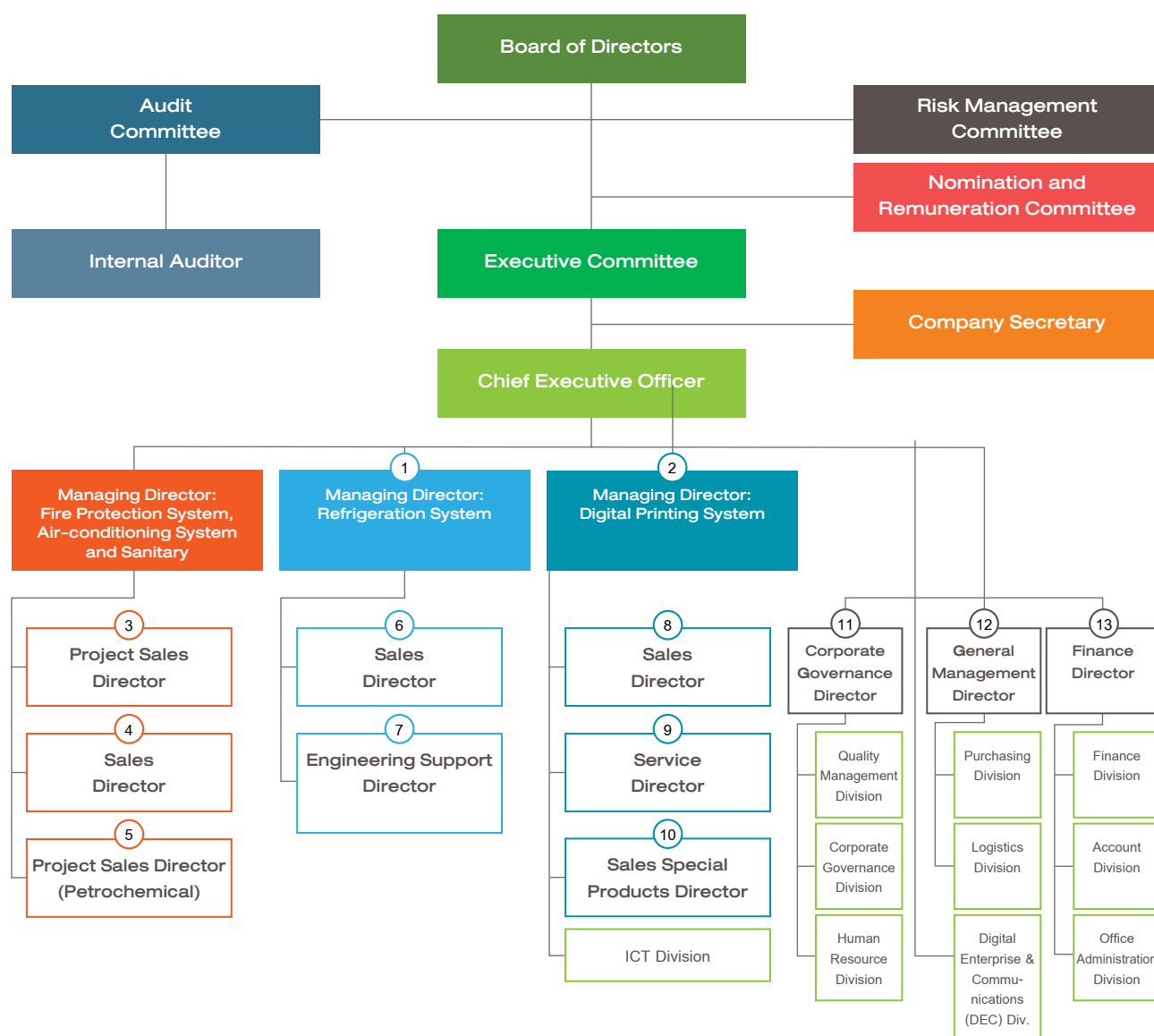
- Remark :**
- The 2018 dividend payment of Baht 0.16 per share paid being submitted to approval at the 2019 Annual General Meeting of shareholders.
  - Ordinary person shareholders may request a tax credit at rate of 20/80 of the dividend payment pursuant to the guidelines set forth in Section 47bis of the Revenue Code.

## 13

## Management Structure

## Organization Chart

## HARN ENGINEERING SOLUTIONS Public Company Limited



**Note :** Management no. 1 - 13 is Company executives according to the Notification of the Securities and Exchange Commission

The Management Structure of the company comprises of

- The Board of Directors
- The four Board-Committees supporting the consideration and important issues as assigned by the Board : the Audit Committee, the Executive Committee, the Nomination and Remuneration Committee and the Risk Management Committee Composed of qualified individuals under Section 68 of the Public Companies Act B.E. 2535 (1992) (as amended) and the Securities and Exchange Act B.E. 2535 (1992) (as amended)
- The management with the Chief Executive Officer as the highest executive of the Company

## 1. Board of Directors

As of December 31, 2018, the Board of Directors is comprised of eleven Directors as follows :

- Eight None-Executive Directors, four of which are Independent Directors
- Three Executive Director, The Chief Executive Officer, one person and two person Managing Directors

The Board of Directors as of December 31, 2018 comprised of :

The Board of Directors as of December 31, 2018 comprised of :

No.	Name	Position	Appointment date
1.	Dr. Thakol Nunthirapakorn	Independent Director Chairman of the Board Chairman of the Audit Committee	September 5, 2012 June 1, 2015 September 5, 2012
2.	Dr. Sothitorn Mallikamas <sup>1)</sup>	Independent Director Member of the Audit Committee Member of the Nomination and Remuneration Committee	September 5, 2012 September 5, 2012 December 17, 2018
3.	Miss Voranuch Supaibulpipat <sup>1)</sup>	Independent Director Member of the Audit Committee Chairperson of the Nomination and Remuneration Committee	September 5, 2012 September 5, 2012 December 17, 2018
4.	Dr. Supot Tiarawut	Independent Director Chairman of the Risk Management Committee	November 1, 2016 November 11, 2016
5.	Mr. Wirat Sukchai <sup>2)</sup>	Director Member of the Risk Management Committee Chairman of the Executive Committee Chief Executive Officer Managing Director	September 5, 2012 November 11, 2016 March 1, 2018 December 1, 2016 September 5, 2012
6.	Mr. Wasan Nantakwang <sup>3)</sup>	Director Member of the Risk Management Committee Member of the Executive Committee, Managing Director	November 1, 2016 November 11, 2016 December 1, 2016
7.	Mr. Thammanoon Tripetchr	Director Member of the Risk Management Committee Member of the Executive Committee, Managing Director	November 1, 2016 November 11, 2016 December 1, 2016

No.	Name	Position	Appointment date
8.	Dr. Jain Charnnarong	Director	April 28, 2017
		Member of the Executive Committee	March 1, 2017
9.	Mrs. Sirima Iamsakulrat <sup>1)</sup>	Director	September 5, 2012
		Member of the Nomination and Remuneration Committee	December 17, 2018
10.	Mr. Parkphum Wongpaitoon	Director	September 5, 2012
11.	Mrs. Valeeratn Chuerboonchai	Director	September 5, 2012

- Note :**
- <sup>1)</sup> The Board of Directors at its meeting no. 6/2018 on December 17, 2018 resolved to appoint Mr. Sothitorn Mallikamas and Mrs. Sirima Iamsakulrat as the Member of the Nomination and Remuneration Committee and appoint Miss Voranuch Supaibulpipat as the Chairperson of the Nomination and Remuneration Committee with effect from December 17, 2018.
  - <sup>2)</sup> The Board of Directors at its meeting no. 2/2018 on February 23, 2018 resolved to appoint Mr. Wirat Sukchai as the Chairman of the Executive Committees with effect from March 1, 2018.
  - <sup>3)</sup> Mr. Wasan Nantakwang resigned from the position of director of the company, managing director Executive Director And Risk Management Committee with effect from 22 April 2019.

Mrs. Varinkan Teraumranon is the Company Secretary.

The Company has four Independent Directors which make the Company's Board of Directors shall have at least three Independent Directors representing no less than one-third of the total number of directors, and shall have at has three Audit Committee members. Each Independent Director and Audit Committee member is able to express opinions freely according to the relevant laws and must have qualifications that completely fulfill the requirements stipulated by the Notification of the Capital Market Supervisory Board No. Thor.Jor. 28/2551 regarding application for and Approval of Offer for Sale of Newly Issued Shares (and the amendments).

#### Term of Office of the Board of Directors

1. At every annual ordinary general meeting of shareholders, one-third (1/3) of the total number of the directors of the Company shall retire by rotation. If the number of directors cannot be equally divided into three, the number of directors closest to one-third (1/3) shall retire.

Directors to vacate office in the first year and the second year after the Company registration shall be decided by drawing lots. For the years thereafter, the directors having been in office the longest shall retire. The vacating directors may be re-elected.

2. Committees have term of office as mandated in company's regulations. Committees that retired from the position may be elected as a committee once again with unlimited rights. Qualifications of Independent Directors, set by the Board of Directors, mentioned that Independent Directors may be in position not for more than nine consecutive years, counting from the day of appointment or three consecutive terms.
3. Apart from meeting term of office, committees may be vacated in case of
  - 3.1 Death
  - 3.2 Resign
  - 3.3 Lack of qualification or contain characters that are prohibited by law of Public Company and law of Stock Exchange of Thailand
  - 3.4 Voted by shareholders
  - 3.5 Order by court

4. Any director wishing to resign from his office shall submit his resignation letter to the Company. Such resignation shall take effect from the date when the resignation letter reaches the Company.

The director resigning pursuant to the above paragraph may also inform the Share Registrar of his resignation.

5. In case any vacancy occurs in the Board of Directors for reasons other than retirement by rotation, the Board of Directors shall elect a person who has the required qualifications and has no prohibited characteristics under the public limited companies law or the securities and exchange law as a replacement at its upcoming meeting, unless the remaining duration of the vacating director's term of office is less than two months. The replacing director shall hold office only for the remaining term of office of the director whom he has replaced.

The resolution of the Board of Directors under the first paragraph shall be supported by the votes of at least three-fourths of the number of the remaining directors.

6. In case the entire Board of Directors vacate office, all the vacating directors shall remain in office temporarily to carry on the business only for a period of time as deemed necessary until the new Board of Directors take office, unless otherwise ordered by the court in the event of directors vacating office at the order of the court.

The vacating directors shall arrange a shareholders' meeting to elect a new Board of Directors within one month from the date of vacating office. They shall send a meeting notice to the shareholders at least 14 days prior to the meeting and publicize the notice in a newspaper at least three days prior to the meeting date for three consecutive days.

7. The shareholders' meeting may resolve for any director to vacate office before the retirement by rotation with the votes of at least three-fourths of the number of the shareholders attending the meeting and having the right to vote.

#### **Authorized Directors as the Company's Signatories**

According to the Company's Articles of Association, the number or name of the authorized directors shall be binding on the company. Two (2) directors jointly sign. The meeting of shareholders or the Board of Directors. Has the power to determine the list of authorized directors to bind the company.

Through the Board of Directors at the Meeting No. 2/2017 on May 12, 2017, the Board of Directors has approved Directors having authority to sign on behalf of the Company as follow First Group Mr. Wirat Sukchai, Mr. Wasan Nantakhwang, Mr. Thammanoon Tripetchr, Second Group Mrs. Sirima Iamsakulrat, Mr. Jain Charnnarong, Mrs. Valeeratn Chuerboonchai, One of the directors in a group 1 shall jointly sign to sign with one of the directors in group 2, Total is two people.

#### **Role and Responsibility of Chairman of the Board of Directors**

The Board of Directors shall elect one of the Board members as Chairman of the Board to supervise and control meetings of the Board and meetings of the shareholders of the Company to ensure efficiency and compliance with relevant rules and regulations and to meet the meeting objectives. (Details of the selection / authority of the Chairman of the Board of Directors are shown in the corporate governance Chapter 3 Strengthen Board Effectiveness page. 63).

#### **Role and Responsibility of the Board of Directors**

The Board of Directors has a main role in determine policies and overall of the organization, strategic planning and take main action on corporate governance, audit, evaluate business performance according to plans as well as to operate the business under the law, enforcement, shareholders' direction with ethical and moral under business

conduct. Moreover, the Board of Directors manage corporate governance and administer management to reach set goals at maximum benefits to the company, shareholders and stakeholders as follow :

1. Determine corporate vision, policies, strategies, targets, business plans, annual budget, management structure and delegation of authority, as well as corporate governance policy.
2. Monitor and supervise the performance of the management or any other persons assigned in compliance with the specified policies, plans and budget in an efficient and effective manner, and ensure that the Company's business management is in line with the corporate governance policy.
3. Able to appoint sub-Board of Directors to assist in studies and consider other administrative tasks such as Executive Committees, Audit committees, Risk Management Committees, Nomination and Remuneration Committee of Chief Executive Officer, the Board of Directors and set authority of appointed sub-Board of Directors, Chief Executive Officer and Managing Directors.

In this regard, the authority delegated under the specified scope of power and duties shall not be in the nature that will enable the Executive Committee, Chief Executive Officer Managing Director and Subcommittees to consider and approve transactions which may have conflict of interest, beneficial interest or any other conflict of interest with the Company or subsidiaries (if any), unless the approval of such transactions is in line with the policy and criteria duly approved by the Board.

The Board's assignment of the Chief Executive Officer, Managing Director or any other person to perform duty on behalf of the Board shall be conducted in writing or clearly recorded as a resolution of the Board meeting in the relevant meeting minutes, with the scope of power and duties of the authorized person clearly specified.

4. Evaluate on a regular basis the performance of the management, and oversee the remuneration payment mechanism for executives and employees to ensure appropriateness.
5. Put in place reliable accounting system, financial reporting and auditing process, and oversee documentation system to facilitate examination of information thereafter.
6. Arrange for the Company's preparation of financial statements that are accurate, exhibiting factual information of its financial status and operating results in the previous accounting period correctly and completely in conformity with the generally accepted accounting principles. The Company's financial statements as of the end of the accounting period must be audited by its auditor before submitting to the shareholders "meeting with report of the Board of Directors" responsibility for the financial reports presented together with report of the auditor in the Annual Report.
7. Ensure the Company has efficient and effective internal control and internal audit systems, comprehensive risk management system and process, effective reporting and monitoring procedure, complaint handling mechanism and actions in case of whistle blowing, and the Company's management process is in line with corporate governance policy.
8. Ensure a clear and transparent process is in place to manage transactions between the Company and related persons to prevent conflict of interest, with correct and adequate disclosure of information and reports to the Board on a regular basis.
9. Ensure continuity in business operation, employee development plan and executive succession plan, and institute effective nomination and succession procedures of directors and senior executives.

10. Consider to approve and/or give opinion on connected transactions, acquisition or disposition of assets, investment and any other businesses of the Company and subsidiaries (if any) in accordance with the applicable laws, notifications, requirements, rules and regulations, unless it is prescribed by law to seek approval from the shareholders' meeting.
11. Safeguard and ensure benefits for major and minor shareholders on a fair and equitable basis, and make available to the shareholders and other stakeholders accurate operational highlight reports and financial reports as prescribed by laws. Directors shall, without delay, notify the Company of his beneficial interests in any of the contracts or agreements made with the Company or of increase or decrease in the shareholding in the Company or subsidiaries (if any). Directors with beneficial interest in any transactions made with the directors or persons who may have conflict of interest or beneficial interest or any other conflict of interests with the Company or subsidiaries shall not be entitled to vote on such transactions.
12. Have power to authorize one or more directors or any other persons to perform any duties on behalf of the Board, subject to the control and supervision by the Board, or to authorize such person to have power as considered appropriate by the Board and for a specified period of time as the Board may deem proper. Such power may be cancelled, revoked, changed or amended as the Board may see fit.

In this regard, such authorization shall not be in the nature that will enable such person to consider and approve transactions in which he or other person may have conflict of interest, beneficial interest or any other conflict of interest in other nature with the Company or subsidiaries (if any), unless the approval of such transactions is in the normal course of business and consistent with general trade conditions or the policy and criteria duly approved by the Board.
13. Appointed the Company Secretary who has appropriate experience and qualifications in performing the roles and responsibilities specified in the Securities and Exchange Act. The Company Secretary is responsible for providing advice on the laws and regulations of which the Board members need to be aware and making arrangements for all activities pertaining to the Board of Directors, as well as coordinating with relevant parties to ensure they follow the resolutions of the Board of Directors. The qualifications and professional experience of the Company Secretary are disclosed in the Annual Report and on the website of the Company.
14. Supports and encourages the Company Secretary to continuously undergo training and development of knowledge on legal and accounting areas as well as that on secretarial duties.
15. Create written Corporate Governance Policy of the company and communicate throughout the organization with the common understanding and knowledge to encourage and support all staff to comply to the set policies. Moreover, the Board of Directors should review the policies and comply to at least once a year.
16. Code of Conduct in written, then publish and reinforce to Committees, Management, and all employees. Moreover, the Board of Directors enlighten employees in regards to standards of ethics and morals that used in the business and set as a practice to show good corporate governance, transparent and ethical organization to stakeholders, respect social and environment through seminars and internal communication. The ethics reflect values and practices that employees should exercise and respect the code of conduct set by the organization in written and able to access publicly. All should strictly comply and follow the guidelines. The Board of Directors must monitor on the Code of Conduct closely.
17. Set policies and anti-corruption measures in written to ensure that all operations of the organization are under the law related to anti-corruption including communicate to the Board of Directors, management, and employees at all levels including stakeholders and promote as one of the core values of the company. The

Board of Directors are responsible to review policies and measurement of anti-corruption annually to correlate with the current business operation, orders, regulations, and the law.

18. Considered conflict of interest thoroughly, consideration of actions that clearly have conflict of interest and for absolute benefits of the company and stakeholders. The conflict of interest prevents the Board of Directors, management, employees and stakeholders to seek for personal interests that conflict with the organization's interests and avoid all actions that may cause conflict of interest. Nevertheless, stakeholders and relevant parties connect to items considered must be reported to the company in regards to relationship or network of individual where the individual must not play a part of any action.

The Audit Committee will propose the Board of Directors about connected transactions and conflict of interest which were considered carefully. The company must comply to the rules of The Securities and Exchange Commission, Thailand and Stock Exchange of Thailand strictly in regards to pricing and policies to any party that may has conflict of interest as transaction with third parties.

The Board of Directors exercise and control regulation in procedures disclosure of information that may contain conflict of interest thoroughly which specify in financial statement, annual report and annual registration statement (Form 56-1).

19. Arrange internal control which a main algorithm to create confidence to risk management department and able to operate the business effectively. Resources must be allocated accordingly to achieve set goals and protect assets from damage or misconduct. Also, the Board of Directors assist to create credibility in financial statement, look over disclosure of information from employees in accordance to the rules and regulations that protect investment of stockholders. Therefore, the company sets responsibility, authority of administration and management in several topics in written and controls the use of company assets in order to maximize profits. Duties of operating employees and controllers must be separated for balance and audit purposes.

The Board of Directors delegate the Audit Committee to examine and responsible for reviewing suitability and effectiveness of the internal audit system that administrative section set previously together with forming and reviewing the audit system in both operation, financial report, compliance, rules, policies, supervision of operations and covers risk management and put importance to fire alarm and abnormalities.

In addition, the company hired third party that works independently to responsible for audit. Main tasks are to verify and ensure that the company has sufficient internal control and to let the audit works freely. The audit able to examine and balance out. The internal audit must be reported directly to the Audit Committee. Consequently, the company has regular assessment to ensure that the internal audit system planned work effectively where assessment of internal control and review will take place at least once a year and will be stated in the annual report of the company.

20. The Board of Directors set Risk Management Policy throughout the organization and allows the administrative acts upon the policies including reports to the Board of Directors regularly. Review and assessment of the Risk Management will take place at least once a year and will be mentioned in the annual report of the company and in any circumstance that realized the risks have changed including pay attention to the fire alarm and abnormalities.
21. The Audit Committees comment on sufficiency of internal audit and risk management in the company's annual report.
22. The Board of Directors open for suggestions to any party for complaints and clues or any conflict of interest through website or direct report to the company by inform notices to the Independent Directors or the Internal Audit Committee so that internal examine will take place as per procedures and report to the Board of Directors.

## 2. Supporting Committees

### 2.1 Audit Committee

The Audit Committee is composed of three independent directors, all of whom have full qualifications as stipulated by the SEC and the SET and at least one whom has competence and experience in reviewing the reliability of the financial statements, as named below :

Name		Position
1. Dr. Thakol	Nunthirapakorn	Chairman of the Audit Committee
2. Dr. Sotthithorn	Mallikamat	Member of the Audit Committee
3. Miss Voranuch	Supaibulpipat	Member of the Audit Committee

Mr. Thakol Nunthirapakorn is the Committee members who have adequate competence and experience in reviewing the reliability of the financial statements, having graduated with a Doctoral degree from Col. Of Bad./Accounting, MIS, Economics, University of Arkansas, U.S.A. and had passed the 8th Director Accreditation Program (DAP) of the year 2004. Mr. Wisit Wachiralarpaitoon is the secretary to the Audit Committee.

#### Structure of the Audit Committee

The Audit committees must comprise of the following :

1. Has no more than 1% of voted shares of the company, main company, subsidiary, joint venture, main shareholders, or any delegated person. Hence, shares counted include any relevant parties.
2. The Audit committees comprise of at least three qualified independent directors according to the law of public company limited and law of securities and the Stock Exchange of Thailand.
3. The Audit Committee is an expert for each given task. At least one committee has experience or solid knowledge in Accounting or Finance and is senior enough to work and audit credibility of financial statement.
4. The Board of Directors appoints and choose one audit committee as Chairman of Audit Committees.
5. Audit committees appoint a Secretary of the Audit Committees where Director of Finance is automatically a Secretary of the Audit Committees by title.

#### Audit Committee's term of office

1. The Audit Committees are able to have 3 years term of office and retired Audit Committees are able to be appointed once again. Apart from aforementioned retirement, the Audit Committees may be vacated in
  - 1.1 Death
  - 1.2 Resign
  - 1.3 Lack of qualification as the Audit Committee or according to the SEC and Stock Exchange of Thailand
  - 1.4 Retirement from Director position or at the end of term of office as the Board of Director

2. The Audit Committee whom wishes to resign must present a resignation letter to the Chairman of Board of Directors at least one month with specified reasons and wait for approval from the Board of Directors. The company will give notice on the resignation with a copy of resignation letter to Stock Exchange of Thailand. In case of the whole Audit Committees meet term of office, the Audit Committees must retain in position until the new Audit Committees are appointed and take over.
3. In case of other Audit Committees are vacant because of other reasons apart from due term of office, the Board of Directors must appoint qualified person as the member of Audit Committee within 90 days so that numbers of the Audit Committees are met as regulated by the Board of Directors. The replacement can remain in position for until due term of office. Hence, the company must notify retirement of the Audit Committee with reasons of retirement immediately to the Stock Exchange of Thailand.

#### **Role and Responsibility of Audit Committee**

1. Review the Company's financial reporting to ensure its accuracy and adequacy.
2. Review the Company's internal control and internal audit systems to ensure that they are appropriate and effective; consider the independence of the internal audit office; approve and be responsible for the internal audit; and consider the internal audit operational framework, annual internal audit plan and budget to ensure that they are consistent with the operational framework and sufficient to support works under the Audit Committee's responsibilities.
3. Review the Company's compliance with the Securities and Exchange Act, the SET's regulations ("Stock Exchange") relevant to the Company's business.
4. Consider, select, and propose the appointment of an independent party to perform the duties of the Company's auditor, and also propose the remuneration of that person, as well as attend the meetings with the auditor and internal auditor at least once a quarter.
5. Consider relevant transactions or those having possible conflict of interest to ensure that they are compliant with all pertinent laws and requirements of the SET, reasonable, and bring utmost benefit to the Company.
6. Prepare the Audit Committee's report to be disclosed in the Company's Annual Report, which is signed by the Chairman of the Audit Committee and must comprise of the following information at minimum:
  - Comments on validity and complete which account to credibility of the financial report of the company
  - Comments on sufficiency of internal control system of the company
  - Comments on operation according to the Security Stock Exchange law, regulations of the Stock Exchange or laws concern operation of the firm.
  - Comments on appropriateness of the auditors.
  - Comments on transactions that may have conflict of interest
  - Numbers of meetings of the Audit Committees and attendance of each Audit Committee
  - Comments on common notices found from observation and audit
  - Report any concern that shareholders and investors should know under the authority of duty and responsibility given by the Board of Directors.

7. Pursue any operations delegated by the Board of Directors and the Audit Committees. On duty, the Audit Committees are responsible to the Board of Directors directly and the Board of Director still responsible for operation of the business and stakeholders.
8. Review and comment on anti-corruption procedures including risk management that may connect to risks from corruption to ensure that operation of the company is transparent, honest, fair, with moral principles, with ethics and respect anti-corruption policies in all means.
9. Accept complaints, clues, take note on corruption activities externally and internally that involve the Board of Directors, management, employees. Examine information and present to the Board of Directors and seek for punishment or ways out according to anti-corruption policies.
10. Summarize and submit the Audit Committee's mission to the Board of Directors for acknowledgement.

The Audit Committee has the power to take the following actions: inviting directors, employees, contract employees to attend the meeting to discuss, clarify or answer any question relating to the Committee's duties and responsibilities; discussing with the Company's expert or consultant (if any); or engaging a third-party consultant or specialist if necessary at the Company's expenses; requesting the Company's employees to submit necessary documents about the Company's operation for auditing or investigation for work accomplishment; assigning any employee or contract employee to within the scope of duties of the Committee for the audit purpose; and taking any action as specified above in relation to subsidiaries as assigned or requested by subsidiaries and as allowed by the scope of their authority and duties.

The Company does not have an internal audit work unit yet. It has thus hired Ultima Advisory Co., Ltd., an external audit agency that is not related to the Company, as its internal auditor to examine and ensure the adequacy and appropriateness of the Company's internal control system.

## 2.2 Executive Committee

The Board of Directors appoints the Executive Committee by selecting among directors, executives or senior employees, who are competent in managing day-to-day business operations; administering the Company; formulating policy, business plan, budget plan, and management structure; and inspecting and monitoring operating results of the Company in compliance with the policy determined by the Board.

The Executive Committee is composed six members as follows :

No.	Name		Position
1.	Mr. Wirat	Sukchai <sup>1)</sup>	Chairman of the Executive Committee
2.	Mr. Wasan	Nantakhwang <sup>2)</sup>	Member of the Executive Committee
3.	Mr. Thammanoon	Tripetchr	Member of the Executive Committee
4.	Dr. Jain	Charnnarong	Member of the Executive Committee
5.	Mr. Wisit	Wachiralappaitoon	Member of the Executive Committee
6.	Mrs. Varinkan	Teraumranon	Member of the Executive Committee And Secretary to the Executive Committee

**Note :** <sup>1)</sup> The Board of Directors at its meeting no. 2/2018 on February 23, 2018 resolved to appoint Mr. Wirat Sukchai as the Chairman of the Executive Committees with effect from March 1, 2018.

<sup>2)</sup> Mr. Wasan Nantakhwang resigned of the Director, Managing Director Executive Director and Risk Management Committee with effect from April 22, 2019.

### Structure of the Executive Committee

Executive Committee must comprise of the following :

1. The Board of Directors appoints Executive Committee by selecting directors and/or management that is nominated by the Nomination and Remuneration Committee. Executive Committees are consisted of at least three Executive Committees.
2. The Board of Directors select and appoint one Executive Committee that is appropriate as Chairman of Executive Committee whom will have term of office equally to the term of office of the Executive Committees.
3. The Executive Committees review and appoint a person that is suitable as a secretary to the Executive Committee in order to deliver meeting minutes and notes.

### Executive Committee's term of office

The Executive Committee has a three-year term of office from the date of appointment. Committee members retiring by rotation may be re-appointed. In case of a vacancy in the Executive Committee, the Board of Directors shall appoint a qualified person as a replacement.

### Role and Responsibility of Executive Committee

The Executive Committee has power, duties, and responsibilities in administering the Company's day-to-day business and operations in accordance with the Company's objectives, articles of association, policies, rules, provisions, orders, and resolutions of the Board of Directors' and the shareholders' meetings. The Executive Committee shall screen and map out policy, business plan, budget plan, management structure, administrative authority, and criteria in the business operation in line with the economic conditions and propose them to the Board of Directors for consideration and approval and/or consent, as well as inspect and monitor the Company's operational performance in line with the policy set forth.

In summary, the scope of power, duties and responsibilities of the Executive Committee covers :

1. Propose policies, strategies, targets, operation plan, annual budget, incorporate new business unit/ exit business/ merger and acquisition/joint venture, which play a part in administration, financial plan, organizational and administrative structure; and examine and screen the proposals submitted by the management before proposing for the Board of Directors' approval.
2. Oversee the Company's business operation and follow up the results thereof to be in line with the policies, targets, operation plan, targets and budget approved by the Board of Directors or as assigned by the Board of Directors, as well as regularly report the operational performance to the Board meeting.
3. Consider and approve key capital expenditure as specified in the annual budget and assigned by the Board of Directors, or as approved in principle by the Board of Directors.
4. Consider and approve borrowing, acquisition of credit lines, or any credit facilities each in an amount not exceeding Baht 10 million and in a total amount not exceeding Baht 30 million. In case of using the Company's assets as collateral security, approval must be sought from the Board of Directors.
5. Consider and approve off-budget capital expenditure in an amount not exceeding Baht 10 million. Such transactions, once approved, shall be informed to the Board of Directors.
6. Consider profit and loss of the Company and proposal for payment of an interim dividend or annual dividend before submission for the approval of the Board of Directors and the shareholders' meeting accordingly.

7. Formulate a human resource management policy, and select and appoint persons with suitable qualifications to hold managerial positions from the general manager level upward, with the exception of the position of managing director, as well as transfer, terminate employment, determine remuneration including bonuses and other benefits commensurate to the duties of such managerial positions.
8. Have the power to authorize any person or persons to perform any act under the control of the Executive Committee, or for that person to have power as considered proper by the Executive Committee within the specified timeframe. The Executive Committee may cancel, revoke, withdraw, change or correct the authorized person as appropriate.

The Executive Committee's authorization as such must not be made in a manner of authorization or sub-authorization that enables the authorized person to approve the transaction in which such authorized person or person with possible conflict of interest (as defined in the Notification of the Capital Market Supervisory Board and/or the SET, and/or other relevant agencies) has beneficial interests or may have any other conflict of interest with the Company or its subsidiaries and/or associated companies. The Executive Committee has no power to approve the proceeding of such transaction, and has to propose it to the Board of Directors meeting and/or the shareholders' meeting (as the case may be) for approval, unless it is the approval of a transaction in the normal course of business operation and under normal commercial terms pursuant to the Notification of the Capital Market Supervisory Board and/or the SET, and/or other relevant agencies.

9. Perform any other duties as assigned by the Board of Directors on a case by case basis.

## 2.3 Risk Management Committee

The Company's Risk Management Committee as 31 December, 2018 is composed of fourteen members as follows :

No.	Name		Position
1.	Mr. Supot	Tiararwut	Chairman of the Risk Management Committee
2.	Mr. Wirat	Sukchai	Member of the Risk Management Committee
3.	Mr. Wasan	Nantakhwang <sup>1)</sup>	Member of the Risk Management Committee
4.	Mr.Thammanoon	Tripetchr	Member of the Risk Management Committee
5.	Mr. Rattanaphan	Mukhariwattananon	Member of the Risk Management Committee
6.	Mr. Pracha	Phromphornchai	Member of the Risk Management Committee
7.	Mr. Suchat	Suwatnodom	Member of the Risk Management Committee
8.	Mr. Nuntawat	Jeerakhom <sup>2)</sup>	Member of the Risk Management Committee
9.	Mr. Sukit	Litikorn	Member of the Risk Management Committee
10.	Mr. Withoon	Thamee	Member of the Risk Management Committee
11.	Mr. Pongsawat	Penglengpol <sup>3)</sup>	Member of the Risk Management Committee
12.	Mr. Chatraapichai	Earanekkulchai <sup>3) 4)</sup>	Member of the Risk Management Committee
13.	Mr. Wisit	Wachiralappaitoon	Member of the Risk Management Committee
14.	Mrs. Varinkan	Teraumranon	Member of the Risk Management Committee and Secretary to Risk Management Committee

**Note :** <sup>1)</sup> Mr.Wasan Nantakwang resigned of the Director, Managing Director Executive Director and Risk Management Committee with effect from April 22, 2019.

<sup>2)</sup> Mr.Nuntawat Jeerakhom resigned of the Sale Director and Member of the Risk Management Committee with effect from February 15, 2019.

<sup>3)</sup> The Board of Directors at its meeting no. 3/2018 on May 10, 2018 resolved to appoint Mr.Pongsawat Penglengpol and Mr.Chatraapichai Earanekkulchai as the Member of the Risk Management Committee with effect from April 19, 2018.

<sup>4)</sup> Mr.Chatraapichai Earanekkulchai resigned of the General Executive Director and Member of the Risk Management Committee with effect from March 16, 2019.

### Structure of the Risk Management Committee

Consist of Managing Directors, Chief Executive Officer, Managing Directors and Directors as Risk Management Committees automatically by titles which are appointed by a Chairman of Risk Management Committee whom was appointed by the Board of Directors. The Director of Corporate Governance is a secretary to automatically the Risk Management Committee by title.

### Risk Management Committee's term of Office

The Risk Management Committee consists of executives from various work units. In case any Committee member resigns during the term of office, Chairman of the Risk Management Committee shall appoint a new member to replace the vacating member and report the same to the upcoming Board of Directors' meeting.

### Retirement from the position

Risk Management Committee must immediately be retired when

- due term of office / Chief Executive Officer / Managing Director / Director of Division
- Death
- Resign
- The Risk Management Committees agreed to vacate the position
- Lack of qualification as the member of Risk Management Committees

### Role and Responsibility of Risk Management Committee

1. Consider and screen the overall risk management policy and guidelines of the Company which shall encompass major risk categories, including risks from corruption in any activities of the company i.e. financial risk, investment risk and reputational risk of the Company, etc. to be presented to the Board meeting for approval.
2. Put in place risk management strategies and guidelines in line with the determined risk management policy to assess, monitor and control risk to be at appropriate level.
3. Oversee and monitor implementation of the risk management policy under the direction and guidelines approved by the Board.
4. Set risk measurement criteria and risk limit.
5. Determine appropriate measures to manage risks in alignment with the circumstances.
6. Review adequacy of the overall risk management policy and system, and the effectiveness of the system and compliance with the policy in place.
7. Report to the Board on a quarterly basis risk management, implementation and risk status of the Company as well as changes and remedy and improvement actions to comply with the policy and strategy set forth.
8. Appoint Risk Management Working Committee as deemed necessary.
9. Support Risk Management Working Committee in respect of manpower, budget and other resources required in line with the defined scope of responsibilities.

## 2.4 Nomination and Remuneration Committee

The Company's Nomination and Remuneration Committee as 31 December, 2018 is composed of three members as follows :

No.	Name	Position
1.	Miss Voranuch Supaibulpipat <sup>1)</sup>	Chairperson of the Nomination and Remuneration Committee
2.	Dr. Sothitorn Mallikamas <sup>1)</sup>	Member of the Nomination and Remuneration Committee
3.	Mrs. Sirima Iamsakulrat <sup>1)</sup>	Member of the Nomination and Remuneration Committee and Secretary to the Nomination and Remuneration Committee

**Note :** <sup>1)</sup> The Board of Directors at its meeting no. 6/2018 on December 17, 2018 resolved to appoint Mr. Sothitorn Mallikamas and Mrs. Sirima Iamsakulrat as the Member of the Nomination and Remuneration Committee and appoint Miss Voranuch Supaibulpipat as the Chairperson of the Nomination and Remuneration Committee with effect from December 17, 2018.

### Structure of the Nomination and Remuneration Committee

1. Nomination and Remuneration Committees comprise of at least three Board of Directors whom are the Independent Director and non-management Director and more than half of the committees must be the Independent Directors.
2. The Board of Directors appoint the Independent Committee as a Chairman of Nomination and Remuneration Committees
3. The Nomination and Remuneration Committees choose and appoint a Secretary of Nomination and Remuneration Committees

### Nomination and Remuneration Committee's term of Office

1. The Nomination and Remuneration Committees has 3 years term of office where retired Nomination and Remuneration Committees may be appointed again after the aforementioned causes of retirement. The member of the Nomination and Remuneration Committees must vacate the position when
  - 1.1 Death
  - 1.2 Resign
  - 1.3 Lack of qualifications as the Nomination and Remuneration Committee according to the paper
  - 1.4 The Board of Directors agreed to vacate the position
  - 1.5 Retire from the Board of Director or meet term of office as the Board of Director
2. Nomination and Remuneration Committee must send letter of resignation to the Committee Chairman at least one month with reasons and wait for approval from the Board of Directors. The company will inform about the resignation and issue a copy of resignation letter to the Stock Exchange. In case that the whole Nomination and Remuneration Committees is retired, the committee must retain in position until the new Nomination and Remuneration Committees are replaced.
3. In case that the Nomination and Remuneration Committee is vacant by other causes or at the end of term of office, the Board of Directors must appoint qualified persons as the Nomination and Remuneration Committee within 90 days so that the number of Nomination and Remuneration Committee is met according to the company policy. The newly appointed Nomination and Remuneration Committee will have term of office equal to the remaining term of the previous Nomination and Remuneration Committees.

## Role and Responsibility of the Nomination and Remuneration Committee

### 1. Nomination

- 1.1 Review composition, qualification of the Board of Directors and sub-board of Directors as a whole and as individual as see fit to size, type, and complexion of the business in both education background, knowledge, skills, expertise, experience, talents related to the business freely according the company policy.
- 1.2 Consider qualification of Chief Executive Officer as see fit to the administration of the company to meet set vision where education background, knowledge, expertise, and business environment must be considered such as tendency of the economic and industry along with competitiveness of the business as a part of the criteria.
- 1.3 Set procedures and criteria to seek employees to meet structure and set qualifications stated in 1.1 and 1.2 by creating Board Skill Matrix to aid in recruiting that relate to business operations and adhere to good corporate governance.
- 1.4 Recruit and select qualified Board of Director as committee in sub-board of Director including high-level management and to present to the Board of Director for approval once the position is vacant.
- 1.5 Administer operation of the business and arrange an orientation, deliver relevant handouts to the new committees.
- 1.6 Create and prepare Succession plan of the Chief Executive Officer to be ready as a part of the succession plan and oversee the smooth transition of the management.
- 1.7 Encourage the company to give opportunity to small shareholders to submit individuals as a committee.

### 2. emuneration

- 2.1 Define and prepare policy on remuneration in written and suitable for Directors' responsibility where connect remuneration with the overall performance of the company to motivate and retain skillful, quality, and performed Directors. Details must be reviewed by the Board of Directors before presenting at Annual General Meeting and ask for approval.
- 2.2 Present remuneration plan to the Board of Directors and appointed sub-Board of Directors in both monetary values and other benefits.
- 2.3 Determine measurement of annual performance and consider appropriate compensation rate to the Chairman of the company as well as to present to the Board of Directors for approval.

### 3. Review charter of the Nomination and Remuneration Committees regularly.

### 4. Responsible for other duties that delegated by the Board of Directors.

## Meeting Attendance of the Board of Directors, Board-committees

Meeting Attendance of the Board of Directors, Board-committees and in 2018 Annual General Meeting of Shareholders as below :

Name		Position	Board of Director (6 times)	Audit Committee (4 times)	Executive Committee (12 times)	Risk Management Committee (12 times)	Annual General Meeting of Shareholders (AGM) (1 times)
1. Dr. Thakol	Nunthirapakorn	Independent Director Chairman of the Board Chairman of the Audit Committee	6/6	4/4			1/1
2. Dr. Sothitorn	Mallikamas <sup>1)</sup>	Independent Director Member of the Audit Committee Member of the Nomination and Remuneration Committee	6/6	4/4			1/1
3. Miss Voranuch	Supaibulpipat <sup>1)</sup>	Independent Director Member of the Audit Committee Chairperson of the Nomination and Remuneration Committee	6/6	4/4			1/1
4. Dr. Supot	Tiarawut	Independent Director Chairman of the Risk Management Committee	5/6			12/12	1/1
5. Mr. Wirat	Sukchai <sup>2)</sup>	Directors Member of the Risk Management Committee Chairman of the Executive Committee Chief Executive Officer Managing Director	6/6		12/12	12/12	1/1
6. Mr. Wasan	Nantakwang <sup>3)</sup>	Directors Member of the Risk Management Committee Member of the Executive Committee, Managing Director	5/6		12/12	12/12	1/1
7. Mr. Thammanoon	Tripetchr	Directors Member of the Risk Management Committee Member of the Executive Committee, Managing Director	6/6		11/12	12/12	1/1
8. Dr. Jain	Charnnarong	Directors Member of the Executive Committee	6/6		12/12		1/1
9. Mrs. Sirima	Iamsakulrat <sup>1)</sup>	Directors Member of the Nomination and Remuneration Committee	5/6				1/1
10. Mr. Parkphum	Wongpaitoon	Directors	6/6				1/1
11. Mrs. Valeeratn	Chuerboonchai	Directors	5/6				1/1
12. Mr. Wisit	Wachiralappaitoon	Member of the Executive Committee Member of the Risk Management Committee			12/12	12/12	1/1
13. Mrs. Varinkan	Teraumranon	Member of the Executive Committee Member of the Risk Management Committee			12/12	12/12	1/1
14. Mr. Pracha	Phromphornchai	Member of the Risk Management Committee				10/12	1/1
15. Mr. Rattanaphan	Mukhariwattananon	Member of the Risk Management Committee				11/12	1/1
16. Mr. Suchat	Suwatnodom	Member of the Risk Management Committee				11/12	1/1
17. Mr. Nuntawat	Jeerakhom <sup>4)</sup>	Member of the Risk Management Committee				12/12	1/1
18. Mr. Sukit	Litikorn	Member of the Risk Management Committee				12/12	1/1
19. Mr. Withoon	Thamee <sup>1)</sup>	Member of the Risk Management Committee				11/12	N/A
20. Mr.Pongsawat	Penglengpol <sup>5)</sup>	Member of the Risk Management Committee				9/12	1/1
21. Mr.Chatrapichai	Earanekkulchai <sup>5) 6)</sup>	Member of the Risk Management Committee				9/12	1/1

**Note :** N/A means not attend since the Director resigned or was appointed during the year 2018.

<sup>1)</sup> The Board of Directors at its meeting no. 6/2018 on December 17, 2018 resolved to appoint Mr.Sothitorn Mallikamas and Mrs. Sirima Iamsakulrat as the Member of the Nomination and Remuneration Committee and appoint Miss Voranuch Supaibulpipat as the Chairperson of the Nomination and Remuneration Committee with effect from December 17, 2018.

<sup>2)</sup> The Board of Directors at its meeting no. 2/2018 on February 23, 2018 resolved to appoint Mr.Wirat Sukchai as the Chairman of the Executive Committees with effect from March 1, 2018.

<sup>3)</sup> Mr.Wasan Nantakwang resigned of the Director, Managing Director Executive Director and Risk Management Committee with effect from April 22, 2019.

<sup>4)</sup> Mr.Nuntawat Jeerakhom resigned of the Sale Director and Member of the Risk Management Committee with effect from February 15, 2019.

<sup>5)</sup> The Board of Directors at its meeting no. 3/2018 on May 10, 2018 resolved to appoint Mr.Pongsawat Penglengpol and Mr.Chatrapichai Earanekkulchai as the Member of the Risk Management Committee with effect from April 19, 2018.

<sup>6)</sup> Mr.Chatrapichai Earanekkulchai resigned of the General Executive Director and Member of the Risk Management Committee with effect from March 16, 2019.

### 3. Management

The Company's Management as 31 December, 2018 is composed of thirteen members as follows :

No.	Name		Position
1.	Mr. Wirat	Sukchai	Chief Executive Officer and Managing Director: Fire Protection System, Air-conditioning system and sanitary
2.	Mr. Wasan	Nantakhwang <sup>1)</sup>	Managing Director : Refrigeration System
3.	Mr. Thammanoon	Tripetchr	Managing Director : Digital Printing System
4.	Mr. Pracha	Phromphornchai	Project Sales Director: Fire Protection System, Air-conditioning system and sanitary
5.	Mr. Rattanaphan	Mukhariwattananon	Sales Director: Fire Protection System, Air-conditioning system and sanitary
6.	Mr. Suchat	Suwatnodom	Project Sales Director (Petrochemical): Fire Protection System, Air-conditioning system and sanitary
7.	Mr. Nuntawat	Jeerakhom <sup>2)</sup>	Sales Director: Refrigeration System
8.	Mr. Sukit	Litikorn	Engineering Support Director: Refrigeration System
9.	Mr. Withoon	Thamee	Sales Director: Digital Printing System
10.	Mr. Pongsawat	Penglengpol	Sales Special Products Director
11.	Mrs. Varinkan	Teraumranon	Corporate Governance Director
12.	Mr. Chatraapichai	Earanekkulchai <sup>3)</sup>	General Management Director
13.	Mr. Wisit	Wachiralappaitoon	Finance Director

**Note :** Management is Company executives according to the Notification of the Securities and Exchange Commission

<sup>1)</sup> Mr.Wasan Nantakwang resigned of the director of the company Managing Director Executive Director and Risk Management Committee with effect from April 22, 2019.

<sup>2)</sup> Mr.Nuntawat Jeerakhom resigned of the Sale Director and Member of the Risk Management Committee with effect from February 15, 2019.

<sup>3)</sup> Mr.Chatrapichai Earanekkulchai resigned from the position of General Executive Director and Member of the Risk Management Committee with effect from March 16, 2019.

#### Role and Responsibility of the Chief Executive Officer

1. Leading the Policy articulation process as well as the business strategies: both short-term and long-term businesses.
2. To Control and monitoring the Company's overall operating results at strategic and policy level
3. To Support and facilitate the Audit committee to be able to effectively oversea the company.
4. Manage Personal Development Projects that support future growth.
5. Monitor, inspect, control and report overall operating results of the Company to the Board on a quarterly basis.
6. Perform any other duties as assigned by the Board and/or the Audit Committee.
7. Have power to authorize any other person to perform duties on his behalf, and be responsible for any act performed by the authorized person.

### Role and Responsibility of the Managing Director

Managing Director shall have the power, duties and responsibilities in managing the business of the Company as well as concerned matters and business as assigned by the Board of Directors as follows :

1. Oversee the management of overall operations and approval of matters concerning business operation and/or day-to-day administration of the Company to ensure the best interests of the Company and consistency with the objectives, regulations, rules, orders, resolutions of the Board meeting and annual general meeting of shareholders under applicable laws and the scope of power and responsibilities as assigned by the Board.
2. Work out policies, strategies, targets, business plan and annual budget plan, as well as management structure and delegation of authority within the organization for submission to the Executive Committee for endorsement before seeking approval from the Board.
3. Ensure that the operation or administration of the organization is in line with the approved policies, strategies, targets, business plan and budget plan.
4. Ensure personnel of all work units carry out efficient and effective operation, pursue ongoing organizational and personnel development, and maintain good image of the Company.
5. Have power to appoint, transfer, promote, suspend from work, terminate employment, determine salary or other compensation and gratuity, including determining wage/salary increment and bonus for employees. However, any matters concerning employees in the management level shall be subject to prior consent from the Executive Committee.
6. Have power to issue, amend, add, improve or revoke orders, rules, memorandum or regulations concerning work procedure to ensure compliance with the policy in the best interests of the Company, and maintain work discipline within the organization.
7. Have power to approve investments and expenses in the Company's business operation or any other relevant expenses within the limit set by the Board, comprising approval of acquisition of fixed assets without amount limit, approval of entering into engagement/rent/lease contract of fixed assets without amount limit, etc.
8. Have power to approve payments under contract or agreement as per the approved budget or as approved by the Board meeting or shareholders' meeting without amount limit.
9. Have power to approve procurement, executing contract, and conduct of normal business transactions within the approved budget and without amount limit.
10. Have power to authorize any other person to perform duties on his behalf, and be responsible for any act performed by the authorized person.
11. Perform other duties as assigned by the Executive Committee.
12. Can empower other employees to work instead. It is also responsible for the performance of the attorney at that time.

In this regard, the power the Chief Executive Officer / Managing Director and that of the person authorized by him as deemed appropriate shall exclude the power or granting of power which will permit the Chief Executive Officer / Managing Director or the authorized person to approve transactions which he or related person may have conflict of interest (as defined in the Notification of the Capital Market Supervisory Board and/or the Stock Exchange of Thailand and/or relevant agencies), beneficial interest or any other interest with the Company or subsidiaries and/or associated companies. The Chief Executive Officer / Managing Director shall have no power to approve such transactions which are subject to the consideration and approval by the Board meeting and/or the shareholders' meeting (as the case may be) in compliance with the Articles of Association of the Company or applicable laws, unless

the approval of such transaction is in the normal course of business with the general trade conditions in line with the Notification of the Capital Market Supervisory Board and/or the Stock Exchange of Thailand and/or relevant agencies.

## 4. Company Secretary

The Board meeting resolved to approve the appointment of Mrs. Varinkan Teraumranon as the Company Secretary since 26 February 2016 in line with the requirements of the Securities and Exchange Act B.E. 2535 (1992) (and the amendments) and to perform duties and responsibilities as follows :

1. Oversee and give preliminary advice to the Board and the executives on the rules, regulations and laws of which the Board and the management must be aware.
2. Supervise the Board activities and be in charge of arranging the Board meeting and the shareholders' meeting keep record of minutes of the Board meeting and the shareholders' meeting, and coordinate with relevant parties to effect and follow up implementation in accordance with the resolutions of such meetings.
3. Prepare and safe keep important documents of the Company including:
  - 3.1 Board register
  - 3.2 Invitation notice to the Board meeting, minutes of the Board meeting and the Annual Reports of the Company
  - 3.3 Invitation notice to the shareholders' meeting and minutes of the shareholders' meeting
4. Safe keep reports on beneficial interests of directors and executives (referring to directors and executives who are duty-bound to report to the Company their beneficial interests and those of related persons).
5. Perform any other tasks and responsibilities prescribed by the Notification of the Capital Market Supervisory Board.

### Brief Biography :

<b>Name</b>	: Mrs. Varinkan Teraumranon
<b>Education</b>	: BBA (Accounting), Rajamangala Institute of Technology
<b>Working Experience</b>	: • 2016 - Present Corporate Governance Director and Company Secretary
<b>In the 5 Preceding Years</b>	• 2016 - 2017 Assistant Managing Director: Corporate Governance and Company Secretary • 2014 - 2016 Operation Support Director (General Management Group)
<b>Training participation</b>	: <b>Training program of Thai Institute of Directors Association (IOD) :</b> <ul style="list-style-type: none"> <li>• Effective Minute Taking Plan (EMT), Class 36/2016</li> <li>• Company Reporting Program (CRP), Class 16/2016</li> <li>• Company Secretary Program (CSP), Class 72/2016</li> <li>• How to Develop a Risk Management Plan (HRP), Class 8/2015</li> </ul>
	<b>Other courses :</b> <ul style="list-style-type: none"> <li>• P01 : CSR for Corporate Sustainability</li> <li>• S01 : Strategic CSR Management</li> <li>• S02 : Supply Chain and Stakeholder Engagement</li> <li>• S03 : Corporate Social Initiatives for Sustainable Development</li> <li>• S04 : Sustainability Risk and Materiality Analysis</li> <li>• S05 : CSR Evaluation and Data Management</li> <li>• S06 : Sustainability Reporting</li> </ul>

- Organizational Success Assessment through KPI Course
- 360° Marketing Communication Techniques Course
- Finance for Non-finance Executive Course
- Finance for the Boss Course

The Company has mapped out qualifications of Company Secretary as regards age, education, foreign language proficiency, communication skills, interpersonal skills, capability in coordinating with internal and external parties, and public relations and enhancement of the Company's good image among external parties. In the event that the Company Secretary vacates office or is unable to perform duty, the Board shall appoint the new Company Secretary within 90 days from the date on which the existing Company Secretary vacates office or can no longer perform duty, and during the lapse of which, the Board shall assign any one of the directors to perform Company Secretary duty as per the Securities and Exchange Act B.E. 2535 (1992) (and the amendments).

## 5. Remuneration for Directors and Executives

### 5.1 Monetary Remuneration

#### 5.1.1 Directors

The 2018 Annual General Meeting of Shareholders held on April 27, 2018 resolved to approve payment of monthly remuneration for the Company's Directors and Board-Committees and meeting allowance Which is reflected from the performance of the company as follows as below :

Remuneration for Board / Committee	2018 (Year proposed)
1. Monthly remuneration : Directors / Audit Committee / Risk Management Committee	
• Chairman of the Board	30,000 Baht / Month
• Board-Committees	25,000 Baht / Month
• Directors / Independent Director	20,000 Baht / Month
• Directors (3 working day/week)	120,000 Baht / Month
2. Meeting allowances : Director / Audit Committee / Risk Management Committee	
• Chairman	15,000 Baht / meeting
• Directors	10,000 Baht / meeting
3. Bonuses for directors of the Board	None
4. Other Remuneration	None

**Note :**

1. Board and Committee members entitled to receipt of Directors' remuneration must not be employees of the Company.
2. Board member who also serve in other committee shall receive only one remuneration that pay the highest rate.

In summary, the remuneration of 11 Directors for a period of 12 months ending as of December 31, 2018, totals THB 3,970,000. This comprises monthly remuneration for the Company Directors of THB 2,880,000, monthly remuneration for Board-Committees of THB 300,000, and meeting fee of THB 790,000, the resolution of which was passed by the 2018 AGM on April 27, 2018. The remuneration is considered through the comparison with organizations with equal size in the same industry, as well as the Company performance, achievement, responsibilities of the Board of Directors, and overall business circumstances.

In 2018 and 2017, the company payment of monthly remuneration for the Company's Directors and Board-Committees and meeting allowance as follows as below :

Name	Position	2018				2017				
		Monthly Remuneration	Meeting Fee			Monthly Remuneration	Meeting Fee			
			Board of Director	Audit Committee	Risk Management Committee		Board of Director	Audit Committee	Risk Management Committee	
1. Dr. Thakol	Nunthirapakorn	Chairman of the Board, Chairman of the Audit Committee, Independent Director	360,000	90,000	60,000	-	240,000	75,000	60,000	-
2. Dr. Sothitorn	Mallikamas	Independent Director, Member of the Audit Committee	240,000	60,000	40,000	-	160,000	50,000	40,000	-
3. Miss Voranuch	Supaibulpipat	Independent Director, Member of the Audit Committee	240,000	60,000	40,000	-	160,000	40,000	40,000	-
4. Dr. Supot	Tiarawut	Independent Director, Chairman of the Risk Management committee	300,000	50,000	-	180,000	200,000	50,000	-	120,000
5. Mr. Wirat	Sukchai	Director, Chief Executive Officer	-	-	-	-	-	-	-	-
6. Mr. Wasan	Nantakwang	Director, Managing Director	-	-	-	-	-	-	-	-
7. Mr. Thammanoon	Tripetchr	Director, Managing Director	-	-	-	-	-	-	-	-
8. Dr. Jain	Chamnarong	Director	1,200,000	50,000	-	-	600,000	40,000	-	-
9. Mrs. Sirima	Iamsakulrat	Director	340,000	50,000	-	-	340,000	40,000	-	-
10. Mr. Parkphum	Wongpaitoon	Director	240,000	60,000	-	-	160,000	50,000	-	-
11. Mrs. Valeeratn	Chuerboonchai	Director	260,000	50,000	-	-	270,000	30,000	-	-
Total			3,180,000	470,000	140,000	180,000	2,130,000	375,000	140,000	120,000

### 5.1.2 Company's Executives

In 2018, and 2017, the company payment of remuneration for the Company's executives as follows as below :

Remuneration	2018		2017	
	No. of executives	Remuneration (Baht)	No. of executives	Remuneration (Baht)
Salary, bonus and other benefits such as Incentive, social security fund, provident fund, EJIP and post-employment benefits	3	12,485,725	3	12,604,738

### 5.2 Other Remuneration

- Other remuneration of board directors -None -
- Other management remuneration - is shown in Table 5.1.2 above.

## 6. Manpower

### 6.1 Number of Personnel

As of December 31, 2018 and December 31, 2017, the Company has of 247 employees (154 male, 93 female) and 236 employees (excluding executives) respectively, categorized by function line as follows :

Operational Line	Number of Employees (persons)	
	As of December 31, 2018	As of December 31, 2017
Project Sales Group	35	34
Fire Protection, Air Conditioning & Sanitary System : Sales Group	26	27
Project Sales Group (Petrochemical)	7	3
Refrigeration System Sales Group	16	15
Engineering Support Group	5	3
Digital Printing System Sales Group	25	26
Service Group	34	33
Special Product Sales Group	12	10
Corporate Governance Group	13	7
General Management Group	39	42
Finance Group	35	36
<b>Total</b>	<b>247</b>	<b>236</b>

## 6.2 Employee Compensation

The Company's employees will receive remuneration in both monetary and non-monetary forms. Monetary remuneration includes salary, bonus, overtime pay, brokerage fee, incentives and rewards, as well as other monetary benefits.

Non-monetary compensation includes provident fund managed by an authorized asset management company to be compliant with the provisions of Provident Fund Act B.E. 2542 (1999) with employee savings rate to go up in line with the increasing years of service of the respective employee. The Company also allows the employees to select or change their investment policy as considered proper for them with acceptable risk level. The employee choice can be made twice a year. Group life and health insurance is taken out by the Company to insure the employees, with coverage amount varied to job position and level of risk associated with nature of job performance. Moreover, the Employee Joint Investment Program (EJIP) has been established to provide the employees with an opportunity to jointly invest in and own the Company, which will be regarded as savings for the employees' long-term financial security. The Company also offers scholarships of both undergraduate and graduate levels, and financial support for in-house and external training programs and seminars.

In 2018, and 2017, the company payment of remuneration for the Company's employees as follows as below :

Remuneration	2018		2017	
	No. of employees	Remuneration (Million baht)	No. of employees	Remuneration (Million baht)
Salary, bonus and other benefits such as Incentive, social security fund, provident fund, EJIP and post-employment benefits	247	153.19	236	155.02

## 6.3 Major Labor Dispute in the Past 3 Years

- None -

## 14

# Corporate Governance

## 1. Corporate Governance Policy

HARN has a determination to be an engineering leader in Fire Protection System and Safety, Refrigeration System, and Digital Printing System. To create good business profits, the company realized that in order to succeed, apart from delivering quality products and services, operating business with care to stakeholders is crucial. HARN uses good corporate governance and keeps principle of business conduct, delivers quality administration and employees. This will increase business value and support sustainable growth.

HARN set Corporate Governance Policy and has been practicing since 2013. It is published through the company website, [www.harn.co.th](http://www.harn.co.th), and assigned for review annually. In 2018, the Board of Directors reviewed the policies three times, May, August and November respectively. Studies of CG Code 2017 were adapted to match current environment of the business. The Board of Directors agreed to determine into 8 main categories and set as standards for operation for the committee and management along with all employees and adjusted some category to conform to international standards as follow :

- HARN increased distinctive of the Committees' roles as a leader that adds values to HARN
- Approved and appointed Nomination and Remuneration Committee
- Use of innovation and technology
- Resource Management
- In pursuit of trends that may affect major financial circumstances

### Corporate Governance Policy that adheres to as an operating framework

1. The Board of Directors, Executives and all employees must perform their duties with determination, commitment and responsibility to the best of their ability for the benefits of the HARN and to uphold the 5 international standard principle of corporate governance (REACT) guidelines of understanding, trust and faith where habitually practice as a corporate culture. which are;

- **Responsibility**  
Be responsible and perform the duty with the best of the abilities, efficiency and with determination.
- **Equitable Treatment**  
Treat all groups of stakeholders equally and fairly.
- **Accountability**  
Take responsible of one's decision, action and others under one's responsibility. Be able to explain such decisions.
- **Creation of Long Term Value**  
Have a vision to create a long term value for the Organization.
- **Transparency**  
Operate the businesses transparently, accountable and reveal the information to related parties transparently as guidelines with understanding, confidence and faith by practicing routinely, resulting in a good culture of the Organization.

2. The Board of the Directors has a significant role together with the Executives to set the visions, strategies policies and important plans, including establishing the management structures that relates fairly between the Board of Directors, the Executives and the shareholders and to plan the management guidelines and the appropriate business operations including making sure that the accounting system, the financial report and the accounting audit are reliable.
3. The Board of Directors and the Executives must be the leaders in terms of ethics and be an example for working with honesty, fairness, transparently and accountable.
4. The Board of Directors, the Executives and all employees must uphold fairness by treating all stakeholders equally, including keeping watch, control and prevent anyway decisions or actions that may have conflict of interests with relating issues.
5. The Board of Directors must operate with the efficient anti-corruption system to ensure that the management is aware, emphasizes and follows the anti-corruption policies.
6. Compliance with the corporate governance policy of the company HARN is considered an important key performance index in evaluating the business management of the Board of Directors and the Executives and to assess the performance of employees.

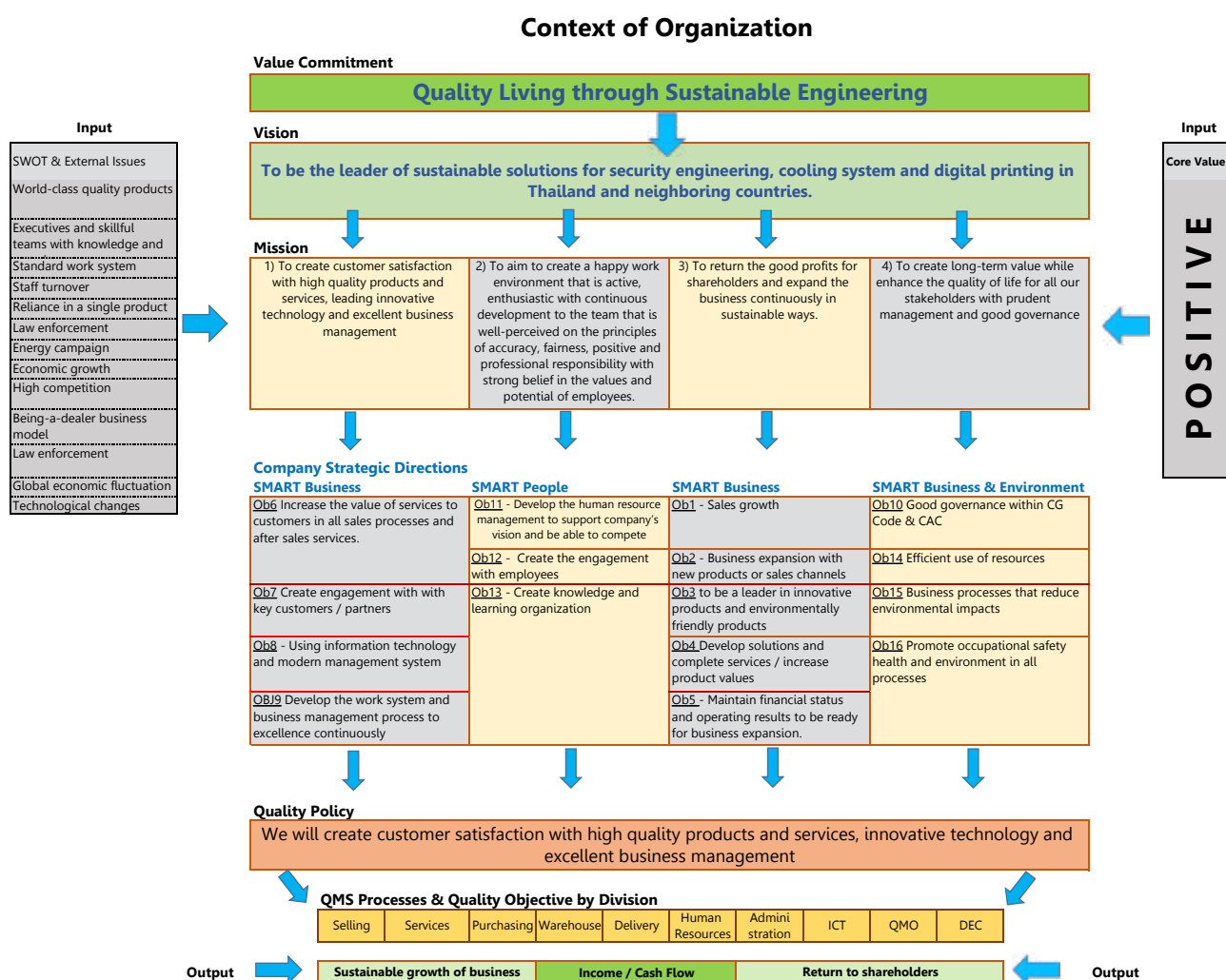
The Committee set policies, principles and followed up on practice of good corporate governance in 2018 as summarize as follow :

## **Chapter 1 Establish Clear Leadership Role and Responsibilities of the Board**

- 1.1 To create promise that the Board is realized and aware of roles and responsibility as a leader of the organization in November 2018. The Board, therefore, set reviewing timeline of policies and missions that used to administer according to good corporate governance and indicated March as a month for meeting for reviews of policies and principles of corporate governance, business ethics, other administrative policies at policy level and management level. In October, the Board set another meeting to review vision, mission, strategies, goals, and direction of business for the next year, at least once a year.
- 1.2 The Board set framework of management according to strategies for the Board of Directors to review 12 times in 2018 and reported progress to the Board quarterly. The Board of Directors presented KPI at organization level and operational to ensure that direction of operating business is competitive sustainably. Moreover, to ensure that business is operated under code of conduct and be aware of stakeholders including able to accept changes which are inevitable.
- 1.3 Administrative of the Board, Management, and all employees are to follow the law, rules, and policies which delegated to relevant management to review the laws and keep up to changes. This was set as risk in policies, relevant laws and set KPI COR-07 Low Compliance as an index to determine performance of management and other relevant members.
- 1.4 To motivate the Board, Management and all employees to aware of their roles and responsibilities given by the company. The Board reviewed charter in May and December 2018 and distributed to all Boards as an operating manual as well as approved "Approval Guidelines for Management" to discriminate approval authorities, responsibilities for flexibility of workflow in the company. The separation of tasks of the Board, the Chairman of the Board, and Administrative Section was clearly mentioned in Management Structure

## Chapter 2 Define Objectives that Promote Sustainable Value Creation

- 2.1 The Board reviewed and approved vision, mission, strategies, goals, and business direction of the company in January 2018. The reviewed were created for three-year usage and assigned to distribute objectives and goals into ISO 9001:2015 which the company passed the assessment in late November 2017 and was officially registered on 31 January 2018. The scope was expanded into review of organization context, external and internal factors, stakeholders, etc. When combine with policies and good corporate governance policies, business conduct together with anti-corruption policies made the Board confident to lead the business to sustainability.
- 2.2 The Board of Directors ensures that strategies were practiced where the Executive Committees will review business performance monthly and report to the Board of Directors as quarterly. For broadcasting objectives and goals of the business into operational level, management of each department is responsible for this task. It ranges from business level to division, section and to employees through official and unofficial meetings via mandated channels.



## Chapter 3 Strengthen Board Effectiveness

3.1 The Board of Directors, as a representative of the shareholders, are aware of importance of given mission, therefore, the Board must be knowledgeable, expert, and experienced that would benefit the company. The Board must dedicate to the given tasks, be a leader, have vision, and free to make decision, able to take care system and verify that all operations of the business will take place as usual according to the law, ethics, and has no obligation to administrative of the company. Separation of responsibilities between Executive and The Board must be clear.

(1) Composed of members with diverse skills, experience and expertise in specialized areas that are beneficial to the Company. The Board shall have at least one non-executive director with experience in engineering product trading business, which is the Company's core business, and at least one non-executive director with accounting and finance experience. The Board of Directors at current, comprise of several dimensions in terms of gender, age, education background, experience. The company has already reviewed Board Skill Matrix and term of office as The Board of Directors individually every year and can be summarized as follow:

Skills and expertise of the Board of Directors			
64%	General knowledge of business	45%	Technology
55%	Accounting	73%	Risk Management
45%	Finance	36%	Human Resources
36%	Laws	45%	Strategic Management
36%	Marketing	55%	Social Responsibility and Sustainable Development

(2) At present (as at December 31, 2018), the Company's Board of Directors is composed of eleven members, of whom eight are non-executive directors and committees that are management three persons which are Chairman of Board of Director 1 position, Managing Directors 2 positions, and has numbers of committees that are not Independent Committees in a fair ratio of investment of Controlling Shareholders.

(3) Have four independent directors out of a total of eleven directors, which accounts for more than one-third of the total number of directors. All the independent directors may independently give opinions regarding the performance of the management, hence proper checks and balances in the voting on various matters, and review the operational performance of the management for the optimum benefits of the Company. These three independent directors are also Audit Committee members. The number of independent directors and Audit Committee members are in compliance with the requirement of the Office of Securities and Exchange Commission that at least one-third of the total number of directors shall be independent directors and three of the total number of directors shall sit on Audit Committee. In addition, all independent directors and Audit Committee members shall have the qualifications as prescribed by the Notification of the Capital Market Supervisory Board.

- (4) Pursuant to the Company's articles of association, at each annual general meeting of shareholders, at least one-third of the directors shall vacate their office. If the number of directors cannot be divided into three, the number nearest to one-third shall retire. The directors to vacate office in the first and second years following the registration of the Company shall be drawn by lots. In the subsequent years, those longest-serving shall vacate office. Directors who retire by such rotation may be re-elected, without limiting the number of times.
- (5) Term of office of the Independent Committee is not more than 9 consecutive years counting from the date of appointment or 3 consecutive term of office with no exceptions. Currently, 3 Independent Committees have term of office of 6 years and another person has term of office of 2 years.

### 3.2 Selecting suitable candidate as The Chairman of Board of Directors

- (1) Currently, Dr.Thakol Nunthirapakorn, a member of Independent Committee is The Chairman of Board of Directors and does not repeat a position of Chief Executive Officer which is Mr.Wirat Sukchai. He has no business relationship or bloodline with the CEO. Therefore, the position is suitable and balanced.
- (2) The company has separated responsibilities between the Board of Directors and Management clearly where the Board decides policies and corporate governance of the management at policy levels while the management takes care of other operations of the organization according to the policies. The Chairman of the Board does not involve in current day to day activities but support and give advice to administrative of management through the Board regularly. The Chief Executive Officer and Managing Directors responsible for managing the company under the given authorities by the Board.
- (3) Responsibilities of the Chairman of the Board as a leader of the Board of Directors are as follow:
- Calls for the Board meeting according to the policies. In urgent cases, the Chairman of the Board is the head of the meeting and in the Annual General Meeting including determines agenda of the meeting with the Chief Executive Officer.
  - Supports and gives opportunities to all committees or shareholders to be a part of the meeting and supports the committee to be discrete on comments independently.
  - Supports and promotes the Board to serve at full capabilities but under authorities and responsibilities with good corporate governance.
  - Directs and follows up administrative works of the Board effectively and focuses to achieve main objectives and goals of the company.
  - To look after management of the Board and sub-Board effectively and to achieve set objectives.
- (4) The Board appoint sub-Board to review specific concerns and review information then present considerations before ask for approval from the Board where set specific authorities in clear (Management Structure Section, Page 43-51) including numbers of meetings that each Board attended and report operating results of the sub-Board in the past year in Page 124-127.

### 3.3 Recruitment and Selection of the Committees

(1) The Nomination and Remuneration Committee selects suitable persons and appoints as the Board of the company by submitting qualified names, experience, capabilities and considers the best and skillful person for the company. Consider from Thai Institutes of Directors or other organizations that presents relevant information or other sources approved by the company.

Moreover, the selection of Independent Committees must consider qualification and other prohibited characteristics of the Board according to the Public Company Law and laws of Securities and The Stock Exchange including announcements, rules and/or relevant policies.

(2) Give opportunities to small shareholders to submit qualified names according to the law of Securities and The Stock Exchange as per qualifications set by the company in order to be a candidate of the Board. By announcing invitations on the company's website From October 1, 2018 to December 31, 2018, including news on the website of the SET To allow shareholders to propose names and personal profiles to the company The company set ratio of minimum shares to be qualified prior to the announcement and must have a minimum of 5% voting shares of the company. However, none of the shareholders asked for any agenda nor submitted candidate of the Board at the specific timeline, the Secretary then reported to the Board of Directors.

(3) In recruiting, education background and experience of that person must be sufficient and aid decision of the Board.

(4) Nomination and Remuneration Committee will review qualifications and method of recruiting to the board prior to the end of term of office. If the Nomination and Remuneration Committee submit the same Board as a candidate, performance of that individual must be reviewed once again.

(5) Nomination and Remuneration Committee presents names for approval from the Board in order to consider appropriateness of the candidates as the Board including selection and appointment of the Board according to procedures of the company to the Annual General Meeting for consideration and later appointment.

(6) No appointment of the adviser to the Nomination and Remuneration Committee

### 3.4 Review of structure and compensation rate of the Board of Directors

(1) Compensation of the Board is relevant to duties, obligations, experience, accountability and responsibility of individual Board including interests that may receive from individual.

(2) The Board clearly considers and review policies and rules to compensate the Board, then submit for approval to the Annual General Meeting in each year. The authority to set specific numbers or to deploy as rules will be determined from time to time or may enforce until further notice. The consideration is based on rules of transparency, detectability in the appropriate level, comparable to operating level of the industry, business size and sufficient to motivate the Board to retain the position with quality. Moreover, the company adds more responsibilities to the given Board and appointed as sub-Board such as Audit Committee, Risk Management Committee, Executive Committee, for example.

(3) Compensation of the Committees must not affect employees' benefits where the Committees are one of the employees as well.

- (4) Compensation must not conflict with position of the Independent Committee according to the law of Securities and The Stock Exchange.

### 3.5 Accountability and Responsibility of the Committees to comply with duties and time management

- (1) The Board set numbers of companies that each Committee able to take which does not exceed 5 registered companies while respect effectiveness of the management and good corporate governance to ensure that the Board dedicate sufficient time for the operation. In 2018, each Board is in position for other register companies as follow:

Number of Committee	HARN's Committee	Number of registered companies that the Boards share a position in		
		1 company	2 company	3 company
4 persons	✓	✓	-	-
7 persons	✓	-	-	-

Total 11 persons

(Illustrates in Attachment 1 History of the Board of Directors and Executives Company Secretary of 56-1 Form)

- (2) The Board must not own a business or be a part of ordinary partnership or partnership or limited partnership or be a Board of other entities at the same industry or a competitor of the company unless reported to the General Meeting prior to the appointment.
- (3) The Boards have no policy to submit any committees to be a Board of other companies. In case that the Board will take another position as a Board of another business, it must be approved by the Board unless the business is non-profit organization. However, the position must not conflict with laws and rules related to the operation of the company and must not use the position to refer nor to ask for other benefits of other entities.

### 3.6 Determine framework and mechanism for corporate governance of the subsidiaries, joint venture, or important investment

- (1) Determine policies to govern subsidiaries and joint ventures by setting responsibilities of company's representatives

Internal control system of the subsidiaries and joint ventures appropriately and concisely to create reports according to the law and relevant regulations.

- (2) Publish financial statement and business results of transactions with relevant parties, acquire or sell assets, other major transactions such as increase of capital, reduce of capital, dissolution of the subsidiaries and joint ventures, for example.

(3) Major joint venture is defined as has ratio of the voting shares between 20 - 50% and invest large amount of sum. In necessary circumstances, the Board must arrange Shareholder's' agreement or other agreement to clarify authority of management and decision, track business operation to use for financial statement of the company according to the standards and timeline. At present, HARN is in the process of establishing a subsidiary to support the expansion of the AEC market in Asia and increase the efficiency of current customer service in the production base in Ho Chi Minh Vietnam.

### 3.7 Evaluate performance of the Board and sub-Boards

The Board and sub-Boards have Self-Assessment at least once a year or in every December which comprises of

- Self-Assessment of the whole Board
- Individual Self-Assessment

To consider performance and problem-solving. The company will collect self-assessment of the Committee to consider appropriateness of the Board as well.

Currently, the board has no outsource consultant to assist in directing and propose the assessment of the Boards' performance

In 2018, the assessment results are shown as follow:

#### Process of Self Evaluation

Board of Directors approve and review the evaluation form for accuracy and completeness in accordance to the regulations set by the supervisory authorities.

1



Executives do self-evaluations, team / individuals to express the opinions about the roles and duties of committee. The freedom, managerial structure, knowledge development and comments on corporate management.

2

3

The summary and performance evaluation of the board of directors are summarised by the Secretary of the company and reported to the Board of Directors



4

Company administrative analyzed the results and additional comments from the board of directors to make a plan to improve and develop.

## Self-evaluation results and sub-committee / individual committee year 2018

Evaluation topics / criteria	Board of directors		Audit Committee		Executive Committee		Risk Management Committee	
	Group	Individual	Group	Individual	รายละเอียด	รายบุคคล	Group	Individual
The structure and qualifications of the board consist of a variety of directors, proportion of directors qualifications of each sub-committee	83.3%	85.2%	84.7%	83.3%	68.8%	81.3%	77.7%	83.0%
The roles, duties and responsibilities of board of directors consisted of sufficient time to consider important matters. List of conflicts of interest, internal control system and risk management	88.6%	87.5%	91.7%	87.5%	78.5%	80.2%	80.1%	78.1%
Board meetings comprise of agenda of meeting in advance for a year, quality of document, sufficient of information for decision making of the Committee, freedom to make decision and vote including giving opinions of the Boards	83.5%	84.1%	90.5%	85.0%	81.7%	85.0%	76.8%	75.7%
Total	85.1%	85.6%	89.0%	85.3%	76.3%	82.2%	78.2%	79.0%
	Good	Good	Good	Good	Relatively good	Good	Relatively good	Relatively good

Measurement 90% up Excellent, 80-89% Good, 70-79% Relatively Good, 60-69% Fair, Below 60% Need improve

## Suggestion

- Top management should be educated on sustainable development and the creation of innovative organizations for implementation. However, the business of Harn is mainly focused to the development of "people".

### 3.8 Individual Board of Directors is knowledgeable and understands duties, characters of the business and the law of business and was strengthen skills and necessary knowledge to be the Board of Directors regularly.

(1) In every new appointment of the Board of Directors, administration department will create related document and information to the new Committees such as

- History and characteristics of the business
- Business Structure, Company Structure, Main Shareholders and The Committees
- Responsibilities and accountabilities of the Board according to the relevant laws
- Any relevant information concerned the enforced laws
- Memorandum and company's policies
- Duties and responsibilities of the Board of Directors and the sub-Boards
- Nomination and Remuneration of the Board
- Meeting of the Boards
- Good Corporate Governance and Business Conduct

Including arrangement of business characteristics and directions of operation of the company along with to arrange meetings with The Chairman of the Board of Directors and Chief Executive Officer to the new Boards.

In 2018, the company did not appoint new Committees but informed the Committees to be aware of the current environment. The company reviewed policies and rules together with corporate governance policy, anti-corruption manuals that the Boards should know and served as the Board of Directors.

(2) The Committees are fully understand laws, policies, standards, risks, environment relate to operating the business and are aware of current information from the administrative regularly through appropriate channels such as e-mail and Board Meetings.

(3) The Boards of the company support and accommodate training and provide knowledge to relevant parties in corporate governance structure such as Committees and Audit Committees so that improvement can be made regularly. In 2018, the following trainings were arranged for the Committees and high-level Management.

1)	Committee		Courses
1.	Dr. Thakol Nunthirapakorn	Independent Committee and Chairman of the Board of Director	1. Role of the Chairman Program (RCP) - 43/2018, Thai Institute of Directors 2. Updated COSO Enterprise Risk Management: Integrating with Strategy and Performance, The Stock Exchange of Thailand 3. Dealing with Cyber Risk in the Boardroom, Thai Institute of Directors 4. Better Governance, Better Business: Thailand's Progress Report, Thai Institute of Directors 5. Thai Institute of Directors, Thai Institute of Directors 6. National Director Conference 2018, Thai Institute of Directors 7. Rising Above disruption: A call for action, Thai Institute of Directors 8. Why Supply Chain Sustainability Means New Opportunities, Thai Listed Companies Association 9. Invitation to attend CAC National Anti-Corruption Conference "Disrupting Corruption, Thai Institute of Directors"
2.	Dr. Sothitorn Mallikamas	Independent Committee	N/A
3.	Miss Voranuch Supaibulpipat	Independent Committee	N/A
4.	Dr. Supot Tiarawut	Independent Committee	N/A
5.	Mr. Wirat Sukchai	Committee	1. Rehearsal the understanding of investor warning measurement, The Stock Exchange of Thailand 2. HARN One Heart (Employee Engagement), People Develop Center
6.	Mr. Wasan Nantakhwang	Committee	1. HARN One Heart (Employee Engagement), People Develop Center
7.	Mr. Thammanoon Tripetchr	Committee	1. CSR for Corporate Sustainability, The Stock Exchange of Thailand 2. Strategic CSR Management (S01), The Stock Exchange of Thailand 3. Supply Chain and Stakeholder Engagement (S02), The Stock Exchange of Thailand 4. Corporate Social Initiatives for Sustainable Development (S03), The Stock Exchange of Thailand 5. Digital Transformation (Samitivej Hospital, Sukhumvit), Nida Professional Training 6. Offset printing technology and quality control in printing, The Thai Printing Association 7. HARN One Heart (Employee Engagement), People Develop Center
8.	Dr. Jain Charnnarong	Committee	1. Directions and trends of key technologies to Digital Transformation, Thailand Productivity Institute 2. Enhance Efficiency and Growth through Process Innovation, The Stock Exchange of Thailand
9.	Mrs. Sirima Iamsakulrat	Committee	1. Board Nomination & Compensation Program (BNCP) - 5/2018, Thai Institute of Directors
10.	Mr. Parkphum Wongpaitoon	Committee	N/A
11.	Mrs. Valeeratn Chuerboonchai	Committee	N/A

2) Executive Committee			Courses
1.	Mr. Wisit Wachiralappaiboon	Director of Finance	1. Update corporate income tax to be ready before submitting PND 50 form of year 2017 that must be submitted in 2018, The Dharmniti PCL 2. Tales of fraud and wrong accounting standards of registered companies - 1/61, Thailand Federation of Accounting Professions 3. Preparation for the changes of standard financial reporting about financial instruments, version 2, The Stock Exchange of Thailand 4. Final Countdown to TFRS9 Focus Group, Thailand Federation of Accounting Professions 5. e-tax invoice& e-receipt, The Revenue Department 6. Techniques for proposing research proposals for certification of research projects according to the 3000% tax exemption measures Batch 12, National Science and Technology Development Agency
2.	Mrs. Varinkan Teraumranon	Director of Corporate Governance	1. Updated COSO Enterprise Risk Management: Integrating with Strategy and Performance, The Stock Exchange of Thailand 2. HARN Anti-Corruption, Decha and IBS 3. HARN One Heart (Employee Engagement), People Develop Center
3.	Mr. Pracha Phromphornchai	Director of Project Sales	1. SIEMENS: IG-100 System, Siemens Thailand 2. HARN One Heart (Employee Engagement), People Develop Center 3. FIRE ALARM "NOTIFIFR" system, Honeywell Thailand 4. The understand of risk management in the organization, HARN Engineering Solutions 5. Door Fan Test, Harn Engineering Solutions 6. Novec - 1230 (70 bar) hygood, Harn Engineering Solutions
4.	Mr. Rattanaphan Mukhariwattananon	Director of General Sales	1. Victaulic Drop Pipe Pump&Chiller Cost Analysis, HARN Engineering Solutions 2. HARN One Heart (Employee Engagement), People Develop Center
5.	Mr. Suchat Suwatnodom	Director of petrochemical Sales	1. HARN One Heart (Employee Engagement), People Develop Center
6.	Mr. Nuntawat Jeerakhom	Director of Sales	1. Danfoss Electronic Expansion Valve, Danfoss Thailand Co., Ltd. 2. HARN One Heart (Employee Engagement), People Develop Center 3. Strategic CSR Management (S01), The Stock Exchange of Thailand 4. Supply Chain and Stakeholder Engagement (S02), The Stock Exchange of Thailand 5. Corporate Social Initiatives for Sustainable Development (S03), The Stock Exchange of Thailand 6. Sustainability Risk and Material Analysis, The Stock Exchange of Thailand 7. CSR Evaluation and Data Management, The Stock Exchange of Thailand
7.	Mr. Sukit Litikorn	Director of Engineering Support Division	1. HARN One Heart (Employee Engagement), People Develop Center
8.	Mr. Withoon Thamee	Director of Sales	1. HARN One Heart (Employee Engagement), People Develop Center
9.	Mr. Pongsawat Penglengpol	Director of Special Products Sales	1. Digital Marketing For Print Business, The Thai Printing Association 2. Digital Transformation (Samitivej Hospital Sukhumvit), Nida Professional Training 3. Safety personnel at the Executive Level, Sirinakorn Safety Training 4. Offset printing technology and quality control in printing, The Thai Printing Association 5. HARN One Heart (Employee Engagement), People Develop Center 6. Understanding of Risk Management Workshop, HARN Engineering Solutions
10.	Mr. Chatraapichai Earanekkulchai	Director of General Administration	1. Safety personnel at the Executive Level, Top Professional and Development 2. HARN One Heart (Employee Engagement), People Develop Center 3. HARN Anti-Corruption, Decha and IBS 4. The understanding of corruption, HARN Engineering Solutions

3.9 The Boards will ensure that operations of the Boards run smooth and able to access information as necessary. The Secretary of the company is appointed who is skillful and experience for the tasks of the Boards.

#### Board of Directors Meeting

(1) The Boards and sub-Boards determine yearly meeting schedules in advance by November of every year so that the Committees can arrange and be able to attend the meetings. At least 6 meetings must be taken place and may arrange an additional meeting one month prior to the Annual General Meeting. Special occasions of meeting may be taken place as seen necessary. However, to pursuit business as usual, in each month, the Executive Meetings will take place. The Executive Committees whom delegated given tasks by the Board of Directors would attend and in every Executive Committees Meeting, the Executive Committees will report the approved topics to the Board of Directors. This is arranged to control and look after operation of Administrative consecutively and at current. In 2018, there were 6 Executive Committees' Meetings. Attendance details of each individual is stated under "Executive Committees Meeting" Page 51

(2) The Board Chairman and the Managing Director jointly determine and approve issues to be put on the agenda. Other Board members are also allowed to freely propose issues that they think are beneficial to the Company to be included in the agenda. It is the responsibility of all the directors to consistently attend the Board meeting at least 75% of the total number of meetings held in each year. In 2018, the average number of directors attending the meeting was 94%.

(3) The Company Secretary is in charge of sending the meeting notice together with the meeting agenda and meeting documents to all directors at least seven days before the meeting date so that they will have enough time to study the agenda items, unless in urgent case to protect the interests of the Company, the meeting notice may be sent by other means and the meeting may be scheduled earlier.

The Company Secretary has the duty to attend the Board meeting and prepare the minutes, which will be submitted to the Board Chairman for consideration and signing in certification. The Board Secretary will then present the minutes to the next Board meeting for adoption. The Company Secretary also has the duty to keep meeting information and documents on the 4<sup>th</sup> floor of the head office, Rama 9 Road for ease of reference.

(4) The Board Chairman shall be chairman of the meeting to proceed with the meeting and allocate sufficient time for each agenda item. All directors are allowed to independently discuss and express their opinions on key issues with the best interests of the shareholders and other stakeholders taken into consideration on a fair basis.

In the meeting, there must be at least half of the total Committees. Therefore, the meeting is considered as quorum.

Resolutions of the meeting shall be passed by majority votes. Each director shall have one vote, but the director who has interests in any matter shall not be entitled to attend the meeting and/or vote on such matter. In case of a tie of votes, the chairman of the meeting shall have a casting vote. While the vote is taking place by the Committees, there must be at least two thirds of the total Committees.

All directors have the right of access to meeting documents and other necessary documents. If the independent directors or members of the Audit Committee have any queries, other directors and the management shall put in efforts in responding to such queries as promptly and completely as possible.

In case the directors disagree with a resolution, they may request the Company Secretary to record the points of their disagreement in the meeting minutes or submit a letter to the Board Chairman to express their disagreement.

(5) The Board of Directors encourages senior executives or executives concerned to attend the Board meeting as deem necessary and appropriate, to provide the meeting with additional beneficial information and details in the capacity of concerned parties, and to directly acknowledge the relevant policies from the Board for efficient implementation thereafter, as well as to support the Board's decision making and allow the Board members to be acquainted with the executives which will facilitate their consideration of the Company's succession plan afterward.

- (6) The Board of Directors can access additional necessary information from the Managing Director, the Company Secretary, or other executives assigned within the scope of designated policy. In case necessary, the Board may seek independent advice from external advisers or professionals, the expenses for which shall be borne by the Company.
- (7) The Board designates non-executive directors to have meetings among them as deemed appropriate without the attendance by executive directors or management to discuss problems in relation to the Company's business and other matters of interest. The resolutions of the meetings are notified to the Managing Director, the Chairman of the Executive Committee, and the Board of Directors. Such meetings are chaired by the Board Chairman. If the Board Chairman cannot attend the meeting, a director shall be elected to chair the meeting while the Company Secretary shall serve as secretary to the meeting.

#### **Appointment of the Secretary of the company**

- (1) The Board of Directors appoint a Secretary whom is qualified and experienced in secretarial. Main duties and responsibilities are according to the Securities law and The Stock Exchange. The Secretary needs to give lawful advices and advices on enforcements while the Committees must be acknowledged and comply to the overall activities of the board including coordinate enforcement as per resolution of the Boards. The qualification and experience of the Secretary must be shared in the Structure of Administration, Page 54 and on the company's website at [www.harn.co.th](http://www.harn.co.th).
- (2) The Boards of Directors support and encourage the Secretary to be trained and developed skills continuously in laws, accounting or other secretarial related activities.

## **Chapter 4 Ensure Effective CEO and People Management**

### **4.1 Recruitment and development of high-level management which refers to Chief Executive Officer and Board of Directors to be knowledgeable, skillful, experienced to command and perform duties to drive the organization towards goals.**

- (1) The company chooses personnel that are knowledgeable, experienced, and skillful for the business as the Chief Executive Officer, the Board of Directors by following rules of resource management and receive approval from the Board of Directors.
- (2) The Nomination and Remuneration Committee will report to the Committees regularly on development and successor plan in order to prepare talents as successors in case the Chief Executive Officer, the Board of Directors, and high-level of management retire, resign, or unable to retain in duties.
- (3) The Boards has no policy to scrutinize and nominate the Committees to other operations. In case that the management prefer to accept a position as the Board of other companies, approval must be granted by the Board of Directors in exception to a position in non-profit organizations. In this regard, the position must not conflict with the laws and enforcements that relate to the operation of the company and must not use the position as the Board to refer or support other entities.

#### 4.2 Structure of appropriate Nomination and Remuneration

- (1) Nomination and Remuneration Committee sets structure of remuneration and appropriate measurements, then presents to the Boards according to the policy and principles given by the Committees.

Remuneration is varied according to the position such as salary, employee benefits e.g. Officer vehicle, returns that create long-term benefits e.g. LTF, EJIP, insurance plans. Management that received higher responsibilities will consequently receive higher remuneration as seen appropriate to the duties.

Remuneration by performance such as bonus which is determined by KPI set annually by financial operation, results of performance that met long-term business strategies.

- (2) Committees that are non-management evaluate the Chairman of the Board of Director and Managing Directors yearly. The Board of Directors preliminary evaluates performance and the Chairman of the Committees announces the results to the Chairman on of the Boards of Directors and Managing Directors.
- (3) The evaluation is used to determine remuneration of the Chief Executive Officer and Managing Directors by comparing remuneration to the labor market which is competitive enough in the same industry in order to maintain quality management while taking the company and shareholders interest into consideration as well.

#### 4.3 The Boards understand structure of investor relations that may affect to the administrative and to operate the business

- (1) The Boards understand structure of investor relations that may affect control power of the administrative and management by using structure of the Boards which comprises of 4 Independent Committees from the total of 11 Board of Directors to balance out. Support good and professional management culture under the corporate governance and other policies strictly.
- (2) The Boards control structure and relationship of stockholders as per (1) not to be obstacles in exercising duties of the Boards such as having appropriate candidates as successors.
- (3) The Boards will look after reveal agreed information that may affect control of the business.

#### 4.4 The Boards administer management and develop employees to have numbers, skills, talents, experience and appropriate motivations.

- (1) The company is fully aware that all employees at any level play a part to drive the organization to meet goals. To maintain skillful employees, all employees will receive learning and development plans yearly both domestic and internal which focus to meet directions and strategies of the company in each year. Nevertheless, employees will receive fair remuneration where the company compared to the labor market and in the same industry yearly and report to the Boards. In 2018, remuneration of the company compared to the survey in 2017/2018 found that HARN's remuneration was 14% higher to the market while sales and after sales, technicians receive top remuneration in the industry. All employees will be treated equally and employees may ask for recommendation and consultant from top managements at all level who has open-door policy and open minded. The management encourages ideas and courage.

## Company's compensation and welfares

	CEO / MD	Director	Employee
<b>Salary</b> Motivate and retain employees with knowledge, capabilities and duties as assigned.	✓	✓	✓
<b>Benefits from the position</b> Motivate and retain employees with knowledge, capabilities and duties as assigned.	✓	✓	✓
<b>Performance Bonus</b> Reward for success, achievements referred to the indicators of success assigned in each year.	✓	✓	✓
<b>Incentive</b> Motivate to create work for progressive growth of the company	—	✓	✓
<b>Remuneration in stocks (EJIP)</b> Allow employees to participate in the ownership of the company and to maintain personnel in the long term to reduce staff turnover.	✓	✓	✓

(2) To support well-being of the employees, the company arranged short-term and long-term benefits in comparable to other companies in the labor market. The company supports employees to understand wealth management and offer a seminar in Train the Trainers: Happy Money, Happy Retirement during Organized by the Stock Exchange of Thailand 22 - 23 March 2018 as a model to develop for the company.

## Rewards and company welfares

Annual driving award	Life and health insurance plan
Award for saving car	Accident Insurance
Outstanding award for timing performance	Annual body check up
Award for outstanding staffs	Provident Fund
Award for service year	Social Security Insurance
Award for friend recommendations	English skill subsidisation
	Education scholarship
	Staff uniform
	Funeral cremation for family

## Chapter 5 Nurture Innovation and Responsible Business

### 5.1 Put importance and support innovation that adds value to the business together with create benefits to customers and stakeholders. Responsible for society and environment.

(1) To achieve a goal in “a leader of engineering solutions sustainably” The Company studies new technologies to develop product lines that the company sells constantly. Create differentiation and meet customers’ needs and relevant parties by using strategies that given by the high-level of management. Send employees to business trips overseas and adapt experience at HARN. Share experience to other employees in the same division and focus to accomplish together with the company.

In addition, the company promotes innovation as a part of company's value and communicate the innovation to the public and to stakeholders direct and indirectly.

Courses / Activities	Purposes	Board of Directors / Participants
<ul style="list-style-type: none"> <li>Field trip in China for new innovation</li> </ul>	In order to allow the management team and staffs to have the opportunity to stay connected and build a good relationship with key international partners and to learn new innovation and technological development.	Wasan Nantakhwang Nuntawat Jeerakhom Sukit Litikorn
<ul style="list-style-type: none"> <li>Study trip “Tokyo Pack” “Japan about new innovations”</li> <li>Join “Domino Conference 2018”</li> <li>Training knowledge about products with vendors that UK</li> </ul>		Thammanoon Tripetchr Withoon Thamee Satyamon Mahanam Pongsawat Penglengpol Kasidet Songsuphakit
<ul style="list-style-type: none"> <li>America and Germany about new innovations Training on product knowledge in Singapore</li> <li>Study visit, visit the US factory</li> </ul>		Wirat Sukchai Rattanaphan Mukhariwattananon Pracha Phromphornchai Pattanodom Viboonpanich Chettha Limsakol

(2) Appoint Innovation Committees to promote innovative culture in the company systematically and to lead to new development and innovation that meet customers' needs and sustain the business.

- Increase efficiency with Digital Transformation
- New point of views in designs and develop products and services
- Research
- Improve work process
- Cooperate with partners

## 5.2 Operate business with social responsibility and environment that reflect operation plan to ensure that all units operate with the same objectives, goals, and strategies of the business.

The company puts importance and focuses to create quality of life and safety to the social and environment by being a leader in service “sustainable engineering solutions” In the solutions that the company is a dealer.

(1) Administrative takes approved strategies from the Board of Directors and distributes goals into assigned divisions and department. Then, report to the Boards monthly.

### Company Strategic Directions

SMART Business	SMART People	SMART Business	SMART Business & Environment
<u>Ob6</u> Increase the value of services to customers in all sales processes and after sales services.	<u>Ob11</u> - Develop the human resource management to support company's vision and be able to compete	<u>Ob1</u> - Sales growth	<u>Ob10</u> Good governance within CG Code & CAC
<u>Ob7</u> Create engagement with with key customers / partners	<u>Ob12</u> - Create the engagement with employees	<u>Ob2</u> - Business expansion with new products or sales channels	<u>Ob14</u> Efficient use of resources
<u>Ob8</u> - Using information technology and modern management system	<u>Ob13</u> - Create knowledge and learning organization	<u>Ob3</u> to be a leader in innovative products and environmentally friendly products	<u>Ob15</u> Business processes that reduce environmental impacts
<u>Ob9</u> Develop the work system and business management process to excellence		<u>Ob4</u> Develop solutions and complete services / increase product values	<u>Ob16</u> Promote occupational safety health and environment in all processes
		<u>Ob5</u> - Maintain financial status and operating results to be ready for business expansion.	

- 5.3 Ensure that the Administrative allocates resources efficiently and efficiency while considering effects to the resource management and value chain to achieve goals and objectives sustainably.
- 5.4 Arrange plans to develop information technology in organizational level that correlate to the needs of business and ensure that information technology is being used to increase business opportunities and development plans. Administer risks to achieve objectives and main goals of the organization.
- (1) ICT department arranges policies and development plan of information technology in Digital Transformation 2018 - 2020 both software and hardware to match requirements of the company and increase efficiency of the internal process and sufficient resource management to operate the business.

#### Hardware Road map

- |                                 |  |
|---------------------------------|--|
| 1. Hardware Good Performance    | Supply laptops to all salespersons while replace the old equipments to be modern.  |
| 2. Network & Internet stability | Manage the internal network and Link Internet to be efficient with enough speed to use in the whole organization.  |
| 3. Security Safety Management   | Manage data security and access data from outside to be efficient, safe and reliable.  |
| 4. Copyright Software           | Management of procurement for copyright software in the organization   |
| 5. Hybrid Cloud                 | Server on Cloud management From 2017, with the installation of a private cloud to support the application of newly developed applications and plans to continue to be used on Backup on cloud. |

#### Software Road map

- |  |  |
|--|--|
| 1. Maintain the ERP system and programs in the company to be stable. | All parties work with flawless while delivering both internal and external works at on time. |
| 2. Program development   | Reduce work processes and errors while increase work efficiency                              |

- (2) The Boards administer risk management and information technology risks.
- (3) The Boards set policies and safety and security measurement of the information technology where the ICT creates contingency plans in case of unforeseen circumstances of the information technology and to be reviewed yearly.

## Chapter 6 Strengthen Effective Risk Management and Internal Control

- 6.1 The Boards governs that the company has risk management and internal control that lead to achievement of the business objectives effectively and to operate under the relevant laws and standards.

### Risk Management

- (1) The Risk Management Boards review Risk Management Policy yearly and cover the organization as a whole. Management at all levels considers and take objectives and goals to review for risks that may affect the organization and operation. Then, report to the Boards quarterly and arrange the reviews and evaluate Risk Management at least once a year and state in the Annual Report in Risk Factors Section Page 28-31.
- (2) The Risk Management Boards follow up and evaluate effectiveness of the risk management and monitor alarms and unforeseen risks including abnormalities.

Risk Categories					
Strategy	Finance	Operation	Rule / regulation	Corruption	External Factors
3	5	89	1	11	6

There are all two uncontrollable risks, but have been already been reviewed guidelines for correction and protection in 2018

Moreover, the Boards consider sufficiency of the internal control and risk management to ensure that the company has effective risk management.

- (3) To ensure that the company operates business according to the law and relevant standards domestically and internally. Therefore, the violation of law and relevant enforcements are also one kind of risks that each department needs to handle and review every month. The index of success is measured by KPI-COR 07 Law Compliance as a part of the evaluation of the relevant departments.
- (4) In managing above risks, the company takes results of internal control and risk management of subsidiaries and joint venture (if any) to be taken into consideration. Currently, the company has no subsidiary or joint venture to be counted as risks in 2018. Therefore, direct risks relate to HARN were evaluated.

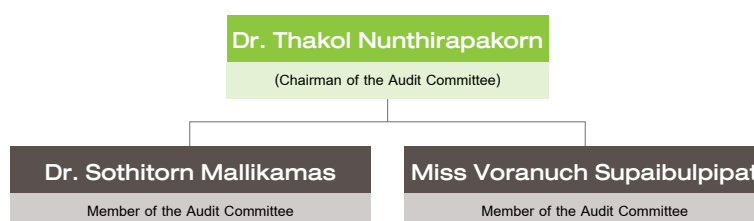
### Internal Control

The Board of Directors recognizes the necessity to have in place efficient internal control mechanism at both managerial and operational levels as it is the key to building confidence by helping minimize business risks and enhance efficient operation through appropriate allocation of resources and achieving the defined goals. In addition, it can help prevent asset leakage, loss or misconduct, and ensure the accuracy and reliability of financial reports, encourage personnel compliance with relevant laws and regulations, and protect the equity investments of shareholders. Hence, the Company has clearly laid down the scope of duties and authority concerning various matters in writing for the management and operation functions, including overseeing the use of the Company's resources toward resource optimization and clearly separating the roles and duties between operation, control and evaluation functions to ensure proper checks and balances.

- (1) The Board of Directors has assigned the Audit Committee to take charge of reviewing the adequacy and efficiency of the internal control system set up by the management, establishing and reviewing the control system on operation, financial reporting and regulatory compliance, and overseeing the operation and risk management. The Board of Directors also looks into any warning signals and unusual transactions.
- (2) The Company has engaged Ultima Advisory Company Limited, an independent external party, as its internal auditor to examine and ensure the adequacy and suitability of the Company's internal control system. To enable the internal auditor to perform duties independently in order to promote proper checks and balances, the internal auditor shall directly report to the Audit Committee. The Company shall constantly monitor the assessment results to be assured of the system efficiency. The assessment on the adequacy of the internal control system and the reviewing process on major systems shall be carried out at least once a year, and the results shall be disclosed in the Company's Annual Report.

## 6.2 The Boards appoint the Audit Committee that can officiate efficiently and freely.

- (1) The Audit Committee is composed of three independent directors, all of whom have full qualifications as stipulated by the SEC and the SET and at least one whom has competence and experience in reviewing the reliability of the financial statements, as named below:



Mr. Thakol Nunthirapakorn is the Chairman of the Audit Committee who have adequate competence and experience in reviewing the reliability of the financial statements, having graduated with a Doctoral degree from Col. Of Bad./Accounting, MIS, Economics, University of Arkansas, U.S.A. currently holds a position of adjunct professor in the University of the Thai Chamber of Commerce and had passed the 8th Director Accreditation Program (DAP) of the year 2004.

- (2) The Board specify duties of the Audit Committees in Charter which in 2018, it was reviewed once and reported in Business Structure, page 43-45.


- 6.3 Monitor, look after, and manage conflict of interests which may occur between Administration and shareholders including to prevent misuse of assets, information and opportunities of the business. Also, transactions that may involve in the business in the misbehave ways.

**Conflict of Interests**

- (1) The Boards direct and provide information security and mandates policies and producers of confidentiality, integrity and availability of information and manage market sensitive information. Moreover, the Boards make sure that the Committees, top management, employees and any relevant parties such as legal consultants, financial consultants to follow the information security system.
- (2) The company obeys and manage shareholders equally and set direction of management in conflict of interest in transparent, auditable and for consideration between companies and stakeholders. In case of the circumstances, the stakeholders must report to the company immediate and report to the Board Meeting to review that particular issues. The Committees must report the conflict of interest prior to the hearing of that agenda and record in the meeting minutes.
- (3) The company sets direction to prevent the Committees nor management whom may have conflict of interest participate in the approval process where in the vote of the Board of Directors, that particular Committees may not vote on the agenda.
- (4) The company regulates that the Committees and the first 4 managements report conflict of interests to the company by January of every year.
- (5) The Audit Committee shall present to the Board of Directors the related party transactions and transactions with conflict of interest which have already been carefully considered in terms of appropriateness. The Company has strictly followed the guidelines set forth by the Office of Securities and Exchange Commission and the Stock Exchange of Thailand concerning the determination of prices and conditions engaged with persons with conflict of interest just like a transaction made with external parties.

**Prevention of misuse of information**

- (1) The Company strictly controls and monitors the use of inside information to prevent any abusive self-dealing and maintain fairness to all stakeholders. The Company has set written guidelines for keeping inside information and for prevention of the use of inside information for abusive self-dealing, and communicated the guidelines to all staff organization-wide for further practice. Moreover, directors, executives and employees are required not to trade the Company securities and/or to enter into any legal acts using inside and/or confidential information, which may cause the Company direct or indirect damage. In addition, directors, executives and employees in the work units receiving inside information of the Company must not use such information before disclosure to the public and also must not trade the Company securities by themselves, spouses and underage children, either directly or indirectly transaction (such as nominee through a private fund), within thirty day prior to the disclosure of quarterly and yearly financial statements and at least three business days after the disclosure of such information. The Secretary of the company creates schedules that prohibits silent period and submits to the Boards and management every year.

 <b>HARN Engineering Solutions Public Company Limited</b> <b>Schedule of Prohibition of Stock Trading</b> <b>of Directors and Top 4 Executives - Year 2018</b> 	
<b>Principle</b>	The top four directors and executives starting from the CEO (according to the Securities and Exchange Commission of Thailand definition) are prohibited from trading their own "HARN" shares, including to their spouses and underage children within 30 days prior to publishing quarterly financial statements or annual financial reports and after being published three days apart from the period mentioned, those shares are able to be traded normally but must provide trading information to the company secretary for reporting the Securities and Exchange Commission of Thailand within three days from the date of trading of shares.
<b>Purpose</b>	In order to prevent the use of internal information in accordance with the Securities Act 2016, Section 242-244 and good governance principles
<b>Penalty</b>	Being punishable by imprisonment for not more than two to five years or a fine not exceeding five hundred thousand to five million Baht Securities Act 2016, Section 296, 296/1
<b>Related board to be reported</b>	Board of Directors: Mr.Parkphum Wongpaltoon, Mrs.Valeerat Chueboonchai, Mrs.Sanna Jamsakurat, Dr. Jain Chamnarong Chief Executive Officer: Dr.Thakol Nunthrapakorn, Dr.Sothitorn Mallikarnas, Miss Voranuch Supabulpat, Dr.Supot Tiarawut Managing Director: Mr.Wirak Sukchai, Mr.Wasan Nantakhwang, Mr.Thammanoon Tripetche Directors: Mr.Pracha Phromphornchai, Mr.Suchat Suwatnedom, Mr.Rattanaphan Mukharivattananon, Mr.Nuntawat Jeerakhom, Mr.Sukit Litkorn, Mr.Withoon Thamee, Mr.Pongsawat Penglengpol, Mr.Wat Wachiralappaloon, Mrs.Vannikan Teraumnanon



Date	Prohibited dates to trade Harn shares
Financial Budget Year 2017	<b>January 24 to March 1, 2018</b> Approved budget February 23, 2018
Financial Budget Quarter 1/2018	<b>April 11, to May 16, 2018</b> Approved budget May 10, 2018
Financial Budget Quarter 2/2018	<b>2561 July 10 to August 16, 2018</b> Approved budget August 9, 2018
Financial Budget Quarter 3/2018	<b>October 10 to November 15, 2018</b> Approved Budget November 9, 2018
Financial Budget Year 2561	<b>January 23 to March 6, 2019</b> Approved budget February 28, 2019



(2) The Company has put in place disciplinary punishment measures to be taken against those who take advantage of the insider information by disclosing it and causing damage to the Company. The punishments include verbal warning, written warning, probation, termination of employment by firing or disposition, as the case may be, etc.

(3) Moreover, the Company has informed the Board members and executives of their duty to report their holding of the Company securities and penal provisions in accordance with the Securities and Exchange Act B.E. 2535 (1992) and the regulations of the Stock Exchange of Thailand. The directors and executives have to report the holding of the Company's securities by themselves, their spouses and underage children to the Office of the SEC within thirty days from the date of their appointment as the directors and executives, and also when there are any changes thereof. And report trade of securities of the company to the Board quarterly.

#### 6.4 Prepare policies and clear guidelines of anti-corruption. Then, communicate to all levels including the general public for practical purposes.

(1) The Boards approved "anti-corruption manual" (S-QMO-025) on 10 May 2018 which is an ISO 9001:2015 certified document and the quality management Committees will examine producers of quality at least once a year to endure that in rules of operations are met according to the relevant laws of anti-corruption. It must be communicated to all Boards, management and employees, subsidiaries, joint ventures, other companies that control and agents (if any), third parties such as partners domestic and international, customers through various channels such as public notice, Intranet, Digital Signet TV, Email, employees training to promote as company culture and value in 2018.

Definition

1	<b>Asset Misappropriation</b>	Burglary, fraud, obscenity, exploitation of company resources or obscuring evidence as well as the use of information or powers obtained from the performance of the company's duties to do any wrongful acts in all forms in accordance to obtain personal benefits and/or related persons.
2	<b>Falsifying Financial Statements</b>	To refrain from providing information or intentionally giving false information in the company's financial status report
3	<b>Corruption</b>	Any actions whether it is a presentation, promise, request a claim, giving or receiving cash or items instead of cash, property or any other benefit Including all forms of bribery with government officials or any other person both in the public and private sectors directly or indirectly to allow such person to perform or ignore the duty in accordance to obtain or maintain any other unfair business benefits to the company itself or those involved except where the law regulations, local traditions or trade tradition can be done.

Policies on Anti-Corruption

The Board of Director, Management, employees, subsidiaries, joint ventures, and other entities that may have a control over including agents (if any), will not be a part or commit or accept any kind of corruption at all means. For direct and indirect benefits to personal and relevant parties neither one is a receiver or a giver or an offer of bribe both monetary and non-monetary to the government or private, and partners that the company exercise business with.

(1) The company sets directions, procedures, and duties of responsible person including audit and review operations according to "Anti-Corruption Manual" regularly to meet changes of the business, rules, regulations, and the concerned law.

Important Anti-Corruption policies are as follow :

1. Aid of politics
2. Donate to charity and monetary support
3. Gift giving and receiving of assets or other benefits
4. Entertainment
5. Bribe and convenient fees
6. Assets or commissions from sales, trade discounts, agency fees
7. Procurement
8. Trade and investment
9. Financial report
10. Accept cash from customers or other parties
11. Payment to creditor or any parties
12. Loan, lending, creation of obligations
13. Conflict of interest
14. Relevant transactions
15. Save and storage of information on the computer
16. Resource management
17. Communicate policies internally and externally

(2) The Boards will verify and review policies and Anti-corruption policy annually to meet changes of the business environment, rules, regulations, and the provision of laws. On 1 May 2018, the Boards reviewed the policy and distribute for use in the organization.

#### Operation in 2018

- Communicate policies and anti-corruption to all employees which counts as 100% through e-mail, Intranet, print announcement, and Digital Signet.
- Arrange “HARN Anti-Corruption” for employees and new recruits in total of 84 persons and all must pass the test on knowledge and policies of anti-corruption to stands for determination. In 2019, the company plans to review information, understanding, and create awareness of corporate governance, anti-corruption measures and business ethics through e-learning where employees can review and take time to understand and take assessment. The goal is to have all employees to pass the assessment 100%
- Arrange evaluation on risks from corruption that must cover all concerned departments, report the result to the Risk Management Committees in every quarterly.
- Assessment on sufficiency of the internal control that relate to anti-corruption from Dharmniti Auditing Co., Ltd. Check report during June to July 2018.
- Was certified as a member of Private Sector Collective Action Against Corruption on 5 November 2018.
- Attended certify of a member of Private Sector Collective Action Against Corruption event on 26 February 2019.



#### Supervise and support mechanism of complaint procedures and clue notification

The company offers channels of complaint and clues to cover procedures of complaints, review facts and summarize including protect identity of the whistle-blower, stakeholders that may affect or risks that may receive from the operation of the business and actions of the Boards, Management, and employees relate to business ethics, violation of law and any action that may view as corruption.

##### (1) Scope and complaints and whistle-blowing

- Any action that violate or not comply to the laws, rules/corporate governance rules, business ethics including policies, rules, policies of the company
- Any action that is presumed as corruption or misbehave and to seek for interests that may not earn lawfully by law for personal use and/or other parties such as corruption, steal, fraud for example.

- Any action that may make employees receive an unfair treatment from operating or seen flaws of internal control and suspect that it may be a corruption or make the company losing its benefits.


(2) Persons that may give comments and clues

Employees, stakeholders, interests persons, commoners that seen, knew information or may affect from the operation of the business or from administer of the Boards, management, employees or from any action that concern scope of complaints and clues according to (1) above.

(3) Recommendation

Employees or others whom has inquiries and seek for advice on anti-corruption policy may contact “Corporate Governance Director” at

 Tel. 02-2030868 ext. 415

 Send mail by post to Harn Engineering Solutions Public Company Limited  
Corporate Governance 19/20-22 Soi Soonvijai, Rama 9 Road, Bangkok, Huaykwang, Bangkok 10310

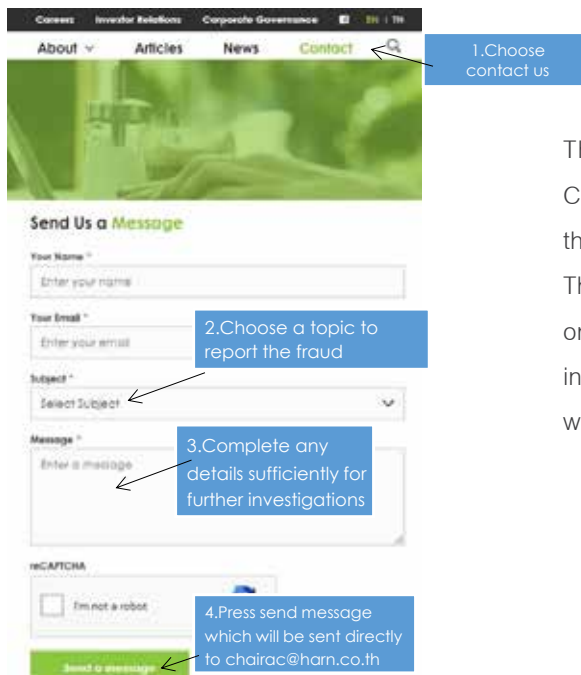
 Email : varinkan.t@harn.co.th

(4) Channels

The person may complain or provide information with details and mark as “confidential” to the Chairman of the Audit Committee which is an Independent Committee through

- Letter To. Chairman of the Audit Committee  
Harn Engineering Solutions Public Company Limited  
19/20-22 Soi Soonvijai, Rama 9 Road,  
Bangkapi, Huaykwang, Bangkok 10310
- Email chairac@harn.co.th
- Website www.harn.co.th

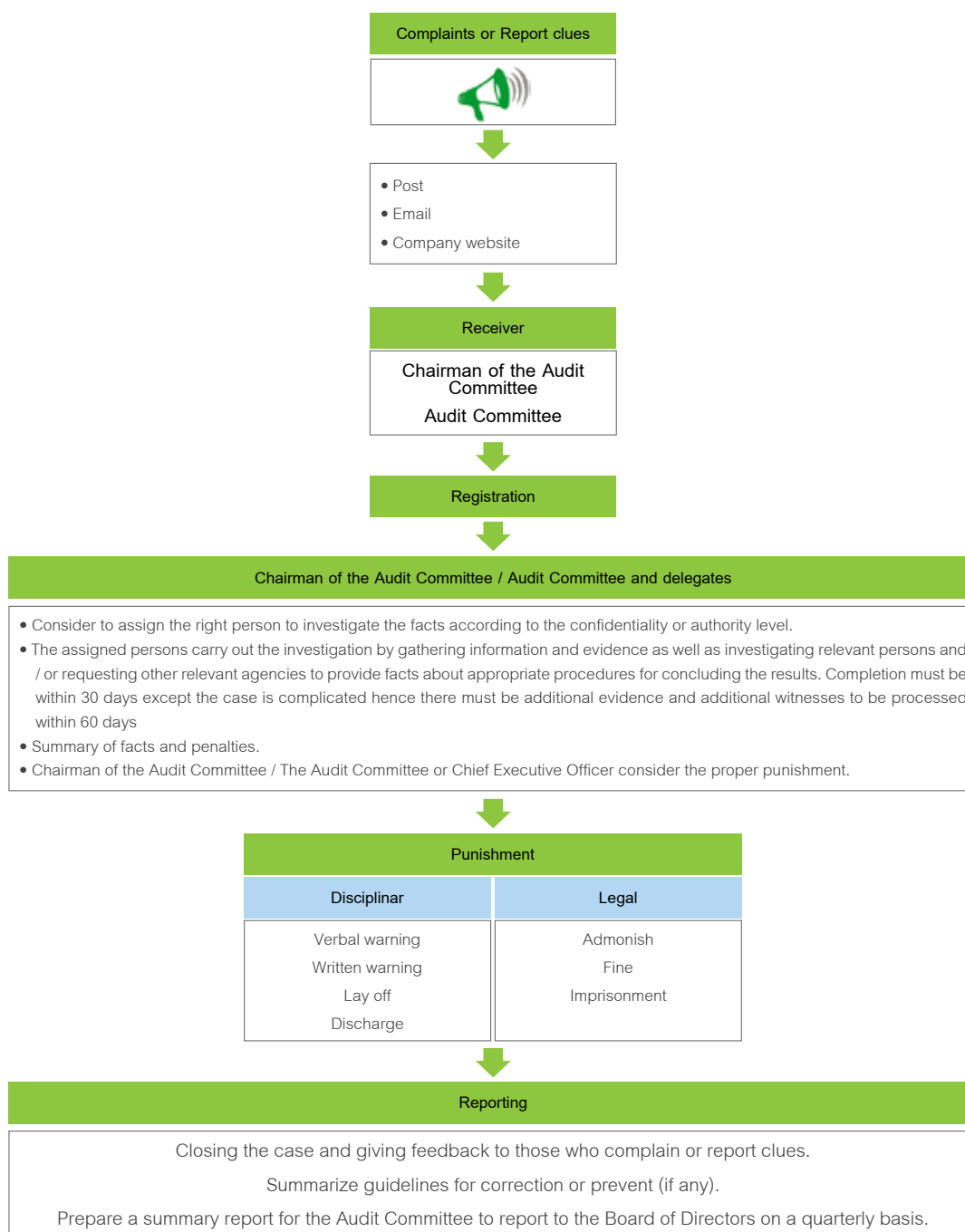
**How to report a complaint or clue on the website**



The screenshot shows the 'Contact' page of the Harn Engineering Solutions website. The page has a green header with navigation links: 'Contact', 'Investor Relations', 'Corporate Governance', and 'HR'. Below the header, there are tabs for 'About', 'Articles', 'News', and 'Contact'. The 'Contact' tab is selected. The main content area is titled 'Send Us a Message' and contains a form with the following fields: 'Your Name', 'Your Email', 'Subject', and 'Message'. Below the form is a reCAPTCHA section with a checkbox labeled 'I'm not a robot'. A green 'Send to message' button is at the bottom. Four blue callout boxes with white text and arrows point to specific parts of the form: 1. '1.Choose contact us' points to the 'Contact' tab. 2. '2.Choose a topic to report the fraud' points to the 'Subject' dropdown menu. 3. '3.Complete any details sufficiently for further investigations' points to the 'Message' text area. 4. '4.Press send message which will be sent directly to chairac@harn.co.th' points to the 'Send to message' button.

The Chairman of the Audit Committee or Audit Committee directly accepted the message where the whistle-blower may remain anonymous as wish. The company would like to urge to submit identity only to the concerned parties whom involve in the investigation as well as to provide correct information with evidence for further process.

Diagramme of the process of receiving complaints or report clues, investigation, punishment and reporting



### Code of Conduct

The Board of Directors is committed to carry out the Company's business with integrity and fairness by defining the code of conduct to be adopted among the directors, executives and employees of all levels so that every member within the organization understands the ethical standard which the Company upholds in carrying out its business operation, as well as to set up a practice guideline to reflect corporate intention in conducting its business with transparency and fairness and with responsibility towards all stakeholders, the society and the environment, all of which are done through trainings and various forms of internal communication. Such code of conduct also reflects corporate values and practices adopted by the employees in compliance with

the defined ethical standard. The Company has made announcements and informed all members across the organization to strictly follow the code of conduct and guideline while the Board of Directors shall be responsible for ensuring strict compliance with such code of conduct.

The Board of Directors has reviewed and approved the use of business ethics at the Board of Directors' Meeting No. 3/2018 held on May 10, 2018, by adding a code of ethics on anti-corruption.

#### **Principles and guidelines in practical**

The company determined that it is responsibility and duty of the Boards, management, and employees to be aware and follow policies and corporate governance and business conduct of the company.

The company supports development and understanding to the Boards, management, and employees. Moreover, the company designated all managers to be responsible for and take this matter as important issue to develop employees under supervision to understand and obey the policies and corporate governance and business conduct of the company strictly.

The company will not perform illegal activities or any action that against the policies and principles of corporate governance and business conduct

1. If the Boards management or employees violate the principles or policies stated, they will be punished.
2. If any action that may believe be in violation of the law, rules, regulations and policies of the government, the company will consider passing on to the government for further actions.
3. If employees found a difficulty in decision-making or in operation that concern corporate governance / code of conduct but not stated, the following questions should be raised to self as follow :
  - Is the action against the law?
  - Is the action results in severe conflict of interest?
  - Is the action effects major reputation of the company?
  - Is the action is acceptable and able to disclose to the society

If found that the answer is a risk to one of the questions above, the employee must take that issue to consult with supervisor in order to assist in reviewing and proceed to the next step.

However, if the employee or general public found any violation of the law and/or corporate governance, business conduct, please write a complaint letter through various channels listed in the complaint policy as follow :

- Letter                      To. Chairman of the Audit Committee  
Harn Engineering Solutions Public Company Limited  
19/20-22 Soi Soonvijai, Rama 9 Road,  
Bangkapi, Huaykwang, Bangkok 10310
- Email                      chairac@harn.co.th
- Website                    www.harn.co.th

The company will verify the information with non-disclosure of the identity of the whistle-blower in order to protect rights and consequences that may occur because of the circumstance.

## Chapter 7 Ensure Disclosure and Financial Integrity

### 7.1 Manage financial reports and disclosure of information with integrity, accurate, and according to the principles, standards, and procedures.

#### Create Financial Reports

The Board is responsible for financial of the company and communication of finance related information stated in the financial report. The financial report is arranged and certified by common accounting standards in Thailand. The company chose to disclose appropriate information and sufficient in the financial report at constant. The Audit Committees will verify quality of the report and internal control including reveal sufficient sensitive information as a notice in the financial report and reports to the Board.

#### Disclosure

The Board of Directors attaches a high degree of importance on disclosure of accurate, complete, timely and transparent important information, both financial and non-financial, through reliable and easily accessible channels on an equitable basis. The Company has disseminated its information to shareholders, investors and the public through the channel and media of the Stock Exchange of Thailand and on the website of the Company. Its information is also compiled in the Annual Disclosure Statement (Form 56-1) and the Annual Report.

- (1) The Company has disseminated its information to shareholders, investors and the public through the channel and media of the Stock Exchange of Thailand and on the website of the Company. Its information is also compiled in the Annual Disclosure Statement (Form 56-1) and the Annual Report.
- (2) The Company is obliged to disclose information that affects decision making of investors and stakeholders. Information so disclosed, financial and non-financial, shall be accurate, complete, timely, reliable, transparent, not misleading and sufficient for investors to make decision, and shall accord with the criteria of Office of the Securities and Exchange Commission and the Stock Exchange of Thailand, including also other significant information that affects the Company share price.
- (3) The disclosure of financial information will be considered thoroughly with the stated aspects at minimum:
  - The result of the assessment is sufficient for internal control system
  - Comments of the auditors and recommendations relate to the internal control system and recommendations of the auditors through other channels (if any)
  - Comments of the Audit Committees
  - Relevant to main objectives, goals, strategies and policies of the company
- (4) The Company makes available brief reports on corporate governance policy, code of conduct, risk management policy, and social and environmental policy, and results of implementation in compliance with such policies including also non-compliance cases thereof together with reasons (if any) in the Annual Report and on its website.
- (5) The Company prepares management discussion and analysis (MD&A) to support its disclosure of its quarterly financial statements when changes of Net Income or Net Profit is higher than 20% in the same quarter of last year so that investors access information on changes to the Company's financial status and operating performance in each quarter in addition to figure data in the financial statements.

(6) The Company discloses in the Annual Report audit fee and other service fees for the auditor.

Types of Fees	2018	2017
	Dharmniti Auditing Co., Ltd.	
Audit Fee		
• Annual audit fee and quarterly review fee	1,260,000	1,200,000
Other expenses which cover miscellaneous expenses during work period such as overtime allowance traveling and telephone etc.	per actual of expenses	per actual of expenses

(7) The Company discloses in the Annual Report information on the roles and duties of the Board of Directors and specific Committees, number of meetings held and number of meetings attended by each director in the previous year, as well as opinions in relation to performance of duties and directorship training and development for directors.

(8) The Company discloses in the Annual Report policy on payment of remuneration for directors and top executives of the Company that reflects their duties and responsibilities and types and nature of the remuneration, including also remuneration for any directorship on the board of subsidiaries (if any) in Annual Report of the Company.

(9) In case of the disclosure of the information concern one of the Committees in particular, that Committee should be aware of and able to reveal identity thoroughly.

## 7.2 Ensure sufficiency liquidity and solvency

(1) The Boards ensures that the Executive Committee is the pursuer in liquidity and solvency including the evaluation of risks in finance and potential risks. The report must be made to the Boards regularly and the Executive Committee and Administration should cooperate to solve the problem at urgent in case lack of liquidity or solvency.

(2) In approval of any transaction or to give opinion to the Shareholder Meeting, the Boards will review and ensure that the transaction will not affect continuity in business, liquidity or solvency.

## 7.3 Ensure that the business has contingency plans or other mechanisms that able to fix financial crisis with care to stakeholders

(1) If the business potential is downwards and may unable to pay for debts or at crisis, the Boards will closely monitor and will operate the business with care and follow rules on disclosure of financial information.

(2) The Boards will give a notice of financial crisis such as lack of continuous investment, low cash flow, etc. to Administration to monitor and report regularly.

(3) The Boards ensure contingency plans in case of financial crisis with care and fair to stakeholders including debtors and follow up on problem solving with logics. The Administration must report the status regularly.

#### 7.4 Create a report on sustainability as see fit

The company has not prepared a separate sustainability report but can disclose related information on obedience of the law, business conduct, anti-corruption policy, treating employees and stakeholders fairly and respect human rights. Environment and social responsibility are also in the annual report where topics are listed from the most important matters to HARN's core business and respect standards of the report. The disclosure of operating plans distributed to divisions and results will be reported to the Boards and supervisors monthly and in quarterly to ensure that all operations and plans create values to the company sustainably.

#### 7.5 Monitor the Administration. Appoint a position to look after investor relation and to communicate to shareholders and stakeholders such as investors and analysts appropriately, fairly, and in a timely manner.

The management of the company put importance in meet and greet, information exchange, ideas, opinions to shareholders, investors, analysts, reporters regularly to ensure that the fellows able to access company's information accurately, with integrity, transparency, and up to date especially those sensitive information regards to the stock price of the company. Available information must be shared to make the smart investment.

The company has not appointed the specific department. Currently, Mr. Wirat Sukchai, Chief Executive Officer is a delegated person who understands well in the business, objectives, goals, directions and acts as the investor relation. Channels of communication to investors, shareholders, analysts, related government sectors through are email: wirat.s@harn.co.th or phone 02 203 0868.

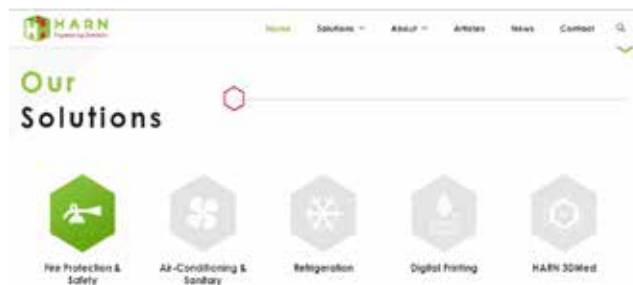
In 2018, Chief Executive Officer, the Board of Directors, Finance Director and other management participated in investor relation activities to announce policies and business direction including meet investors through channels and activities as follow :

Disclosure Channels	Purposes	Activities in 2018
Email: wirat.s@harn.co.th Telephone : 02-203 0868	Open opportunity for general investor inquire about the performance opportunities and obstacles In business including important incidents that may affect the operation.	✓
Open to meet and interview in the form of a meeting	Provide opportunities for both domestic and international investors to inquire about strategies, business directions, as well as opportunities and obstacles in the company's business operations from management team	7 times
Event "mai FORUM 2018" 5 <sup>th</sup> mai People Power Expo "seminar" Ruam Pon Kon Tun Hoon	To present the results of business growth potential and emphasize the position of company	2 times
Listed companies meet investors" (Opportunity Day) founded by The Stock Exchange of Thailand	Quarterly business operation results, business direction with questions and answers from investors, analysers and etc.	4 times
Annual Report and pattern 56-1	Showing the operation results of the company annually	✓
Information dissemination via the company website www.harn.co.th / Investor relations	To be channel for submitting quarterly and annual performance data after the information is disclosed via SET website and other information such as investor relations news, basic information on investment etc.	37 times



## 7.6 Support the use of information technology to distribute information

Apart from distributing information according to the policy and through channels of The Stock Exchange of Thailand; Annual Report (56-1 Form) and Annual Report. The company disclosed in formation in both Thai and/or English via various channels constantly for example company website ([www.harn.co.th](http://www.harn.co.th))



# Chapter 8 Engagement and Communication with Shareholders

## 8.1 Ensuring that Shareholders are involved in making decisions on important matters of the company

(1) The Company is well aware of and respects the basic rights of shareholders, both as investors and owners of the Company. These rights include the rights to purchase, sell or transfer the securities they hold; to receive profit sharing from the Company; to adequately access information of the Company; to attend the shareholders' meeting; to express opinions; and to make decision on important issues, e.g. dividend payment, appointment or removal of directors, appointment of auditor, approval of significant transactions having impact on the Company's business direction, and amendment of the Company's memorandum and articles of association, etc. The main mentioned agenda that stated in the law or relevant rules and may has significant effects to the operation of the company will be proposed as a Shareholders Meeting through the Annual General Meeting within four months from the date ending the Company's fiscal year. However, in an urgent case where a special session is needed to consider and approve matters affecting or involving the interests of the shareholders, and thus requiring the shareholders' approval, the Board of Directors may call an extraordinary general meeting on a case by case basis.

- The 2018 Annual General Meeting of Shareholders on Friday, April 27, 2018 at 14.00 hrs. at Parichart Room, 3rd Floor, Golden Tulip Sovereign Hotel Bangkok, No. 92 Soi Saengcham, Rama 9 Road, Bangkok Subdistrict, Huay Khwang District, Bangkok 10320, There were 158 shareholders who attended the meeting, 45 of whom in person and 113 by proxy, holding a total of 443,347,719 shares, which represented 75.8508% of the total issued shares of the Company.

The meeting was held in conformity with the guidelines of the AGM Checklist issued by the Thai Investors Association to ensure the meeting standard in compliance with corporate governance principles.

(2) Support and participation of shareholders

- The company sets policies for small shareholders to add meeting agendas prior to the shareholder meeting date clearly. From 1 October to 31 December 2018, the company disclosed policies on propose meeting agendas in advance such as qualifications of the shareholders, limitations to propose agenda, submission procedures and review of the Boards on the company website, [www.harn.co.th](http://www.harn.co.th) \ investor relations \ information for shareholders \ shareholders meeting and announced to the shareholder through the website of SET.
- Procedures to consider small shareholders as an individual name as a Committee in advance from 1 October to 31 December 2018. Qualifications were published on the company website, [www.harn.co.th](http://www.harn.co.th) \ investor relations \ information for shareholders \ shareholders meeting and informed shareholders through the website of SET as another.

However, there was no shareholders proposed agendas and no nominee names as the Committee at that time. The Secretary of the company reported to the Board to be acknowledge already.

- (3) The Company has a policy to support and encourage all shareholders, including institutional shareholders, to attend the shareholders' meeting. The Company will prepare and send to the shareholders an invitation notice indicating the venue, date, time, agenda items, supporting information of the agenda items thoroughly and sufficient for the rights of the shareholders, as well as the opinion of the Board of Directors on each agenda item indicated in the invitation notice, or in the supporting documents so enclosed.
- (4) The Company sent the invitation notice for the 2018 Annual General Meeting of Shareholders along with supporting documents of the agenda items to the shareholders by post at in April 5, 2018. The shareholders were informed 22 days prior to the meeting date and were sent invitation for the Annual General Meeting on the company website ([www.harn.co.th](http://www.harn.co.th)) on 22 March 2018 in both Thai and English, at least 36 days prior to the meeting, and announced through news channel of the Stock Exchange that the company has already published the above information on the company website so that all shareholders had easy and timely access to the information, hence adequate time to study and consider the information needed in their decision-making.

Moreover, the Company publicized the invitation notice in newspaper between 17 to 19 April 2018, 7 days before the meeting date for the shareholders' acknowledgement and preparation for the meeting.

- (5) The Company allowed the shareholders to provide their opinions, suggestions, and questions prior to the meeting under clear criteria set by the Company and notified to the shareholders along with the meeting notice, as well as posted on the Company's website.
- (6) In case the shareholders were unable to attend the meeting, the Company allowed them to assign the Company's designated independent directors or any other persons to attend the meeting on their behalf, by using either one of the proxy forms sent along with the invitation notice in which at least one independent director was proposed as an option for proxy assignment by the shareholders.

## 8.2 In charge of Annual General Meeting and preparation with transparent, effectiveness and supports rights of shareholders

- (1) The Company fully facilitated the shareholders' attendance of the meeting exercise of their voting rights.
  - The meeting venue was arranged to be easily accessible by the shareholders and provide transfer in every hour from the department store
  - The shareholders had the opportunity to register their attendance one hour before the meeting began. Also, during the meeting, they were able to register their attendance without losing their rights.
  - The Company assigned its staff to provide assistance and information during the verification of documents and the registration process.
  - Prepare sufficient coffee breaks and beverages to the shareholders
  - Prepare stamp tax in case the shareholders delegate a personnel
  - The Company used a barcode system containing each shareholder's reference number in the registration form for the registration and vote casting process to ensure accuracy, convenience and promptness thereof.
- (2) The Company has no policy to add agenda items for the meeting without notifying the shareholders in advance if not necessary, especially agenda items involving important matters on which shareholders should have adequate time to study information before making decisions.
- (3) The Company provided voting cards separately for each agenda item to facilitate the vote casting and counting process. Upon the completion of the vote casting, the votes so casted were counted in combination with those indicated in the proxy forms. The results of the vote count were announced right during the meeting.
- (4) The Company conducted no act in a manner that would limit the shareholders' right to attend the meeting. All the shareholders had the right to attend the meeting any time during the meeting, and were allowed to freely raise questions and give comments or opinions.
- (5) The Board and top management members, and the auditor, as well as the independent legal advisor, attended the meeting (if any). Before the meeting started, the Company Secretary, to explain the meeting procedures, such as opening of the meeting, voting, and counting of votes casted by the shareholders on each agenda item in accordance with the Company's articles of association.
- (6) The Company provides an opportunity for the shareholders to exercise their right to elect each director individually.
- (7) The Company would declare the beneficial interests of the directors in the invitation notice. At the meeting, directors with beneficial interests or involvement in any agenda item would be notified by the chairman of the meeting to the attendees before considering that agenda item. Directors with beneficial interests in any agenda item would not be entitled to be present at the meeting during consideration of that agenda item.
- (8) The Company invited volunteers from the shareholders present at the meeting to witness the vote counting to ensure transparency in the voting process, and allowed the shareholders to enquire about the voting process and method.

- (9) The Company encouraged the shareholders to exercise their rights for protection of their interests by asking questions, giving opinions and suggestions, and casting their votes on important matters that may have impact on the Company, such as appointment or removal of directors, nomination of qualified persons to be independent directors, approval of the auditor, dividend payment, capital decrease or increase, imposition or amendment of articles and memorandum of association, approval of special transactions, and so forth.
- (10) Prepare quality assessment of the Annual General Meeting through a survey by shareholders and to use the data to develop the future meetings with transparency and beneficial to the shareholders.
- (11) Disclose important information of the company around the exhibition area of the Annual General Meeting including a corner for Investor Relations where staffs of HARN stand by and welcome inquiries that the shareholders may have.

### **8.3 Monitor disclosure of meeting agendas and the Annual Report to the shareholders sufficiently and accurately.**

- (1) The Company disclosed the meeting resolutions together with voting results on the same day after the meeting in April 27, 2018 as a newsletter to the SET via the SET's electronic listed company information disclosure (ELCID) system and also by posting on the Company's website ([www.harn.co.th](http://www.harn.co.th)). By recording meeting minutes accurately and as see fit to the good corporate governance with the required information below at minimum :
  - Names of the Committees and Boards that attended the meeting and ratio of the Committee that attended the meeting and non-attendees.
  - Ways of voting and counting the votes, agreement of the meeting, results of the vote (agree, disagree, N/A), voided ballot of each meeting.
  - Questions and answers in each meeting in details including names and last names of inquirer and respondent.
- (2) The company arranged the minutes of meeting to shareholders by posting on the company website ([www.harn.co.th](http://www.harn.co.th)) and to the Stock Exchange on 11 May 2018 or within 14 days after the Annual General Meeting which was an agreed timeline by The Stock Exchange.

## **2. Compliance with the Company's principles of corporate governance in 2018**

From the evaluation of corporate governance of "Findings from the survey of corporate finance of the listed companies in Thailand, 2018" arranged by Thai Institute of Directors and supported by The Stock Exchange of Thailand and The Securities and Exchange Commission, Thailand, found that HARN received an overall of 87 scores which is "good" or 4 stars rating. The score was better than in 2017 which was 83 scores and the result of HARN in 2018 was significantly higher than those surveys of the listed companies in Thailand (scored at 81).

The Board of Directors realizes its role and duties and responsibilities as the corporate leader who has to monitor and supervise the Company to ensure sound business administration and create value for business sustainability through business processes. Therefore, review and exercise CG Code 2018 in total of 8 agendas and take recommendations from the above surveys and approved the following issues.

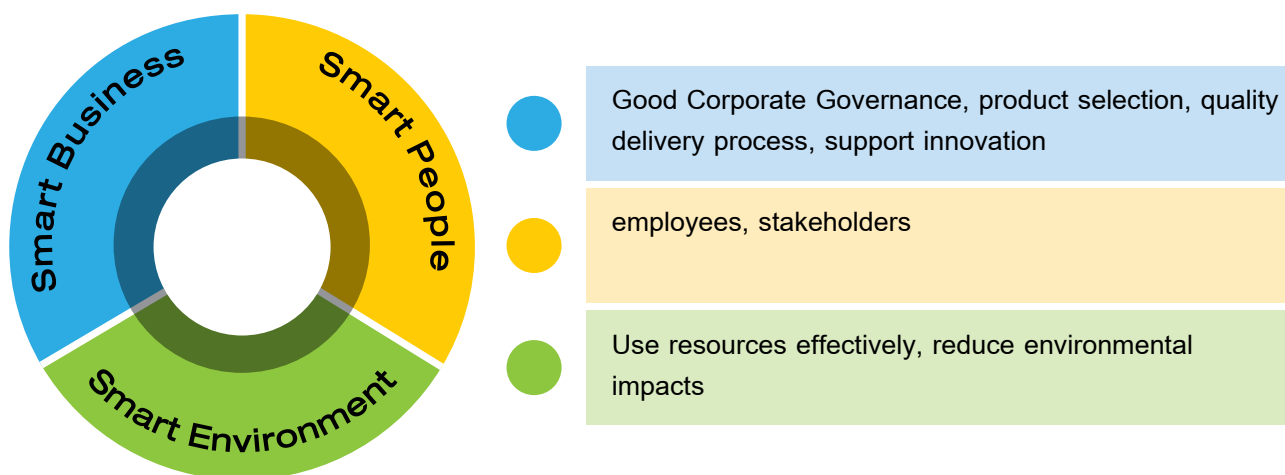
CG Code operation procedure	2018 Plans
The minimum quorum number at the time the Board of Directors will vote in the meeting must gain at least two-thirds of the total number of directors	In the principles of corporate governance, item 3.9.5, there must be no less than 2 in 3 of the total number of directors
The independent regulatory commission is scheduled to be in the position for no more than nine years without exception	Defined in the Principles of Corporate Governance No. 3.2.4, allowing independent regulatory commission to be in the position for a period of not more than nine years from the date of first appointment or three consecutive term of office without exception
The Board of Directors should consider appointing the remuneration committee.	The Board of Directors resolved to appoint the nomination and remuneration Committee on November 19, 2018.
The Board of Directors should consider appointing the CG Committee.	Delegating the Corporate Administration Division to oversee and present to the Board of Directors for acknowledgment of the implementation at least once a year.
The Boards should consist of more than 50 percent of independent regulatory commission.	At present, the proportion of independent directors is 36 percent because the products that the company distributes are various and need to have knowledge in products, markets, competitive conditions and customers' needs.
Sustainability Report	Sustainability reports are not yet operational. But disclosed information related to compliance with laws, ethics, anti-corruption policy, treatment of employees and stakeholders Including fair treatment and respect for human rights including social and environmental responsibility only the importance that affects the main business and reports in the Corporate Governance category in the annual report.

## 15

## Corporate Social Responsibility

The Company is aware of its corporate social responsibility (CSR), an element that enhances sustainable growth of the business. The BOD therefore determines HARN's social responsibility in the vision, mission, values and established a commitment on sustainability that states "Quality Living through Sustainable Engineering" which will be further developed into long-term sustainable strategy of the HARN.

The Board of Directors determined that management of the company must attend P01 curriculum which manages Corporate Sustainability and another six operational seminars that build skills in daily tasks that involve in developing business and sustainability arranged by Stock Exchange of Thailand. Also, to initiate activities in the company by dividing into 3 CSR groups that are significantly affect HARN's operations which are:



### Priority and Participation by HARN Stakeholders

The Company respects the rights of all stakeholders, whether they are internal stakeholders like shareholders, executives and employees of the Company, or external stakeholders like creditors, customers, trade partners, competitors, the government sector, the society and the community. The Company is well aware that supports and viewpoints from all stakeholders will benefit the Company's business operation and development. Hence, the Company will comply with relevant laws and regulations so as to safeguard the rights of all stakeholders. In addition, the Company conducts its business with the rights of all stakeholders brought into consideration according to the following guidelines :

## Shareholders



- : The Company has a policy of running its business with honesty, integrity and business ethics and puts best efforts in developing its business, and improving the operating performance to ensure consistent and reasonable returns on the investment of the shareholders and investors on a sustainable basis. The Company adheres to equitable treatment of its shareholders. Its directors, executives and employees are committed to performing duties with honesty and making decisions with transparency, carefulness, prudence and fairness to all shareholders for the maximum benefits of all shareholders. The Company will also present the situation of the Company such as performances, financial status, accounting status and other reports regularly, fully and accurately. The Company will notify all of the shareholders regarding the future trend of the Company both positively and negatively which is on the basis of probability with back up evidences and sufficient reasoning and will not seek for personal gains or benefits for other parties by utilizing the Company's information that has not been disclosed to the public, or proceed with any action that may cause conflict of interests with the Organization.

## Customers



- : The Company gives high priority to customer satisfaction. It is committed to procuring products with quality commensurate with product price and punctual delivery, and compliance with contracts, agreements or conditions, as well as after-sales service provided by quality teams. It has adopted the ISO 9001:2015 to the organization, and set a quality policy: We will build customer satisfaction with high quality products and services, advanced technology and business management of excellence.

## Trade partners and / or creditors



- : The Company has a policy to create good relationship with our trade partners and / or creditors and to run the business on the basis of mutual benefits that are fair to all parties. The Company treats all trade partners and/or creditors with due regard to the maximum benefits of the Company, avoids the circumstances that may cause conflict of interest, and complies strictly with the commitment or agreement to achieve mutual benefits. The Company will not commit any misconduct in dealing with trade partners and/or creditors. In case there is any information indicating occurrence of a dishonest act, the Company will inform the trade partners and/or creditors thereof and jointly seek solution on a fast and fair basis, and strictly comply with all conditions with the trade partners and/or creditors. Any inability to fulfill the conditions shall immediately be informed to the trade partners and/or creditors to find a solution.

## Competitors



- : The Company has a policy to treat its competitors with adherence to fair competition rules, without seeking competitor's trade secret by any unfair or inappropriate method. The Company will abide by the competition rules, without any attempt to impair the competitor's reputation through false accusation or accessing the competitor's trade secret in a dishonest manner.

## Employees



- : The Company considers its employees as its essential resource that will play an important role in supporting and driving the Company to successful operation. Therefore, the Company has a policy in place to improve the quality of life of all staff members with fair employment conditions, reasonable welfare packages, promising career path, and safe and sanitary work environment. The Company will enforce laws and regulations relating to the employees strictly, provide good working atmosphere and safe for the assets and lives of the employees. Treat the employees gently and with respect to their individualities and human dignity. Reward the employees fairly. Promotion and relocation, including rewards and punishments must be conducted fairly by considering the knowledge, abilities and suitability of each employee as the standard. Emphasize on the skills development of the employees by providing equal opportunities regularly. Avoid any unfair action that may affect the stability of the employees' jobs or threaten and cause stress to the employees mentally. The employees have the rights to appeal in the case that they are not treated fairly according to the system that allows for opinions and suggestions from all levels of employees equally and fairly.

## Public sector



- : The Company runs its business in order to support the country's advancement in accordance with the relevant laws, rules, regulations, as well as customary practice.

## Community, Society and Environment



- : The Company values the responsibility for the community and the society by strictly following various standards relating to safety, security, sanitation and environment, and with the impact on natural resources and the environment taken into account. The Company has continuously fostered awareness of social and environmental responsibility among the staff at all levels and created activities that will promote the society, the environment and the quality of life of the people. The Company cooperates and controls the strict use of the laws and regulations issued by overseeing departments, emphasizes on the communal and social activities by focusing on the development of the society, community, environment, creativity and the protecting the natural resources.

## Smart Business

## Fair business operation

In the course of business operation, the Company is committed to fair and ethical administration, creating management creditability. The fair treatment shall apply to all groups of stakeholders, including shareholders, customers, business partners, and competitors. The Company promotes fair competition to motivate innovations and improvement of products and services, which will in turn contribute to economic growth and better standard of living in the long run.

In addition, the Company also promotes social responsibility in all stages of business chain, takes responsibility for its actions which may affect the society and the environment, and the effect on other businesses due to its procurement activities, in order to avoid or minimize the negative impact, as well as respects the rights in properties and commits no violation of intellectual property. In so achieving, the Company has established the following guidelines:

**Promote fair competition**

1. Undertake the business activities in compliance with the law and competition regulations, and cooperate with the government authorities.
2. Establish the procedure and measure preventing the involvement in or conspiracy with the behavior against fair competition.
3. Ensure the employees be aware of fair competition and compliance with applicable competition law.
4. Promote fair competition and activities, and support anti-monopoly and anti-dumping.
5. Pay attention to the Company's social context and not take advantage of natural or social conditions, such as poverty, to unfairly create competitive advantages.

**Promote social responsibility in value chain**

1. Integrate social and environmental measures in the measures and procedures for procurement and distribution.
2. Encourage other relevant companies to accept and apply the similar policy in order to prevent unfair competition.
3. Actively participate in elevating awareness of the principles and issues relating to CSR activities in which the Company takes part.
4. Promote fair treatment to one another throughout the value chain, both in terms of costs and benefits of implementing CSR activities; that is to say, improve the capability to achieve the CSR targets in all operations of the value chains including appropriate procurement such as creating guarantee for fair price with adequate lead delivery time and an established trade agreement.

**Promote respect for the right over property**

1. Appropriately check to ensure that the Company is legally allowed to use and grant the right to use a certain property.
2. Not participate in any activity violating other person's properties, for example, inappropriately using advantageous marketing position, producing fake products, and intellectual property infringement.
3. Fairly pay for the use or acquisition of a certain property.

The Company allows for reporting of any possible offence or filing any complaint of any breach of law or ethics through an independent director and a member of Audit Committee. The Company has an established procedure for actions to be taken after getting the report of such issue. The reported matter shall be investigated and then submitted to the Company's Board of Directors.

In addition, the Company also sets a practice guideline for the directors, top executives and employees, including code of ethics and accountability for the stakeholders. The guideline is aimed at creating behavioral standard for the operation of such personnel on an integrity basis. It is also a guideline for the Board members, top executives, and employees organization-wide to be aware and follow. In this regard, the Company has set a process to monitor such performance on a regular basis.

## Smart Business

## Responsibility to Consumers

The Company aims to be the leader in services with the “Sustainable Solutions” of the engineering system by utilizing the knowledge in products selection and innovations which responds to the customers’ demands in order to increase the quality and the safety of the consumers with high quality products, modern technologies, sales and services that are fast, accurate and worth the value. These are the tools which create customer’s satisfactions, differentiate the products and increase the ability to compete, including securing the brand loyalty in the long term, gaining value to the Company. The Company always considers investing for the maximum benefits of the consumers as well.

The Company develops the responsibility to the consumers through the practical process and the staff activities in various departments following the ISO 9001:2015 certification of the Company’s system in November 2017 and its quality on January 31, 2018. With realization of the importance of products that enhance quality of life and safety of consumers, the Company has paid great care and attention to all processes on an end-to-end basis until the goods reach the consumers, as follows :



## Customer Satisfaction Survey 2018

The Company has a policy in place to conduct a survey of customer satisfaction on an annual basis so as the company to get feedback on the delivered to customer in various fields:

In 2018 Customers' Survey found that overall score was significantly higher than in 2017 which reflects commitment that created customers' satisfaction as per our policy “We will create customer satisfaction by delivering products and high quality services with advanced technology” The company will analyze customers' comments and recommendation to develop and improve our products and services to meet customers' need sustainably.

Customers' Satisfaction	2018	2017	
Product (quality, variety of products)	88.06	84.80	😊
Sale persons (product knowledge, services, problem solving)	87.93	85.40	😊
Other services (management, providing information, contact channels with the company)	86.31	82.00	😊
<b>Average Customers' Satisfaction</b>	<b>87.43</b>	<b>84.07</b>	

**Smart Business**

Discovering and publishing the innovations to the society and to the stakeholders

**Social and community activity “Harn-Chula 3D Printing Service Shop”**

Originated from realization of the necessity of publishing the 3D printing technologies to the society, so that Thailand can develop the potential for competitions in terms of designing and prototype developing, and despite 3D printing having been developed consistently for the past 20 years, production cost of work pieces is still too high for accessibility of university instructors and students. This has thus hindered development and expansion of 3D printing technologies in Thailand.

Since May 2016, the company has opened a 3D printing service in educational institutions. The Company had been supported by the Faculty of Engineering, Chulalongkorn University who provided 40 sq.m. space. In addition, FDM (fused deposition modeling) a lower price than the market. Under the "QMakr Factory" project, QMakr Factory has opened opportunity for students in the Design Methodology subject of Mechanical Engineering Department to see the 3D printing process and given them explanation on the process and rationale so that they have basic knowledge and understanding thereof. As robotic parts are produced with 3D printing, students of Computer Science Department can print work piece containing PCB which is a component part of products.

QMakr Factory also supported in producing various parts for research projects in the Masters and Doctoral degrees for most of the subjects in the Faculty of Engineering, including the Faculty of Medicine, Faculty of Science and also the Faculty of Architecture.

Counting to the present There are more than 250 members who come to request for 3D printing services regularly. In each year, QMakr Factory can produce more than 1,500 work pieces and has increasingly been well accepted. It is now time for the Company to reorganize and upgrade QMakr Factory to be “Harn-Chula 3D Printing Service Shop” serving as an activity to develop the society and community in respect of education in a more concrete manner. It has procured Digital Light Projection (DLP) 3D printing machine which delivers high precision as supplemental service to university instructors and students so that they can produce work pieces with fine details and even surface. This technology is thus suitable for making complex work pieces required for sophisticated research works in medical and medical engineering areas, etc. The Company was honored to welcome Prof. Dr. Bundit Euaarporn, Rector of Chulalongkorn University, to jointly open the social and community activity “Harn-Chula 3D Printing House” on 8 January 2019.





#### **Harn 3DMed project with creation of replica of human organs by advanced 3D printing technology for effective medical diagnosis and treatment planning**

The Company has participated in the innovation potential promotion and development project for listed companies of the Stock Exchange of Thailand and Market for Alternatives with the objectives to encourage creating and using innovations as systematic management tool which will in turn help develop employee potential and thus ensure business sustainability.

The Company has introduced 3DMed project whereby replica of human organs is created with the use of advanced 3D printing technology for effective medical diagnosis and treatment planning

CT/MRI imaging technology has been developed for almost the past 40 years since 1980. Today, the use of CT/MRI imaging technology in Thai medical sector has been broad ranging. However, there is still a certain restriction in that only 2D images can be produced. The physician in charge has to convert the results of the 2D images which are in a large volume and needs to rely on his/her own imagination to build 3D image, i.e. having the image depth, so that he/she can understand and make correct diagnosis.

Creation of 3D replica of human organs is an innovation that will significantly enable physicians to clearly diagnose symptoms or diseases, especially for treatment with limitation in creating MRI/CT images, such as in case of heart surgery of newborns whose hearts are very small in size and cannot be seen clearly from MRI/CT scan images. This will enable the surgeons to assess risk and plan the treatment more efficiently as well as to prepare relevant medical equipment in advance. Good planning will ensure efficient treatment/surgery or shorten treatment/surgery time to be spent, mitigate risk, and reduce medical resource/personnel utilization. From other countries' experiences, having the replica of human skulls to support the surgery has helped save operation time by 3-4 hours, contributing to saving of medical resources, i.e. operation room and personnel, by hundred thousand baht for each surgery, hence truly worthwhile when compared with the cost of creating replica of human organs of merely thousand or ten thousand baht.

Production of replica of human organs has taken place in Thailand for some time but it has been limited to using only in laboratories. Therefore, the Company has collaborated with Materialise Corporation, a global 3D printing leader, has endeavored in 3D printing innovation on a commercial scale as the first of its kind in Thailand with accessibility and at reasonable cost. Under this project, the Company will produce replica of 45 pieces of organs for leading surgery centers' clinical tests before actual medical treatment. Success factors lie in efficiency in treatment planning and actual treatment process as well as in communication with the patients and their relatives and use as teaching and learning media accordingly. The successful outcome of this project will boost Thai medical capabilities to a higher level being close to or on a par with that of developed countries at reasonable and affordable price under the sufficiency concept.



The Company has been selected to get financial support from National Innovation Agency since March 2018. It has so far produced replica of human organs for the following institutions:

Clinic name	Institution name	Specialized field
Cardiothoracic Surgery Clinic	Faculty of Medicine, Chulalongkorn Hospital	Heart disease
Cardiothoracic Surgery Clinic	Faculty of Medicine, Chiang Mai University	Heart disease
Cardiothoracic Surgery Clinic	Faculty of Medicine, Khon Kaen University	Heart disease
Princess Sirindhorn Craniofacial Center	Faculty of Medicine, Chulalongkorn Hospital	Craniofacial deformities
Sports Medicine Clinic, Department of Orthopedics	Faculty of Medicine, Ramathibodi Hospital	Bone disease

## Smart People

## Respect for Human Rights

The Company conducts its business with respect to the lives and dignity of all humans, promotes all areas of the Company to operate on the basis of dignity and protect the civil liberties including equal treatment for all parties which is the root of management and human resource development. The practice guidelines are as follows;

1. The Company has guidelines to promote and motivates the practice based on the principle of basic human rights and equality by disregarding the differences between nationalities, race, skin color, sex, language, religions, political or any other beliefs, ethnicity or social background, wealth, birth or social status.
2. The Company supports and respects the protection of human rights by regularly inspecting its own business so that it does not involve with activities which violates the human rights, for example, not supporting forced labor, or opposing to child labor.
3. The Company respects the opinions of the employees which cover the freedom of opinions that is free from outside influences, obtaining information or ideas from various medias, including providing the communication to freely listen to the opinions of the stakeholders.

**Smart People****Fair treatment of employees**

The Company attaches great importance to its employees, which are important resources of the company. In order to help the company grow sustainably, the Company attaches importance to fair treatment of workers. And set a policy to take care of employees to have a good quality of life. Have fair employment conditions Have reasonable welfare. Have the opportunity to develop progress. It also has a safe and hygienic working environment. It is a mission that is. "We believe in value. And potential employees and strive to create a happy working atmosphere, enthusiasm, initiative. And has continued to develop. To the knowledgeable team. On the principles of righteousness, positive thinking and professional responsibility"

The practice guidelines are as follows;

- 1) Strictly comply with the laws and regulations which relate to the employees.
- 2) Provide a good working atmosphere that is safe to the lives and assets of the employees.
- 3) Treat the employees gently, respect their individuality and human dignity.
- 4) Fair remunerations for employees.
- 5) The promotion, relocation, including rewards and disciplinary actions are conducted fairly by considering the knowledge, capabilities and suitability of the employees as the standard.
- 6) Emphasizes on the skills development of the employees by providing regular opportunities and equally.
- 7) Avoid any unfair actions which may affect the stability of the employees' jobs or threaten and create stress to the employees.
- 8) Employees have the rights to appeal when they are treated unfairly according to the process and system in place.
- 9) Listen to suggestions and opinions of the employees from all levels equally and fairly.

**Remunerations and Benefits for the Employees**

The Company had established the Welfare Committee to take care and be responsible for all levels of employees in the Organization, so that open the opportunity the employees can feel fully participated in terms of setting the policies. Because, the employees are the main force that drives the business growth and maintain its sustainability from the past to the present. Other than the salary that the employees receive, the Company also provides benefits and welfares in various forms fairly and appropriately. All of the benefits in which the Company provides are based on the same standard as the leading public company in the similar industry and the company can afford it.

For more information on employee benefits and compensation, please see 14. Good Corporate Governance, section 4: search and develop high level management, page 72.

**Occupational Health, Safety and Environment Policy**

The Company is concerned about all employees' safety in performance of duties and committed to taking measures to enhance safety standards in accordance with the Occupational Health, Safety and Environment Policy B.E. 2554 (2011). It has established Occupational Health, Safety and Environment Committee which meet monthly to report operation results regarding occupational health, safety and environment, follow up and rectify unsafe working conditions, and review as well as update "Safety Handbook" and work regulations and procedures for use as guidelines for safety in work performance.

Types of Accident	Numbers of Accident Victims (persons)						Total
	Passed Away	Disability	Compensation of more than 3 days off	Compensation of less than 3 days off	No Day Off	Damage to Assets	
Objects or structures des tructive or fell off	-	-	-	-	-	2	2
Hit by objects or structures	-	-	-	-	-	2	2
Vehicle Accident	-	-	-	-	-	20	20

- Seminars and basic fire drills are held, including the planning and assigning responsible persons so that the practice is carried out correctly and efficiently on Tuesday 25th December 2018.



Illustrates Fire Drill and Evacuation Plan. Assessed by Department of Labour Protection and Welfare as “Good”

- Annual medical check-up was arranged for employees on Wednesday, February 14, 2018, in which 227 employees undergoing medical examinations, 223 were actually examined, representing 98%.



## Human Resource Development

Develop staff in all level consistency to increase potential, knowledge, capability that may create work, strength of the organization and prepare to compete in business by giving opportunity to employees to develop themselves and use potential at maximum. Support employees to have learning opportunity, training to increase knowledge, capability, potential, experience to be in the same direction with the organizational growth. Arrange annual meeting in both internal and external including overseas trip and field trips to increase skills according to responsibilities of each employee level. Apart from that, the company give importance to measurement of the knowledge if it has been adapted and used in the operation as well as communicate to the team and relevant departments.

The Company attaches a high degree of importance to human resource development, by bringing goals and strategies that relate to direction of expansion of the business which is a key success factor for business operation. It has thus established a policy to promote personnel development with adoption of corporate values as the training framework.



The company achieved 2018 Human Resource Plan in all aspects and levels. Apart from giving more relevant knowledge and skills, the company supported activities that promoted both mental and physical as well as harmony working relationship that led to coherent, cooperation, and happiness in daily routines.

## Seminars and Development

The Company strives to develop and prepare for the human resource development since the employees start working in order to build up the skills, knowledge and emotional quotient. New employees will learn new skills and techniques from EQ curriculum that promotes positive attitude, motivation and self-development that coherently support work and life.

The company also focuses on sales and services which is the core of business by training and develops sales persons to be able to serve with knowledge, skills, positive attitudes and motivation for sales and services. Also, improve personality and mind to serve with hospitality which will reinforce confident in presenting products and services of the company that match customers' needs. Moreover, sale persons will be able to manage tasks and achieve the company's vision "We will be a leader of suitably solution engineering" The company, nevertheless, studies new technologies to create new development where staffs were sent to overseas for seminars and observational studies so that knowledge and experience can be shared and improve the organization internally in the future.

Furthermore, there were seminars and training for development in various aspects that were work related such as Decision making techniques, How to manage conflicts in workplace, How to drive and maintenance forklift engine safely, HR Skill for Line Manager and ethics in workplace, HARN Anti-Corruption, for both management and employees so that all understand and have common practice as well as knowing one's role and be a part of anti-corruption and fraud prevention among the organization.

## Summary of Seminars and Employees' Training 2018

	Basic		Prepare for core competency		Work Efficiency		Develop potential in management	
	Focus on basic knowledge of business, policies, values, corporate culture, basic knowledge that all employees should know and be reminded in a timely manner		Necessary knowledge should know in order to operate duties and responsibilities according to goals. Create understanding of pros and cons of the duties.		Knowledge that increase work efficiency at work. Understand aspects that affect self or work and able to fix or adapt to the changing environment and increase potential in management		Management, Learning, Development, Innovation, and new technologies that increase capability to compete	
	2018	2017	2018	2017	2018	2017	2018	2017
Percentage of employees that were trained	45%	100%	57%	44%	97%	49%	12%	8%
Average hours of the training	2.4	3.7	5.2	4.8	10.8	7.9	47.6	82.1
Expenses of domestic training				Expenses of foreign training				
				1,240,609.45 baht				
				933,117.92 baht				





## Employees activities in 2018

Participation in the TEMCA CHAMPIONS CUP 2018 football tournament



Songkran tradition Watering the wishes of the executives on the Thai New Year



### Annual merit making activities



### Annual travel activities



### Activities of a HARN NO FAT



### New Year's party event



### Communication with employees

The Company attaches importance to internal communication with employees to acknowledge the policy operational guidelines and various information related to work and understands in the same direction, the company has arranged communication channels with employees according to the importance of the matter to be communicated as follows :

- The annual general meeting of shareholders held on March 10, 2018: To allow top executives to share vision, mission and corporate strategy in both short and long term for employees at all levels.






- Direct communication from Chief Executive Officer to all employees to Application LINE Group HARN once a month to create understanding in business direction, changes, and creates motivation and emphasis on values, visions, and innovation.
- Assessment of employees' engagement and work happiness and satisfaction. As the Company believes that career security, good work environment, good health and happiness at work will contribute to enhancement of work efficiency. In 2018, 150 out of the total of 250 employees, representing 60.00%, responded the questionnaire and the result of which was that the Company scored 68%.
- LINE Add: As a channel for speedy communication in addition to communication email and Internal network system (internet) and the Company website.

LINE@

## Smart Environment

## Environmental Management

The Company emphasizes on protecting the environment along the demand chains, from the process of products selection which does not harm the natural resources and is environmental friendly, strictly following the laws and regulations instructed by governing bodies, reducing the wastes and leftovers from the operation, save energy in the work place by regulating the use of air conditions, lights and computers by considering the maximum usage in order to lower the costs and raise the awareness of sustainable energy saving for the good of the community and in response to the energy saving policy of the Government. 2017, the Company realized the importance of and took steps in minimizing use of paper in work process with measures and practices set out as below:

Re-Duce	Re-Use	Re-Cycle
		
<ol style="list-style-type: none"> <li>1. Use email to send document eg. Gmail Outlook</li> <li>2. Store data via Data Center</li> <li>3. Use e-meeting</li> <li>4. Print in economy mode</li> <li>5. Reduce form size to A5</li> <li>6. Change paper-based surveys to Google Form</li> <li>7. Reduce giving out handouts of seminars to soft copy via email</li> </ol>	<ol style="list-style-type: none"> <li>1. Print on one side printed paper</li> </ol>	<ol style="list-style-type: none"> <li>1. Placement of separate bins eg. General waste, used paper, bottles plastics and sel reusable waste from paper, bottles &amp; plastics.</li> </ol>

All the above activities were 100% completed in 2018, and set to be regular projects held continuously in the following years.

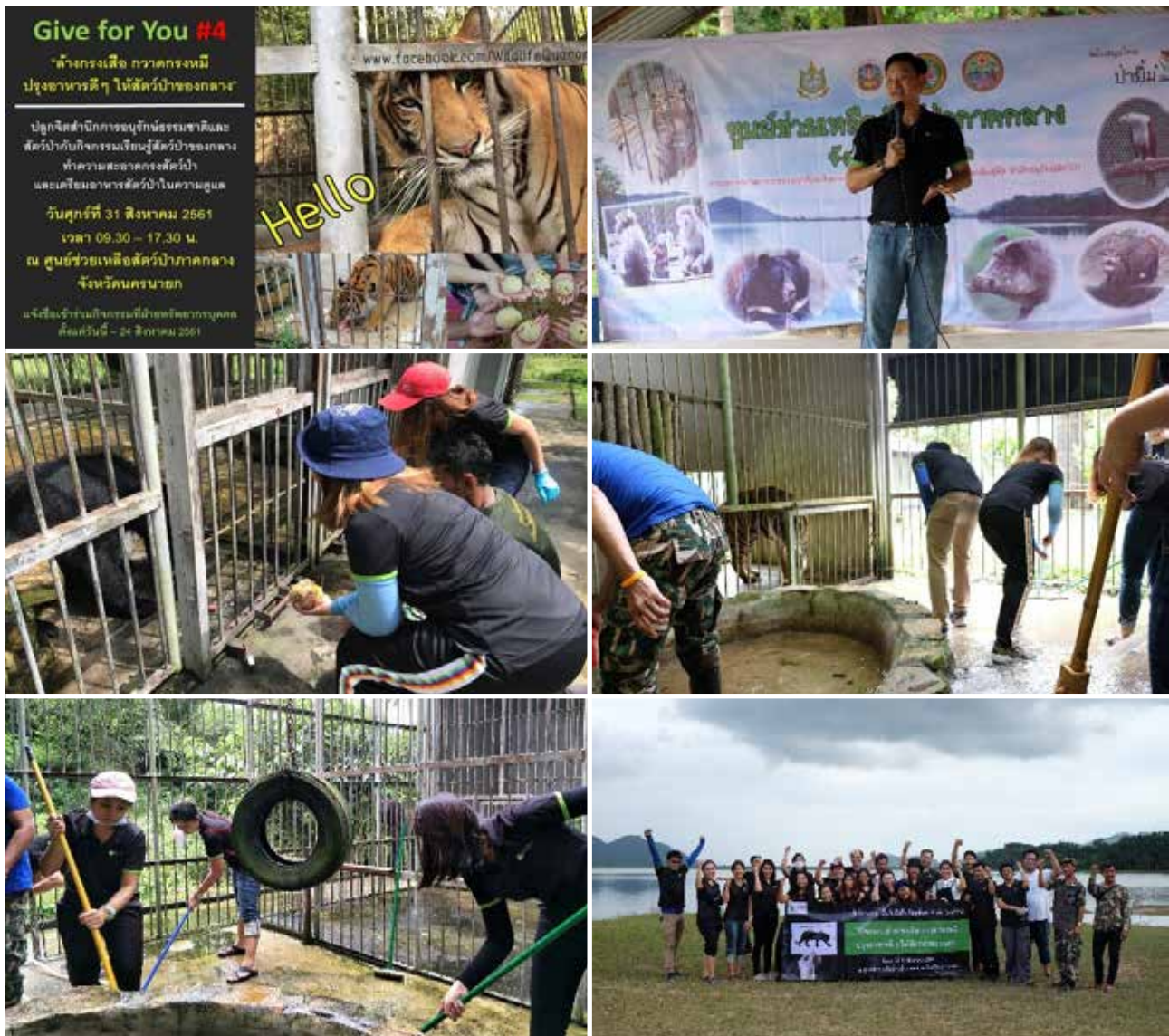
## Smart Environment

## CSR after process

## Social or Community Development

The Company is aware of its role as a good member of the society by supporting all public activities for social and environmental benefits and encourages the employees to join up and organize social activities is a reward for society when there is an opportunity in the right budget.

- 1) Cleaning of tiger & bear cages (4<sup>th</sup> CSR) - an activity that promotes staff to have more awareness and conscious of Conservation of natural resources and wildlife held on 31 August 2018 at Wildlife Quarantine Center, Nakornnayok.



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## Internal Control and Risk Management

The Company's Board of Directors has assigned the Audit Committee to review the appropriateness and effectiveness of the internal control system put in place by the management to ensure the Company has appropriate and adequate internal control system for monitoring of its business operation to achieve the targets and to accord with the applicable laws and regulations prescribed by the Stock Exchange of Thailand (SET) and the Securities and Exchange Commission (SEC), as well as the internal control framework under the international standards of the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Board has determined to have the adequacy of the Company's internal control system assessed and reported directly to the Board at least once a year with disclosure thereof made available in the Annual Disclosure Statement (Form 56-1) and the Annual Report (Form 56-2).

The Audit Committee has constantly monitored and reviewed the Company's internal control and risk management systems, and considered the internal audit results and the auditor's opinion on the appropriateness and adequacy of the internal control system, the operating results of which shall be reported to the Board on a quarterly basis.

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## Related Party Transactions

### 1. Necessity and reasonableness of related party transactions

In 2018 the Company entered into a number of significant related party transactions with related parties. The transactions were necessary and reasonable as they were in the normal course of business operations or in support of its business. Transaction prices were determined at market or fair prices applicable to transactions with outside parties. The employee's benefit receivables, was determined referring to the actuary's valuation reports. So the amount is fair and reasonable.

The Audit Committee has reviewed such related party transactions and considered them necessary, reasonable, and beneficial to the Company.

### 2. Related party transaction approval measure or process

The Board of Directors' meeting no. 3/2014 on May 15, 2014 resolved to establish a policy and process for approving related party transactions between the Company and individuals who have or may have conflict of interest on or beneficial interest in the transaction, such as the major shareholders, directors, executives, persons with controlling power, connected persons, or related persons, etc. The Company will comply with the securities and exchange law, provisions or notifications or stipulations of the Office of the Securities and Exchange Commission, Capital Market Supervisory Board, and the Stock Exchange of Thailand regarding such matters, as well as the regulations regarding disclosure of information on related party transactions according to the Thai Accounting Standards and Thai Financial Reporting Standards set forth by the Federation of Accounting Professions under the Royal Patronage of His Majesty the King. In this regard, persons with conflict of interest or beneficial interest in the transactions shall not be entitled to take part in consideration of or to vote on the transactions.

In case prescribed by law to seek approval of such transactions from the Board of Directors' or the shareholders' meeting, the Company will designate the Audit Committee to attend the meeting to consider and give opinion on the necessity and reasonableness of the transactions.

Making of the related party transactions that are under general commercial conditions and transactions that are not under general commercial conditions shall be subject to the following criteria:

#### Related party transactions with general commercial conditions

For related party transactions with general commercial conditions done between the Company and persons that have or may have conflict of interest or beneficial interest, at present or in the future, the Company has set a scope for doing such transactions, which has been reviewed and endorsed by the Audit Committee and approved in principle by the Board of Directors. Within such scope, when any of such transactions is to be made, approval may be sought only from the management, subject to the conditions that such transaction shall carry commercial conditions similar to those under which a person of ordinary common sense would do with a general counterparty under the same situation, having the bargaining power without any influence from the status of being directors, executives or persons otherwise on an arm's length basis, and being commercial transaction to be done in general by the Company for business operation,

or commercial transaction generally done by a company in the same business to support its own normal business, with fair prices and conditions, and would not result in the transfer of benefits, including the following commercial conditions:

1. Prices and conditions offered to the Company or offered by the Company to persons in general
2. Prices and conditions offered by related persons to persons in general
3. Prices and conditions proven by the Company that companies of similar nature of business would offer to persons in general

However, when there is any transaction made on an arm's length basis as stated above, the management will make decision thereon. After an approval is given, a report on such related party transaction will be prepared and submitted to the Board of Directors for information. In case that the Audit Committee and the Board of Directors find out that such transaction has not been undertaken in compliance with the policy in place, they may jointly discuss to find a solution.

### **Related party transactions with non-general commercial conditions or other transactions**

For related party transaction with non-general commercial conditions or other transactions made between the Company and the persons that have or may have conflict of interest or beneficial interest, at present or in the future, the Company shall present to the Audit Committee to weigh the necessity and reasonableness in making the transaction as well as fairness of the price and conditions by comparing with a third party or the market price, before presenting to the Board of Directors and/or the shareholders' meeting, as the case may be, for approval. In case that the Audit Committee does not have the specialized knowledge on such transaction, the Company will engage an independent expert or the Company's auditor to provide an opinion on such related party transaction to support the consideration and decision of the meeting of the Audit Committee, the Board of Directors, and/or the shareholders' meeting, as the case may be. The Board/Committee members or the shareholders who have conflict of interest or beneficial interest in such transaction shall not be entitled to take part in consideration of or to vote on the transaction.

The Company will disclose the related party transactions made by the Company in the Notes to Financial Statements audited by the Company's auditor in the Annual Report and the Annual Registration Statement (Form 56-1).

### **3. Policy or tendency of entering into related party transactions in future**

The Company expects to continue doing related party transactions from its normal business operation and in support of its normal business operation, i.e. rent of office building space and warehouse building and employee's benefit receivable. Moreover, the Company has no loan or facilities guarantee provided by directors and/or loan security with directors' assets. Any related party transactions existing or those to take place in future will be subject to definite pricing policy with fair market prices and conditions and not resulting in transfer of benefits, and in the best interest of the Company. The Audit Committee shall review and give opinions on the related party transactions with general commercial conditions or in support of the normal business on a quarterly basis.

To enter into related party transactions in future, the Company shall comply with the securities and exchange law, provisions or notifications or stipulations of the Capital Market Supervisory Board and the Stock Exchange of Thailand, and abide by the regulations regarding disclosure of related party transaction information of the Company or Subsidiary according to the Thai Accounting Standards and Thai Financial Reporting Standards by the Federation of Accounting Professions under the Royal Patronage of His Majesty the King.

## 18

## Management Discussion and Analysis (MD&A)

### 1. Overview of business operations and significant changes

The Board of Directors Meeting No. 5/2018 on 9 November 2018 resolved to approve the contract to buy and sell land and prefabricated warehouse worth 117 million Baht and later on 6 December 2018; the company entitled to purchase the land with prefabricated warehouse at the Department of Land Development and paid the full price total size 6-2-00 rai, total area of approximately 5,690 square meters located in Bang Phli Yai sub district, Bang Phli, Samutprakan. The land the prefabricated warehouse currently rented to two tenants while the lease agreement will be ended on 15 March 2019 and 30 April 2020. Moreover, the Company has provided a fair valuation by an independent appraiser certified by the Securities and Exchange Commission (SEC) with the implementation of Cost Approach to appraise the value of 121.27 million Baht, according to the report dated on 2 January 2019.

The company has altered the purpose of land acquired in 2017 with value of 114.95 million Baht from the original to support the centralization of warehouses and logistics in the future to be for the benefit of increasing the value of the land. In the meantime, the company has arranged for a fair valuation by an independent appraiser approved by the Securities and Exchange Commission (SEC) with the value method Market Approach, appraised value of 117.04 million Baht, according to the report dated 17 September 2018.

In addition, the company has approved the establishment of a company in Vietnam with registered capital of 800 million Vietnamese Dong (or approximately 1.14 million baht), representing a 100% shareholding proportion of the registered capital such company will be a subsidiary of the company in order to increase competitiveness and efficiency in customer services by starting from the business unit "Digital Printing System" to be the first business unit. At present, the company is in the process of registering the subsidiary company, request a business license and run an overseas account (Offshore Account) under the company's name for the registration costs, legal consultant fee and miscellaneous payments as a Contribution Capital legally in Vietnam. From the resolution of the Board of Directors Meeting No.1/2019 on 28 February 2019; the Board of Directors approved the increase of the registered capital of the subsidiary not to be more than 2,400 million Vietnamese Dong in order to be sufficient for the operation and provide additional support in term of working capital but when combined with the registered capital not exceeding 4.5 million baht, it is expected to complete the registration process in the second quarter of 2019.

## 2. Management's Discussion and Analysis from the financial statements

### 2.1 Overview Performance and Profitability of Financial Statements

#### Operating Performance for 2016 - 2018

##### • Revenues from Sales and Services

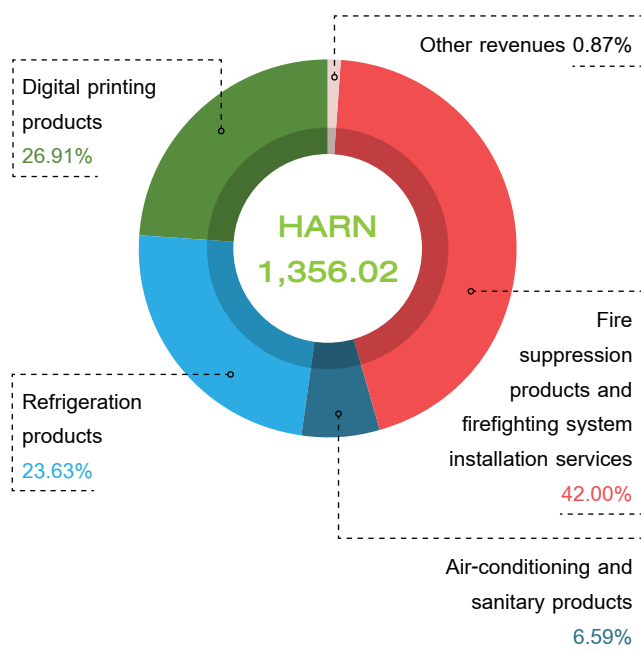
Revenues	For the year ended December 31					
	2018		2017		2016	
	MB	%	MB	%	MB	%
<b>Sales and Services Revenues</b>						
1. Fire Protection Products and Projects	569.59	42.00	579.54	44.56	546.09	82.40
2. Sanitary and Air-conditioning Products	89.33	6.59	86.17	6.62	48.53	7.32
3. Refrigeration Products	320.39	23.63	312.51	24.03	23.97	3.62
4. Digital Printing Products	364.96	26.91	307.74	23.66	26.93	4.06
<b>Total Sales and Services Revenues</b>	<b>1,344.26</b>	<b>99.13</b>	<b>1,285.96</b>	<b>98.87</b>	<b>645.52</b>	<b>97.40</b>
<b>Other Income <sup>1)</sup></b>	<b>11.76</b>	<b>0.87</b>	<b>14.74</b>	<b>1.13</b>	<b>17.20</b>	<b>2.60</b>
<b>Total Revenues</b>	<b>1,356.02</b>	<b>100.00</b>	<b>1,300.70</b>	<b>100.00</b>	<b>662.72</b>	<b>100.00</b>

**Remark :** <sup>1)</sup> Other income included gains/losses on investment in mutual funds and marketable securities, interest receivable, dividend income, and foreign exchange gains/losses, Including rental and service income from investment properties etc.

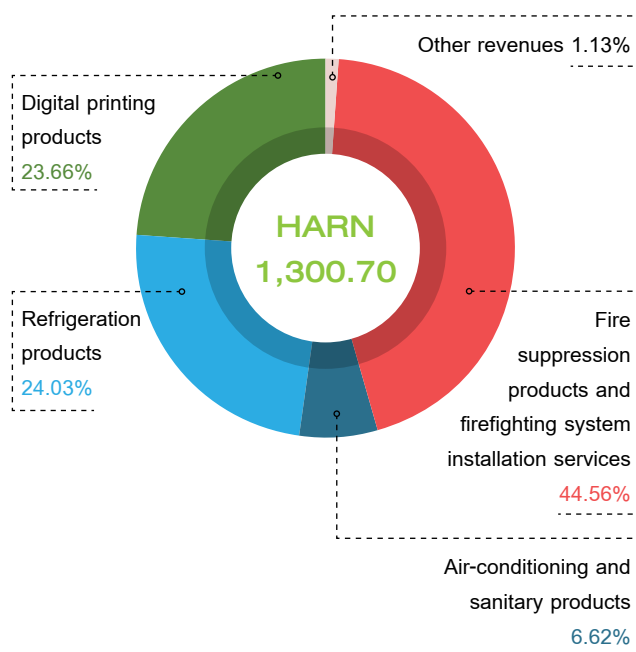
Revenue and cost recognition criteria of the company from four business units complying with current accounting standards and financial reporting standards announced, it is said that the revenue of product sales will be able to be recognized when delivered or transferring significant risks and rewards to buyers. For rental and service income will be recognized when the service is completed and the installation of the fire extinguishing system project will be recognized according to the completion of the work (Percentage of Completion) with referring to the actual cost proportion to the total cost estimated and also evaluated by the project engineers. In 2019, the Federation of Accounting Professions has adopted the financial reporting standard TFRS 15 regarding to the revenue from contracts made with the customers causing the revenue recognition changed to giving priority to Performance Obligations, which the Company must estimate whether each obligation to fulfill the customer at a point in time or completed at overtime which will affect the revenue recognition in each burden that must be followed. In this regard, the company has changed the current revenue recognition policy to be coincided with the standards and believe that it will not be significantly affected by the announcement of TFRS 15 standard in 2019.

The revenue of sales and services from The Company consists of the revenue from selling the fire extinguisher system and industrial projects at 42.00%, the sanitary system and air condition at 6.59%, the refrigeration system at 23.63%, the digital printing system at 26.91% and other income of 0.87% with the total revenue between 2016- 2018 of 662.72 million Baht, 1,300.70 million Baht and 1,356.02 million Baht respectively. Which is derived from the increase in sales of goods and rental income from the financial lease of digital printing systems as well as in 2018, the company has other income from renting of own land and warehouse additional from the revenue structure, it is seen that the company has the ability to reduce the risk of relying on a particular product as well. From the proportion of revenue from fire extinguishing systems and projects that had a high income ratio of 82.40% in 2016 to 42.00% in 2018.

Revenue Structure 2018  
from Financial Statements Duly Audited and  
Reviewed by Auditor



Revenue Structure 2017  
from Financial Statements Duly Audited and  
Reviewed by Auditor



- Cost of Sales and Service

Costs	For the year ended December 31					
	2018		2017		2016	
	MB	%	MB	%	MB	%
<b>Cost of Sales and Services</b>						
1. Fire Protection Products and Projects	420.57	73.84	436.54	75.33	419.86	76.88
2. Sanitary and Air-conditioning Products	66.95	74.95	63.92	74.17	34.18	70.43
3. Refrigeration Products	220.85	68.93	216.28	69.21	16.50	68.84
4. Digital Printing Products	222.86	61.06	180.81	58.75	16.70	62.01
<b>Total Cost of Sales and Services</b>	<b>931.22</b>	<b>69.27</b>	<b>897.55</b>	<b>69.80</b>	<b>487.24</b>	<b>75.48</b>
<b>Gross Profit</b>	<b>413.04</b>	<b>30.73</b>	<b>388.41</b>	<b>30.20</b>	<b>158.28</b>	<b>24.52</b>

The significant costs of sales and services are the costs of products the import cost, transportation cost and including the salary of controlling engineers along with installation team and the contractor's fee for equipment installation, for the year 2016 to 2018 the company had cost of sales and services total 487.24, 897.55 and 931.22 million Baht respectively estimated to be 75.48%, 69.8% and 69.27% of total income from sales and services. The gross profit margin was 24.52% and 30.20% and 30.73% respectively. The gross margin increased from the cost of importing goods decreased from Thai Baht appreciation in 2017 and 2018 and classification some of costs from providing services for digital printing systems in 2017 and 2016 in order to make financial statements represent comparative and more appropriate information. The exchange rate hedging policy, see more in the topic of foreign exchange risk.

Selling & Administrative Expenses

Selling & Administrative Expenses	For the year ended December 31					
	2018		2017		2016	
	MB	%	MB	%	MB	%
Selling Expenses	118.97	8.77	105.19	8.09	42.08	6.35
Administrative Expenses	138.31	10.20	136.83	10.52	82.66	12.47
<b>Total Selling &amp; Administrative Expenses</b>	<b>257.28</b>	<b>18.97</b>	<b>242.02</b>	<b>18.61</b>	<b>124.74</b>	<b>18.82</b>
<b>Total Revenues</b>	<b>1,356.02</b>	<b>100.00</b>	<b>1,300.70</b>	<b>100.00</b>	<b>662.72</b>	<b>100.00</b>

- **Selling Expenses**

The Company's selling expense during the year 2016 - 2018 was at 42.08 million Baht, 105.19 million Baht and 118.97 million Baht respectively. In 2018, the ratio of the selling expense was equal to 8.77%, Increased from 2017 and 2016 with the rate of 8.09% and 6.35% of total revenue respectively, selling expenses consisted of salaries and welfare of sales staffs, commission fees, incentives, freight charges. Including sample product cost and trade shows. For the expenses in 2017 and 2016, there are reclassifications in the commission of the service and installation teams of the digital printing product segment. (Formerly shown in the cost of sales and services) in order to make the comparison of information more suitable. In year 2018, the company has a number of sales staff and project engineers increased to support the sales aspect of new products with modern technology, eco-friendly and to enhance the market expansion to neighboring countries.

- **Administrative Expenses**

The Company's administrative expense during the year 2016 - 2018 was at 82.66 million Baht, 136.83 million Baht and 138.31 million Baht respectively. In 2018 the ratio of The Company's administrative expense had decreased to 10.20%, down from 10.52% in 2017 and 12.47% in 2016 of total revenues. Administrative expenses consisted of salary and welfare for supporting teams, executives and board of directors, rental of buildings and warehouses, utility bills, depreciation and various professional fees. There are also non-monetary expenses related to the amortization of customer relationships and additional depreciation resulting from the fair valuation of fixed assets acquired from purchase and entire business transfer. This is in accordance with the requirements of financial reporting standards which is considered as an accounting expense but does not have to pay in cash (Non-Cash Items).

- **Net Profit**

The Company earned comprehensive income between the years 2016 - 2018 of 45.48 million Baht, 129.64 million Baht and 134.36 million Baht respectively. The Company's net profit margin was at 6.86%, 9.97% and 9.91% of total revenues in the respective years. Conclusively, total comprehensive income increased from the increase in revenue and gross profit compared to 2017

• Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA)

EBIT and EBITDA	For the year ended December 31					
	2018		2017		2016	
	MB	%	MB	%	MB	%
Earnings Before Interest and Taxes (EBIT)	167.51	12.35	161.13	12.39	50.74	7.66
Depreciation and Amortization - normal	14.52	1.07	13.79	1.06	5.52	0.83
Depreciation and Amortization - fair value appraisal	1.83	0.13	2.24	0.17	0.28	0.04
Customer Relation Amortization - fair value appraisal	14.90	1.10	14.90	1.15	1.32	0.20
<b>Earnings Before Interest, Taxes, Depreciation and Amortization (EBTDA)</b>	<b>198.76</b>	<b>14.66</b>	<b>192.06</b>	<b>14.77</b>	<b>57.86</b>	<b>8.73</b>
<b>Total Revenues</b>	<b>1,356.02</b>	<b>100.00</b>	<b>1,300.70</b>	<b>100.00</b>	<b>662.72</b>	<b>100.00</b>

For the year 2016-2018 the company had earnings before interest, tax, depreciation and amortization (EBITDA) amounting 57.86 million Baht, 192.06 million Baht and 198.76 million Baht and the EBITDA margins were 8.73%, 14.77% and 14.66% of total revenue respectively. The increasing amount were from increasing sales and service revenue and gross profit margin comparing to year 2017.

## 2.2 The Company's Assets Management Capability

### Financial Position Analysis as of December 31, 2016, 2017, 2018

The Company had the total assets as of December 31, between the years 2016 - 2018 of 1,379.85 million Baht, 1,457.34 million Baht and 1,548.59 million Baht respectively.

As of December 31, 2018 major assets as percentage of total assets comprised cash and temporary investment in a proportion of 12.70%, trade account, other receivables, unbilled receivables and receivables under financial lease agreements of 21.24%, inventories 19.66%, investments property accounted for 14.97% consisting of vacant land at Soi Chaloem Phra Kiat, size 5-0-90 rai and land with prefabricated warehouse size 6-2-00 rai, total usable area of 5,690 square meters, total value of the project cost 231.95 million Baht (appraised by the appraiser at 238.31 million Baht) and the goodwill is 21.61% while the customers relationship is considered another intangible asset, accounting for 4.73%, both goodwill and relationships with customers had been tested for impairment in accordance with financial reporting standards annually.

As of 31 December 2017 which consisted of important assets such as cash and temporary investments representing 16.54%, trade accounts receivables, other receivables, unbilled work and receivables under financial lease, representing 21% of inventories accounted for 19.99%, land and equipment accounted for 10.32% and goodwill accounted for 22.96% while the relationship with customers is considered another intangible asset accounted for 6.04%, both goodwill and customer relationships have passed the test of impairment in accordance with financial reporting standards. In addition, the Board of Directors meeting has approved the purchase of land size 5-0-90 rai total amount of 114.95 million Baht, which is located at Tambol Dokmai (Samrong, Nuea), Prawet District (Phra Khanong), Bangkok from the Board of Directors Meeting No. 4/2017 on October 18, 2017 to enhance the efficiency of centralized warehouse and transferred the ownership of the land on October 30, 2017. Subsequently, the company changed its occupancy objectives from being used as a warehouse in the future to gain benefits from increasing the value of land.

Trade Receivable and Other Receivables

Trade Receivable	As of December 31					
	2018		2017		2016	
	MB	Turn over (days)	MB	Turn over (days)	MB	Turn over (days)
<b>Trade Receivable by Segments</b>						
1. Fire Protection & Sanitary Products and Projects	139.86	76.79	137.36	71.80	124.54	73.03
2. Refrigeration Products*	64.91	77.26	70.72	86.57	77.51	74.95
3. Digital Printing Products*	58.34	56.58	54.81	66.48	57.28	52.52
<b>Total Trade Receivable by Segments*</b>	<b>263.11</b>	<b>71.42</b>	<b>262.89</b>	<b>74.12</b>	<b>259.33</b>	<b>68.17</b>

\*AR turnover calculated as if the sales and service revenues were consolidated the full year of 2016

Trade Receivable and Other Receivables	As of December 31					
	2018		2017		2016	
	MB	%	MB	%	MB	%
<b>Trade Receivable and Others</b>						
Trade Receivable	263.11	92.47	262.89	95.65	259.33	89.02
Other Receivable	26.90	9.45	16.24	5.91	37.40	12.84
less Allowance for Doubtful Accounts	(5.48)	(1.92)	(4.29)	(1.56)	(5.41)	(1.86)
<b>Trade Receivable and Other Receivables - Net</b>	<b>284.53</b>	<b>100.00</b>	<b>274.84</b>	<b>100.00</b>	<b>291.32</b>	<b>100.00</b>

As of December 31, 2018 The Company's account receivables can be divided into 3 products groups which are 1) Fire extinguisher, sanitary and air conditioning systems 2) Refrigeration system 3) Digital printing system with the account receivable turnover, In 2016 - 2018 (excluding other receivables and allowance for doubtful accounts) of 68.17 days, 74.12 days and 71.42 days respectively.

The Company has the allowance for doubtful accounts for estimated loss from not being able to collect payment from the debtors, which will be considered in general from past experience and the analysis of the debtors' age including the financial status of the debtors who may have credit risks and compile the information case by case and will write off from the account when the debts cannot be tracked, the lawsuit has ended or cannot enforce the court case following the judge ruling. However, The Company has always paid attention to the process of approving credits strictly which reduced the allowance for doubtful accounts into a low level during the year 2016 - 2018 the ratio of allowance for doubtful accounts were 1.86%, 1.56% and 1.92% respectively of net trade account and other receivables.

Financial lease receivables

Financial lease receivables	As of December 31					
	2018		2017		2016	
	MB	%	MB	%	MB	%
Current portion of finance lease receivables	11.79	35.81	8.78	45.61	10.02	49.95
Long-term receivables under financial lease agreements	21.13	64.19	10.47	54.39	10.04	50.05
<b>Finance lease receivables</b>	<b>32.92</b>	<b>100.00</b>	<b>19.25</b>	<b>100.00</b>	<b>20.06</b>	<b>100.00</b>

As of December 31, 2018, The Company has increased the financial lease receivables when compared to the year 2017 in the amount of 13.67 million baht due to the agreement to lease additional new digital printers which are considered as financial leases of the major industrial customers in 2018.

Inventories

Finished Goods	As of December 31					
	2018		2017		2016	
	MB	Turn over (days)	MB	Turn over (days)	MB	Turn over (days)
<b>Finished Goods by Segments</b>						
1.Fire Protection & Sanitary Products and Projects	137.40	99.70	128.94	88.66	114.18	85.31
2. Refrigeration Products *	63.75	113.58	73.70	107.25	53.39	86.35
3. Digital Printing Products *	60.81	82.79	40.29	85.10	44.02	87.23
<b>Total Finished Goods</b>	<b>261.96</b>	<b>98.95</b>	<b>242.93</b>	<b>92.42</b>	<b>211.59</b>	<b>86.02</b>

\*INV turnover Calculate the total annual cost of sales according to the internal data of each product line.

Inventories	As of December 31					
	2018		2017		2016	
	MB	%	MB	%	MB	%
<b>Inventories</b>						
Finished Goods	261.96	86.05	242.93	83.40	211.59	89.06
Goods in Transit	58.62	19.26	61.75	21.20	40.96	17.24
<u>less</u> Allowance for obsolescence and slow moving stocks	(16.14)	(5.30)	(13.41)	(4.60)	(14.98)	(6.31)
<b>Inventories - Net</b>	<b>304.44</b>	<b>100.00</b>	<b>291.27</b>	<b>100.00</b>	<b>237.57</b>	<b>100.00</b>

As of December 31, 2018, The Company had inventories divided into 3 products groups which are 1) Fire extinguisher, sanitary and air conditioning systems 2) Refrigeration system 3) Digital printing system with the inventory turnover (excluding goods in transit and before allowance for loss on devaluation of inventories) of 2016 - 2018 was 86.02 days 92.42 days and 98.95 days respectively. Because the supplier of the company has moved the new base, therefore, the company needed to keep extra inventory for customers in order to reduce opportunity cost. However, the company considered costs of carrying the products, and risks from deteriorated goods or slow rotation in all aspects.

In addition, the company has a policy to allowance for deteriorated goods or slow rotation items by setting two criteria when considering allowance for deteriorated goods or slow rotation, are 1) goods of two or more years old, 2) annual turnover rate less than 20% of the items for two consecutive years, The Company believes that the condition for the allowance for deteriorated goods or slow rotation will be enough conservatism to maintain the inventory value not more than the net realizable value according to the accounting standards. However allowance for deteriorated goods or slow rotation is considered low for the year 2016 to 2018 at 6.31%, 4.60% and 5.30% respectively of the net inventory.

#### Investment property

Property type	Acquisition of assets			Book value - net As of December 31, 2018	Obligation
	Transfer of objectives	Buying property - cost	Purchase of assets - Accumulated depreciation		
Land	114.95	57.70	-	172.65	None
Factory Buildings	-	55.68	(0.10)	55.58	None
Buildings Improvement	-	2.67	(0.02)	2.65	None
Tools and equipment	-	0.95	(0.01)	0.94	None
<b>Total investment property - net</b>	<b>114.95</b>	<b>117.00</b>	<b>(0.13)</b>	<b>231.82</b>	

According to the Board of Directors meeting No. 5/2018 on 9 November 2018, it was resolved to purchase land with warehouse size of 6-2-00 rai total amount of 117 million Baht which the warehouse consisted of 2-story reinforced concrete building with 3 booths with usable area of 5,690 square meters including a factory license (Ror Ngor 4). The land and buildings are currently rented by two renters. while the contract will be ended on 15 March 2019 and 30 April 2020 respectively, and the company has income from rental of investment properties for the year ended 31 December 2018 in the amount of 922,886 Baht and operating expenses in the amount of 131,824 Baht including the transfer of the purpose of land ownership at Soi Chaloem Phra Kiat, size 5-0-90 rai, acquired in 2017, amount of 114.95 million Baht from the original for future warehouse centralization to benefit from increasing the value of the land.

Land and equipment

Property type	Net book value (million baht) As of December 31		
	2018	2017	2016
Land	-	114.95	-
Tools and equipment	1.18	1.10	1.44
Furniture and office equipment	7.94	11.06	14.01
Vehicle	11.98	11.73	14.05
Assets for rent and demonstration	11.56	11.63	12.07
Assets under construction	0.02	-	-
<b>Total land and equipment - net</b>	<b>32.68</b>	<b>150.47</b>	<b>41.57</b>

The company has land Building and equipment - net of 32.68 million baht as of 31 December 2018, which decreased from year 2017 in the amount of 117.79 million Baht due to the changing purpose of land ownership from the original for future usage to benefit from increasing the value of the land. The company therefore transferred such land to investment property at the cost of 114.95 million Baht.

Trade and Other Payables

Trade and Other Payables	As of December 31					
	2018		2017		2016	
	MB	Turn over (days)	MB	Turn over (days)	MB	Turn over (days)
<b>Trade and Other Payables</b>						
Trade Payables	128.37	45.69	109.51	41.00	104.57	51.19
Other Payables						
• Accrued Expenses	40.64	n/a	39.32	n/a	43.80	n/a
• Others	41.17	n/a	25.65	n/a	28.20	n/a
<b>Total Trade and Other Payables</b>	<b>210.18</b>	<b>45.69</b>	<b>174.48</b>	<b>41.00</b>	<b>176.57</b>	<b>51.19</b>

The Company has the policy to maintain the business relationship with stakeholders such as vendors both domestically and internationally, contractors for equipment installations and other trade partners. The basis of maintaining a good relationship, financial credit is considered to be very important. Other than keeping relationships, The Company can also negotiate the prices of products and services which are the most important costs and will result in sustainable profitability of The Company in the future.

Types of credit limits and interest rates

Types of credit	Facilities (Million Baht)		Interest rates (% per annum)	
	2018	2017	2018	2017
Overdraft	11.00	11.00	MOR	MOR
			Fixed deposit	Fixed deposit
Letter of Credit / Trust Receipt	160.00	160.00	MLR-1, MMR	MLR-1, MMR
Letter of Guarantee	54.00	24.47	1.65 - 2%	1.65 - 2%
Forward Contract	562.39	562.39		
Promissory Note	5.00	5.00	MLR	MLR
Up Country Cheque	-	-		
Total	792.39	762.86		
Forward Contract (Million USD)	3.00	3.00		

The Company's liquidity level is high, as can be seen from the liquidity ratio of 3.48 times and 4.19 time in 2018 and 2017 respectively. In 2018, the company received a deed of guarantee which increased from the year 2017 amount of 30 million Baht and expropriated the deed letter from Chillmatch Co., Ltd., worth 0.47 million Baht and closed the bank guarantee facility on behalf of Chillmatch Co., Ltd. and its subsidiaries within year 2018, In addition, The Company still has excessive working capital and credit facilities to import products from foreign countries in the form of overdraft or promissory notes, business guarantees and the risks management relating to foreign exchange currency including the opportunity in acquiring the business relating to other engineering systems in the future.

Foreign Exchange Risks

Currency	Imported goods in 2018		Imported goods in 2017	
	Foreign currencies	As % of import value	Foreign currencies	As % of import value
United States Dollar	12,338,899	53.94	10,984,629	56.63
Singapore Dollars	1,803	0.01	956,686	3.60
Euro	3,337,481	17.39	2,922,464	17.11
Pound Sterling	4,734,786	27.66	3,219,863	21.42
Yen	20,778,016	0.83	27,386,980	1.24
Chinese Yuan	268,402	0.17	-	-

Currency	2018			2017		
	Trade account payables As of 31 Dec 2018	Risk hedging		Trade account payables As of 31 Dec 2017	Risk hedging	
		Forward contracts outstanding	% Proportion		Forward contracts outstanding	% Proportion
United States Dollar	1,617,842	1,293,213	79.93	1,428,318	1,139,461	79.78
Singapore Dollars	1,000	-	-	200	-	-
Euro	419,773	153,314	36.52	186,933	74,989	40.12
Pound Sterling	610,009	897,792	147.18	574,723	494,614	86.06
Yen	575,000	575,000	100.00	8,303,900	8,303,900	100.00

The Company entered into forward contracts with banks, based on consideration of appropriate foreign exchange and delivery period to ensure availability for debt settlement and by keeping abreast of updated information on and analysis of foreign exchange and Baht movement trends. In addition at the end of 2018, the company has prepared against the risk of changes of Pound Sterling for the trading of firmed commitment because the value of the products is high and the company has issued a sales order and a customer agreeing to pay the price in Baht therefore it is considered that the company has closed an exchange rate risk for such cases completely completely. The company has no speculative policy from currency fluctuations because the company is not expertise in forecasting the direction of movement of money. In contrast the company desires to reduce the exchange rate risk that will affect the cash flow and pay in the future to a controlled level.

## 2.3 Liquidity and Working Capital

### 2.3.1 Cash Flows from The Company's Financial Statement

Description	For the year ended December 31		
	2018	2017	2016
Net Cash Flow from Operating Activities	163.44	107.14	17.39
Net Cash Flow from (Used in) Investing Activities	(94.26)	(48.44)	33.69
Net Cash Flow from (Used in) Financing Activities	(81.83)	(52.61)	(43.39)
Net Cash and Cash Equivalents, increase (decrease)	(12.65)	6.09	7.69
Cash and Cash Equivalents - B/F	41.96	35.87	28.18
Cash and Cash Equivalents - C/F	29.31	41.96	35.87

#### Analyzing the Cash Flows Statement for the year ended December 31, 2018

The Company had net cash flows from the business operation in 2018 of 163.44 million baht, an increase 56.30 million Baht when compared to 2017, mainly due to the increase in net profit 4.68 million baht, Trade and other payables increased by 35.71 million baht. Inventories before allowance for stock obsolescence increased by 15.90 million baht, Trade and other receivables before allowance for doubtful accounts increased by 10.88 million baht and financial lease receivables, Increased by 13.67 million baht.

The cash flows that had been used for the investing activities in 2018 of 94.26 million baht, Increased from the previous year by 45.82 million baht due to the purchasing investment properties 117 million baht and from the sales of investment units net increased 31.81 million baht

The cash flows that had been used for the financing activities came from the dividend declaration during 2018 at the rate of 0.14 baht per share, representing 81.83 million baht, an increase of 29.22 million baht from the previous year.

#### **Analyzing the Cash Flows Statement for the year ended December 31, 2017**

The Company had net cash flows from operating activities in 2017 of 107.14 million baht, an increase 89.75 million baht, when compared to 2016, the main reason was from net profit for year 2017 of 129.68 million Baht with an increase of 89.15 million Baht from the previous year. Trade and other receivables decreased by 13.67 million baht compared to last year with an increase of 18.81 million Baht for receivables. However, the increase in inventories resulted in a decrease in cash flow from operations of 56.60 million Baht, an increase from previous transaction 42.03 million baht.

Cash flow used in investing activities in 2017 amounted to 48.44 million baht, Mainly is the purchase of land for the construction of warehouse and equipment in the amount of 117.26 million Baht with an increase of 115.63 million Baht from the previous year and cash received from the sale of investments in a private fund and mutual funds in the amount of 68.71 million baht which increased by 67.98 million Baht from the previous year.

Cash flow used in financing activities arose from dividend declaration of 52.61 million Baht, increased by 17.61 million Baht.

#### **2.3.2 Capital Structure from the Financial Statement as of December 31, 2018, 2017, 2016**

The Company had the total liabilities on the December 31, between years 2016 - 2018 of 242.21 million Baht, 242.66 million Baht and 281.38 million Baht, representing debt to equity ratio equal to 0.21 times, 0.20 times and 0.22 times respectively. The significant components of the liabilities were account payables and other payables and other current liabilities without interest-bearing liabilities the details as follows;

As of December 31, 2018 The Company's total debts were equal to 281.38 million Baht, an increase from 2017 by 38.71 million Baht, From trade accounts payables of 18.87 million Baht from the purchase of products in the fourth quarter in order to be sufficient to sell and advance payments for goods and services total 15.69 million Baht from the sale of products and providing installation services of high value printers. However, the company still has a satisfactory capital structure.

As of December 31, 2017 The Company's total liabilities were equal to 242.66 million Baht, an increase from 2016 by 0.45 million Baht, Which is considered insignificantly increased shows that the company is able to maintain its capital structure in a proper level.

With The Company's capital structure that does not need to rely on any bank loans, this results in HARN having no interest burden, making the Company able to payout its dividends to shareholders consistently. During 2016 - 2018, the dividends were paid at 0.09 Baht, 0.14 Baht and 0.16 Baht per share, representing the dividend payout ratio per net profit equal to 81.82%, 63.64% and 69.57% respectively, the annual dividend for 2018 is not confirmed until the approved by the Annual General Meeting of Shareholders.

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## Report of the Board of Directors' Responsibility for Financial Reports

Dear Shareholders,

The Board of Directors is responsible for the financial statements of Harn Engineering Solutions Public Company Limited ("Company's") (previously known as Fire Victor Public Company Limited) prepared in accordance with The Thai Accounting Standards and Thai Financial Reporting Standards under Accounting Act, B.E. 2543 (2000) and accounting interpretations and practices enforced by the Federation of Accounting Professions under the Royal Patronage of His Majesty the King, and pursuant to the regulations of the Securities and Exchange Commission regarding preparation and presentation of financial report under the Securities and Exchange Act, taking into consideration appropriate and consistent accounting policies and based on careful judgments and reasonable reporting in the preparation of the financial report, as well as adequate and transparent disclosure of important information in the Notes to Financial Statements according to the Report of Independent Auditor, for the benefits of the shareholders and investors in general.

The Board of Directors has established and maintained good corporate governance and appropriate risk management and internal control systems to assure that the accounting information is correctly, completely and timely recorded, and adequate to sustain the Company's assets and prevent any fraud or any material act of irregularities.

The Board of Directors has appointed an Audit Committee comprising Independent Directors to oversee and review the reliability and accuracy of the financial reports, the assessment of internal control, risk management and internal audit to ensure efficiency. The Audit Committee's opinions on these issues are included in the Report of the Audit Committee presented in this Annual Report.

The Board of Directors is of the opinion that the internal control and internal audit of the Company can give assurance that the financial statements of Harn Engineering Solutions Public Company Limited for the year ended 31 December 2018 exhibit its financial position, operating results and cash flows accurately and appropriately in material aspects in accordance with the Thai Accounting Standards and Thai Financial Reporting Standards, and the audit of which has been performed by the Independent Auditor according to the auditing standards with opinion given in the Report of Independent Auditor presented in this Annual Report.



Dr. Thakol Nunthirapakorn  
Chairman of the Board



Mr. Wirat Sukchai  
Chief Executive Officer

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## Report of the Audit Committee


**Dr. Thakol Nunthirapakorn**

Chairman of the Audit Committee

Dear Shareholders,

The Audit Committee, appointed by the Board of Directors, is composed of three Independent Directors as follows :

1. Mr. Thakol Nunthirapakorn Chairman of Audit Committee
2. Mr. Sothitorn Mallikamas Member of the Audit Committee
3. Miss Voranuch Supaibulpipat Member of the Audit Committee

The Audit Committee is in charge of review of the Company's financial reports to ensure that they are accurate and have adequate disclosure of information, and that the Company has appropriate and effective internal control and internal audit, and its business operations are compliant with applicable laws and regulations. The Audit Committee is also responsible for selecting and proposing for appointment of the Company's external auditor, considering the Company's disclosure of information in an accurate and complete manner, and performing duty independently with Mr. Wisit Wachiralappaithoon as the Secretary of the Committee, within the scope of duties and responsibilities prescribed in the Audit Committee Charter.

In 2018, the Audit Committee held four meetings. The three Committee members attended all the meetings held. The Audit Committee discussed and shared opinions with the management, internal auditors, and external auditor on relevant issues. Salient points can be concluded here:

**1. Review of quarterly and yearly financial statements**

**for 2018 :** The Audit Committee reviewed the quarterly and annual financial statements, which were reviewed or audited by Dharmniti Auditing Co., Ltd with enquiries made with and explanation sought from the management and the auditor as regards the accuracy, completeness and compliance with the Thai Accounting Standards and Thai Financial Reporting Standards as well as the criteria of the Securities and Exchange Commission and the Stock Exchange of Thailand as appropriate in the material aspects, and as regards disclosure of information in an adequate, complete and reliable manner, for further submission to the Board of Directors for approval.

**2. Review and assessment of the adequacy of the internal control system**

: The Audit Committee reviewed the internal control system and monitored the audit result, with the audit report submitted on a quarterly basis by the internal auditors from Ultima Advisory Co., Ltd. to assess the adequacy of the internal control system which would support and drive the Company toward its targets, in terms of both effectiveness and efficiency of the operations, and ensure the reliability of the financial reports and the compliance with the relevant regulations and policies of the Company.

3. **Review and consideration of related party transactions or transactions that may have conflict of interests, including disclosure of information thereof in conformity with the relevant laws and regulations of the Stock Exchange of Thailand and the Office of the Securities and Exchange Commission :** The Audit Committee is given the opinion that such transactions were carried out in a reasonable manner for the maximum benefit of the Company, and that disclosure of information thereof was accurate, complete and adequate in line with the good corporate governance practice.

The Audit Committee is given the opinion that such transactions were carried out in a reasonable manner for the maximum benefit of the Company, and that disclosure of information thereof was accurate, complete and adequate in line with the good corporate governance practice.

4. **Review of work performance pursuant to the securities and exchange law, the regulations of the Office of the Securities and Exchange Commission and the criteria of the Stock Exchange of Thailand, as well as other laws relevant to the Company's business operations, including compliance with the Company's regulations and obligations with third parties :** In this regard, the Audit Committee did not find any significant issue of non-compliance with the law and regulations of the Stock Exchange of Thailand and relevant regulatory bodies.

5. **Selection the appointment of the Company's auditor and determination of audit fee for 2019**

: The proposed appointment was proposed for the endorsement by the Board of Directors for proposal to the 2019 Annual General Meeting of Shareholders for consideration and approval. The Audit Committee reviewed the performance and independence of the candidate, and the

appropriateness of the remuneration for the auditor, and considered it proper for the Company to appoint Mr.Thanawut Piboonsawat, License No.6699 and/or Mr.Peradate Pongsathiansak, License No.4752 and/or Miss Sulalit Ardsawang, License No.7517 and/or Miss Wannisa Ngambuathong, License No.6838 and/or Miss Thanyaporn Tangthanopajai, License No.9169 from Dharmniti Auditing Co., Ltd. as the Company's auditor for 2018.

The Audit Committee is given the opinion that, in 2018, the Company maintained good corporate governance and appropriate internal control, prepared the financial statements that exhibited the factual information in material aspects adequately and accurately in compliance with the Thai Accounting Standards and Thai Financial Reporting Standards, disclosed information in conformity with the relevant laws and regulations, had risk management at an acceptable level, performed in adherence to the relevant laws, rules and regulations as well as obligations, and disclosed related party transactions in an accurate and complete manner. The Audit Committee and the management attached high importance on business operations in line with the good corporate governance. No material irregularities were found that might affect the Company's financial status. The Company consistently developed and rationalized its work processes to boost quality and suit the business environment, as well as to be compliant with the rules and regulations of the Office of the Securities and Exchange Commission and the Stock Exchange of Thailand, and other laws relevant to the business operations of the Company.

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## Report of the Executive Committee


**Mr. Wirat Sukchai**

Chairman of the Executive Committee

Dear Shareholders,

The Company's Executive Committee is composed of six directors and top executives as appointed by the Board of Directors as below :

1. Mr. Wirat	Sukchai	Chairman of the Executive Committee and Chief Executive Officer
2. Mr. Wasan	Nantakhwang	Member of the Executive Committee and Managing Director
3. Mr. Thammanoon	Tripetchr	Member of the Executive Committee and Managing Director
4. Mr. Jain	Charnnarong	Member of the Executive Committee
5. Mr. Wisit	Wachiralappaitoon	Member of the Executive Committee and Finance Director
6. Mrs. Varinkan	Teraumranon	Member of the Executive Committee and Company Secretary

Although Thai economy in 2018 remained volatile with risk exposures in several areas, business opportunities in overall were still seen particularly in real economic sectors such as tourism related business, public sector investment and business driven by technology 4.0. Therefore, the Company has to accelerate the strengthening of the organization in all respects to ensure continued business operation and expansion towards a sustainable growth. The Executive Committee is in charge of assisting the Board of Directors in considering, screening and scrutinizing significant issues before submission to the Board

of Directors for consideration, thus facilitating the Company's business operation. Mrs. Varinkan Teraumranon is the secretary to the Board of Directors performing duty within the scope of duties and responsibilities according to the Executive Committee Charter.

In 2018, the Executive Committee held altogether 12 meetings to consider significant issues of the Company, salient points of which were as concluded here :

- 1. Map out business plan and strategy :** Consider the company's review the vision, mission and strategy of the company in the past year. To determine the strategy and operation plan of the company. In each business line In accordance with the vision and mission of the company by considering internal and external factors that have an impact Including acceptable opportunities and risks by delegated such plans to executives and employees at all levels in the company to know and monitor the implementation of the company's strategy In order to meet the goals set and report progress according to the strategic plan to the Board of Directors every quarter.
- 2. Supervise and monitor the Company's business operation :** Considered, supervised and monitored the operation of each business function line on a monthly basis to ensure the operation came out as planned and as assigned by the Board of Directors.
- 3. Consider the Company's budget and investment projects :** Considered and gave opinions on the Company's annual budget and investment projects as well as other issues proposed by the Management before submission to the Board of Directors' meeting for consideration and approval.
- 4. Determine remuneration policy and executive and staff salary structure :** Considered the remuneration policy and personnel salary structure before submission to the Board of Directors' meeting for consideration and approval.
- 5. Consider nomination and recruitment of top executives :** Considered the structure and scope of duties and evaluated the performance of top executives before submission to the Board of Directors' meeting for consideration and approval.

The Executive Committee is committed to performing our duties with integrity, prudence and carefulness, being ready to develop the Company's business with full capabilities in the best interests of the Company, the shareholders and all stakeholders, and ensuring the Company has in place the operational systems that are in compliance with the law and the code of conduct under the good corporate governance so that the Company will be able to move forward towards success with stability and sustainability.

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## Report of the Risk Management Committee



**Dr. Supot Tiarawut**

**Chairman of the Risk Management Committee**

Dear Shareholders,

In 2018, the Risk Management Committee performed our duties with full potential to support the Board of Directors and other committees in monitoring the Company's risk management so that the Company will be able to achieve all the business targets set forth, and to build confidence and trust among investors and stakeholders in the business operation of the Company. The Risk Management Committee, appointed by the Board of Directors, is composed of fourteen directors with competence, expertise and experience as well as understanding of the business operation as follows:

1. Mr. Supot	Tiarawut	Chairman of the Risk Management Committee
2. Mr. Wirat	Sukchai	Member of the Risk Management Committee
3. Mr. Wasan	Nantakhwang	Member of the Risk Management Committee
4. Mr. Thammanoon	Tripetchr	Member of the Risk Management Committee
5. Mr. Pracha	Phromphornchai	Member of the Risk Management Committee
6. Mr. Rattanaphan	Mukhariwattananon	Member of the Risk Management Committee
7. Mr. Suchat	Suwatnodom	Member of the Risk Management Committee
8. Mr. Nuntawat	Jeerakhom	Member of the Risk Management Committee
9. Mr. Sukit	Litikorn	Member of the Risk Management Committee
10. Mr. Withoon	Thamee	Member of the Risk Management Committee

11. Mr. Chatraapichai	Earanekkulchai	Member of the Risk Management Committee
12. Mr. Wisit	Wachiralappaatoon	Member of the Risk Management Committee
13. Mr. Pongsawat	Penglengpol	Member of the Risk Management Committee
14. Mrs. Varinkan	Teraumranon	Member of the Risk Management Committee

The Risk Management Committee is in charge of formulating and reviewing the Company's risk management framework, policy and procedure to suit the business operation with efficiency and in line with the Company's operational strategy and business plan, as well as supporting and developing efficient and consistent risk management at all levels across the organization in line with international standards to build up corporate risk management culture. Mrs. Varinkan Teraumranon is the secretary to the Risk Management Committee.

In 2018, the Risk Management Committee held altogether twelve meetings to consider issues with salient points as below:

1. Considered the annual risk management plan based on risk assessment prepared by the executives of all business units.
2. Prioritized risk issues and identified impacts thereof to determine risk management measures.
3. Supported and developed risk management consistently across the organization.
4. Monitored and reviewed implementation of the risk management plan to ensure compliance with the risk management policy and framework in place, with internal auditors to follow up and review risk management in a systematic and efficient manner.
5. Reviewed risk management policy regarding corruption risk to be in line with the anti-corruption framework adopted in 2018.

In 2018, the Risk Management Committee organized three workshops, in which executives at the manager level participated to brush up on and enhance skills in risk analysis so that potential risks of each business unit is a warning signal for staff to try to truly reduce loss from their work performance. Therefore, the Risk Management Committee is of the opinion that, the Company developed its risk management system to comprehensively cover all risk factors, and had risk management undertaken continuously and in line with the changing circumstances. The Risk Management Committee met regularly to consider urgent and significant risk issues in a timely manner. This led to effectiveness in the risk management of the Company. Moreover, significant organization-level risks were managed efficiently and appropriately and controlled within the acceptable levels.

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# Independent Auditor's Report

## INDEPENDENT AUDITOR'S REPORT

To The Shareholders and Board of Directors of  
Harn Engineering Solutions Public Company Limited

### Opinion

I have audited the financial statements of Harn Engineering Solutions Public Company Limited (the Company), which comprise the statement of financial position as at December 31, 2018, and the statement of comprehensive income, statement of changes in shareholders' equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In my opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Harn Engineering Solutions Public Company Limited as at December 31, 2018, and its financial performance and its 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 Company in accordance with the Federation of Accounting Professions' Code of Ethics for Professional Accountants together with the ethical requirements that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. 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 our professional judgment, 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.

1) Recognition of revenue from sales and service

Risk

The Company has revenue from sales and service derived from four main business segments which are fire protection and projects, sanitary and air-conditioning systems, cold storage devices, and digital printing system for the year ended December 31, 2018 amounting to Baht 1,344.27 million which have different terms and pricing conditions, including revenue from services under the fire protection installation project amounting to Baht 105.57 million or 7.85% of the Company's total revenue from sales and service. The estimate of item that involves the service under the project agreement has an effect on the revenue that the Company recognized in the period, which it has to recognize by the percentage of completion method as at December 31, 2018. I have identified that accuracy and completeness of revenue recognition from sales and service carries significant risk and requires special attention in the audit. The Company has disclosed its accounting policy of revenue from sales and service recognition and detail of revenue from sales and service in the notes to the financial statement No. 3.16 and 23, respectively.

Risk response by auditor

My audit approach on such matter includes understanding the revenue recognition process and internal control related to the revenue recognition, reviewing the design and implementation of the internal control procedures for such matter, performing the operating effectiveness testing over the internal control procedures around revenue recognition process, and performing substantive testing which consists of examining terms and conditions of the sales and services agreements and examining the related supporting documents of those revenues, examining the supporting documents for the revenue from sales and services transactions that occurred during the year and near the end of the accounting period, examining credit notes issued after the end of the accounting period, and performing analytical review and test of detail relating to the revenue from sales and services.

2) Testing for impairment of goodwill

Risk

The Company has goodwill of Baht 334.67 million or 21.61% of total assets as at December 31, 2018 which is the goodwill arising from the acquisition and transfer of the entire business of Chillmatch Company Limited which is the cold storage devices segment and Q II S Company Limited which is digital printing system segment. The Company has to test goodwill for impairment annually in accordance with the Thai Financial Reporting Standards. The test of impairment is significant to the audit as the amount has materiality to the financial statements. In addition, the procedure of impairment testing by the management is complex and requires using considerable judgment as well as relying on assumptions, especially the estimates of future cash flows to be received and paid that are expected to generate from the continuing operation of the cash generating unit, and the use of appropriate discount rate in order to discount future cash flow which can change according to the economic conditions and market conditions in the future. The Company has disclosed goodwill in the notes to the financial statements No. 3.11 which describes the accounting policies and No. 12 which describes the amount and key assumptions that may affect the impairment in the future.

#### Risk response by auditor

In my audit approach, I have considered the reasonableness of the assumptions and methods used by the management in calculating the estimates of future cash flows to be received and paid that are expected to be generated by auditing the supporting evidence which presents the best estimate of the management, especially on the revenue forecast and gross profit and profit from operation of the business segments of the Company, the use of appropriate discount rate to discount future cash flow, as well as testing the calculation of the recovery amount. In addition, I have paid attention on the adequacy of the information disclosure relating to the assumptions which are most sensitive that may affect the testing result of impairment and has significant effect on the measurement of recovery amount of goodwill.

#### **Other Information**

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the financial statements and my auditor's report thereon. The annual report 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 will 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 identified above when it becomes available 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, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance in order for those charged with governance to correct 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 Company's ability to continue as a going concern, disclosing, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company'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 judgment 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 Company'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 Company'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 Company 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.

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 we 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.

The engagement partner responsible for the audit resulting in this independent auditor's report is Mr. Thanawut Piboonsawat.



(Mr. Thanawut Piboonsawat)

Certified Public Accountant

Registration No. 6699

Dharmniti Auditing Company Limited

Bangkok, Thailand

February 28, 2019

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## Financial Statements

## HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED

## STATEMENT OF FINANCIAL POSITION

AS AT DECEMBER 31, 2018

<u>ASSETS</u>			
		Baht	
	Note	2018	2017
<b>CURRENT ASSETS</b>			
Cash and cash equivalents	5	29,310,563	41,955,998
Temporary investments	6	167,434,994	199,119,259
Trade and other receivables	7	284,531,945	274,841,161
Current portion of finance lease receivables	8	11,793,435	8,783,243
Unbilled receivables		11,421,369	11,876,749
Inventories	9	304,439,304	291,266,083
Other current assets		478,604	909,087
<b>TOTAL CURRENT ASSETS</b>		<b>809,410,214</b>	<b>828,751,580</b>
<b>NON-CURRENT ASSETS</b>			
General investment		241,845	241,845
Long-term finance lease receivables	8	21,128,666	10,473,328
Investment property	10	231,818,176	-
Property and equipment	11	32,680,745	150,468,251
Goodwill	12	334,672,061	334,672,061
Customer relationship	13	73,180,908	88,082,002
Intangible assets	14	23,979,343	27,301,349
Other non-current assets		21,474,503	17,351,364
<b>TOTAL NON-CURRENT ASSETS</b>		<b>739,176,247</b>	<b>628,590,200</b>
<b>TOTAL ASSETS</b>		<b>1,548,586,461</b>	<b>1,457,341,780</b>

Notes to the financial statements form an integral part of these statements

**HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED****STATEMENT OF FINANCIAL POSITION (CONT.)****AS AT DECEMBER 31, 2018****LIABILITIES AND SHAREHOLDERS' EQUITY**

	Note	Baht	
		2018	2017
<b>CURRENT LIABILITIES</b>			
Trade and other payables	15	210,181,058	174,475,176
Income tax payable		16,064,280	17,474,246
Short-term provisions		384,041	-
Other current liabilities		6,271,500	5,816,355
<b>TOTAL CURRENT LIABILITIES</b>		<b>232,900,879</b>	<b>197,765,777</b>
<b>NON-CURRENT LIABILITIES</b>			
Deferred tax liabilities	16	9,744,962	13,454,797
Employee's benefit obligations	17	16,670,899	14,897,993
Other non-current liabilities		22,064,273	16,546,575
<b>TOTAL NON-CURRENT LIABILITIES</b>		<b>48,480,134</b>	<b>44,899,365</b>
<b>TOTAL LIABILITIES</b>		<b>281,381,013</b>	<b>242,665,142</b>

Notes to the financial statements form an integral part of these statements

## HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED

## STATEMENT OF FINANCIAL POSITION (CONT.)

AS AT DECEMBER 31, 2018

LIABILITIES AND SHAREHOLDERS' EQUITY (CONT.)

		Baht	
	Note	2018	2017
SHAREHOLDERS' EQUITY			
Share capital			
Authorized share capital			
584,500,000 ordinary shares of Baht 0.50 each		292,250,000	292,250,000
Issued and paid-up share capital			
584,500,000 ordinary shares of Baht 0.50 each		292,250,000	292,250,000
Premium on ordinary shares	19	776,416,427	776,416,427
Retained earnings			
Appropriated			
Legal reserve	20	27,068,831	20,350,894
Unappropriated		171,470,190	125,659,317
TOTAL SHAREHOLDERS' EQUITY		1,267,205,448	1,214,676,638
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY		1,548,586,461	1,457,341,780

Notes to the financial statements form an integral part of these statements

## HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED

## STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED DECEMBER 31, 2018

		Baht	
	Note	2018	2017
Revenues			
Revenues from sales		1,198,963,880	1,161,790,617
Revenue from rendering of services		145,302,809	124,173,894
Other income		11,749,984	14,736,394
Total revenues		1,356,016,673	1,300,700,905
Expenses			
Cost of sales		802,508,957	788,388,536
Cost of rendering of services		128,718,817	109,157,780
Selling expenses		118,974,255	105,189,730
Administrative expenses		138,307,328	136,830,200
Finance costs		341	239
Total expenses		1,188,509,698	1,139,566,485
Profit before income tax expenses		167,506,975	161,134,420
Income tax expenses	25	33,148,221	31,455,326
Profit for the year		134,358,754	129,679,094
Other comprehensive income			
Items that will not be reclassified to profit or loss			
Actuarial gains (losses) on defined employee benefit plans, net of tax		-	(36,937)
Other comprehensive income (expense) for the year		-	(36,937)
Total comprehensive income for the year		134,358,754	129,642,157
Earnings per share	26		
Basic earning per share (Bath per share)		0.23	0.22
Weighted average number of ordinary shares (shares)		584,500,000	584,500,000

Notes to the financial statements form an integral part of these statements

**HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED**  
**STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY**  
**FOR THE YEAR ENDED DECEMBER 31, 2018**

	Note	Baht				Total shareholders' equity
		Issued and paid-up share capital	Premium on ordinary shares	Retained earnings		
				Appropriated legal reserve	Unappropriated	
Beginning balance as at January 1, 2017		292,250,000	776,416,427	13,866,939	55,106,115	1,137,639,481
Appropriated to legal reserve		-	-	6,483,955	(6,483,955)	-
Dividend paid	21	-	-	-	(52,605,000)	(52,605,000)
Total comprehensive income for the year						
Profit for the year		-	-	-	129,679,094	129,679,094
Other comprehensive income (expense) for the year		-	-	-	(36,937)	(36,937)
Ending balance as at December 31, 2017		292,250,000	776,416,427	20,350,894	125,659,317	1,214,676,638
Appropriated to legal reserve		-	-	6,717,937	(6,717,937)	-
Dividend paid	21	-	-	-	(81,829,944)	(81,829,944)
Total comprehensive income for the year						
Profit for the year		-	-	-	134,358,754	134,358,754
Other comprehensive income (expense) for the year		-	-	-	-	-
Ending balance as at December 31, 2018		292,250,000	776,416,427	27,068,831	171,470,190	1,267,205,448

Notes to the financial statements form an integral part of these statements

**HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED**  
**STATEMENT OF CASH FLOWS**  
**FOR THE YEAR ENDED DECEMBER 31, 2018**

	Baht	
	2018	2017
Cash flows from operating activities		
Profit for the year	134,358,754	129,679,094
Adjustment to reconcile profit (loss) for the year to net cash provided by (used in) operating activities :-		
Bad debt and allowance for doubtful account (reversal)	1,184,750	(1,124,406)
Depreciation and amortization	16,358,023	16,030,593
Amortization of customer relationship	14,901,094	14,901,095
Loss on devaluation of inventories	2,724,182	(1,565,529)
(Gain) loss on disposals of fixed assets	(156,674)	351,164
Unrealized (gain) loss on exchange rate	(389,504)	119,437
(Gain) loss on disposals of investment	(1,827,324)	(7,998,166)
Unrealized (gain) loss on revaluation of temporary investments	1,706,493	5,349,408
Interest income	(95,676)	(98,744)
Dividend income	-	(793,006)
Employee's benefit expenses	1,772,906	2,842,780
Finance costs	341	239
Income tax expense	33,148,221	31,455,326
Profit from operating before changes in operating assets and liabilities	203,685,586	189,149,285
(Increase) decrease in operating assets		
Trade and other receivables	(10,860,744)	17,600,588
Finance lease receivables	(13,665,530)	804,826
Unbilled receivables	455,380	(4,736,326)
Inventories	(20,268,938)	(56,604,417)
Other current assets	430,483	(159,100)
Other non-current assets	(4,123,139)	(1,590,426)
Increase (decrease) in operating liabilities		
Trade and other payables	39,699,501	(5,536,407)
Short-term provisions	384,041	(167,600)
Other current liabilities	455,145	1,175,093
Employee's benefit obligations	-	(1,901,000)
Other non-current liabilities	5,517,698	1,449,845
Cash received (paid) from operating	201,709,483	139,484,361
Finance costs	(341)	(239)
Income tax paid	(38,268,022)	(32,347,406)
Net cash provided by (used in) operating activities	163,441,120	107,136,716

Notes to the financial statements form an integral part of these statements

**HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED**  
**STATEMENT OF CASH FLOWS (CONT.)**  
**FOR THE YEAR ENDED DECEMBER 31, 2018**

	Baht	
	2018	2017
Cash flows from investing activities		
Cash receipts from redemption of temporary investments	411,975,543	532,844,502
Cash payments for purchase of temporary investment	(380,170,447)	(464,136,245)
Cash payments for purchase of investment property	(117,000,000)	-
Cash receipts from disposal of equipment	2,727,685	581,353
Cash payments for purchases of property and equipment	(7,460,653)	(117,264,052)
Cash payments for purchases of intangible assets	(4,424,415)	(1,359,440)
Interest received	95,676	98,744
Dividends received	-	793,006
Net cash provided by (used in) investing activities	(94,256,611)	(48,442,132)
Cash flows from financing activities		
Dividend paid	(81,829,944)	(52,605,000)
Net cash provided by (used in) financing activities	(81,829,944)	(52,605,000)
Net increase (decrease) in cash and cash equivalents	(12,645,435)	6,089,584
Cash and cash equivalents at beginning of year	41,955,998	35,866,414
Cash and cash equivalents at end of year	29,310,563	41,955,998

**Supplemental disclosures of cash flows information :**

**Non-Cash transection**

**Liabilities incurred from acquisition of fixed assets**

    and intangible assets - beginning of year 4,045,276 670,455

Inventories transferred to fixed asset (5,352,797) (6,019,164)

Fixed asset transferred to expense (239,526) -

Add Purchases of fixed assets and intangible assets 130,858,486 128,017,477

Less Cash payments (128,885,068) (118,623,492)

**Liabilities incurred from acquisition of**

    fixed assets and intangible assets - ending of year 426,371 4,045,276

Notes to the financial statements form an integral part of these statements

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## Notes to the Financial Statements

## 1. GENERAL INFORMATION

## (a) Legal status and address

The Company was registered to be a limited company on May 9, 2001.

The Company has changed its status to be public company limited for trading their shares on the Stock Exchange of Thailand on May 22, 2014.

The addresses of its registered head office are as follows:

Locate at : 19/20-22 Soi Soonvijai, Rama 9 Road, Bangkapi, Huaykwang, Bangkok 10310, Thailand.

## (b) Nature of the Company's operations

The principal business is involved in wholesaling, retailing, and repairing, renting, leasing, contracting and installation services of fire protection system and fire suppression agent, trading cold storage devices, trading, repairing and renting of printing equipment.

## 2. BASIS FOR THE PREPARATION OF FINANCIAL STATEMENTS

## 2.1 Basis for the preparation of financial statements

The financial statements have been prepared in accordance with the accounting standards prescribed by Thai Accounts Act enunciated under the Accounting Profession Act B.E. 2547 by complying with the Thai Financial Reporting Standards. The presentation of the financial statements has been made in compliance with the Notification of the Department of Business Development, the Ministry of Commerce, re : the financial statements presentation for public limited company, issued under the Accounting Act B.E. 2543.

The financial statements have been prepared on a historical cost basis except where otherwise disclosed in the accounting policies.

The financial statements in Thai language are the official statutory financial statement of the Company. The financial statements in English language have been translated from such financial statement in Thai language.

## 2.2 The financial reporting standards are effective in the current year

The Federation of Accounting Professions (FAP) has issued Notifications to mandate the revised accounting standards, financial reporting standards, and interpretations of accounting and financial reporting standards, which are effective for the fiscal year beginning on or after January 1, 2018 are as follows:

TAS 1 (revised 2017)	Presentation of Financial Statements
TAS 2 (revised 2017)	Inventories
TAS 7 (revised 2017)	Statement of Cash Flows
TAS 8 (revised 2017)	Accounting Policies, Changes in Accounting Estimates and Errors
TAS 10 (revised 2017)	Events After the Reporting Period
TAS 11 (revised 2017)	Construction Contracts
TAS 12 (revised 2017)	Income Taxes
TAS 16 (revised 2017)	Property, Plant and Equipment
TAS 17 (revised 2017)	Leases
TAS 18 (revised 2017)	Revenue
TAS 19 (revised 2017)	Employee Benefits
TAS 20 (revised 2017)	Accounting for Government Grants and Disclosure of Government Assistance
TAS 21 (revised 2017)	The Effects of Changes in Foreign Exchange Rates
TAS 23 (revised 2017)	Borrowing Costs
TAS 24 (revised 2017)	Related Party Disclosures
TAS 26 (revised 2017)	Accounting and Reporting by Retirement Benefit Plans
TAS 27 (revised 2017)	Separate Financial Statements
TAS 28 (revised 2017)	Investments in Associates and Joint Ventures
TAS 29 (revised 2017)	Financial Reporting in Hyperinflationary Economies
TAS 33 (revised 2017)	Earnings Per Share
TAS 34 (revised 2017)	Interim Financial Reporting
TAS 36 (revised 2017)	Impairment of Assets
TAS 37 (revised 2017)	Provisions, Contingent Liabilities and Contingent Assets
TAS 38 (revised 2017)	Intangible assets
TAS 40 (revised 2017)	Investment Property
TAS 41 (revised 2017)	Agriculture
TFRS 2 (revised 2017)	Share-Based Payment
TFRS 3 (revised 2017)	Business Combinations
TFRS 4 (revised 2017)	Insurance Contracts
TFRS 5 (revised 2017)	Non-current Assets Held for Sale and Discontinued Operations
TFRS 6 (revised 2017)	Exploration for and Evaluation of Mineral Resource
TFRS 8 (revised 2017)	Operating Segments
TFRS 10 (revised 2017)	Consolidated Financial Statements

TFRS 11 (revised 2017)	Joint Arrangements
TFRS 12 (revised 2017)	Disclosure of Interests in Other Entities
TFRS 13 (revised 2017)	Fair Value Measurement
TSIC 10 (revised 2017)	Government Assistance - No Specific Relation to Operating Activities
TSIC 15 (revised 2017)	Operating Leases - Incentives
TSIC 25 (revised 2017)	Income Taxes - Changes in the Tax Status of an Entity or its Shareholders
TSIC 27 (revised 2017)	Evaluating the Substance of Transactions Involving the Legal Form of a Lease
TSIC 29 (revised 2017)	Service Concession Arrangements: Disclosure
TSIC 31 (revised 2017)	Revenue-Barter Transactions Involving Advertising Services
TSIC 32 (revised 2017)	Intangible Assets - Web Site Costs
TFRIC 1 (revised 2017)	Changes in Existing Decommissioning, Restoration and Similar Liabilities
TFRIC 4 (revised 2017)	Determining whether an Arrangement contains a Lease
TFRIC 5 (revised 2017)	Right to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds
TFRIC 7 (revised 2017)	Applying the Restatement Approach under TAS 29 (revised 2017) Financial Reporting in Hyperinflationary Economics
TFRIC 10 (revised 2017)	Interim Financial Reporting and Impairment
TFRIC 12 (revised 2017)	Service Concession Arrangements
TFRIC 13 (revised 2017)	Customer Loyalty Programmes
TFRIC 14 (revised 2017)	TAS 19 (revised 2017)-The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction
TFRIC 15 (revised 2017)	Agreements for the Construction of Real Estate
TFRIC 17 (revised 2017)	Distributions of Non - cash Assets to Owners
TFRIC 18 (revised 2017)	Transfers of Assets from Customers
TFRIC 20 (revised 2017)	Stripping Costs in the Production Phase of a Surface Mine
TFRIC 21 (revised 2017)	Levies

The management of the Company evaluated that these revised accounting standards, financial reporting standard, accounting standard interpretations and financial reporting standards interpretations do not have any significant impact on the financial statements in current year.

### 3. SIGNIFICANT ACCOUNTING POLICIES

#### 3.1 Business combinations

The Company applies the acquisition method for all business combinations except for the business combination under common control.

The Company's control is achieved when the Company (1) has power over the investee (2) is exposed, or has rights, to variable returns from its involvement with the investee and (3) has the ability to use its power to affect its returns.

The Company reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

Goodwill is measured as the fair value of the consideration transferred including the recognized amount of any non-controlling interest in the acquiree, less the net recognized amount (generally fair value) of the identifiable assets acquired and liabilities assumed, all measured as of the acquisition date.

Consideration transferred includes the fair values of the assets transferred, liabilities incurred by the Company to the previous owners of the acquiree, and equity interests issued by the Company. Consideration transferred also includes the fair value of any contingent consideration and share-based payment awards of the acquiree that are replaced mandatorily in the business combination.

A contingent liability of the acquiree is assumed in a business combination only if such a liability represents a present obligation and arises from a past event, and its fair value can be measured reliably.

The Company measures any non-controlling interest at its proportionate interest in the identifiable net assets of the acquiree.

Transaction costs that the Company incurs in connection with a business combination, such as legal fees, and other professional and consulting fees are expensed as incurred.

#### 3.2 Foreign currencies

##### Transactions in foreign currencies

Transactions in foreign currencies are translated to Thai Baht at the foreign exchange rates ruling at the dates of the transactions.

Monetary assets and liabilities denominated in foreign currencies at the reporting date are translated to Thai Baht at the foreign exchange rates ruling at that date. Foreign exchange differences arising on translation are recognized as profit or loss in statement of profit or loss and other comprehensive income.

Non-monetary assets and liabilities measured at cost in foreign currencies are translated to Thai Baht using the foreign exchange rates ruling at the dates of the transactions.

### 3.3 Derivative financial instruments

Derivative financial instruments are used to manage exposure to foreign exchange, interest rate and product price risks arising from operational, financing and investment activities.

The Company entered into forward foreign exchange contracts in asset and liability management activities to control exposure to fluctuations in foreign exchange rates. Further details of financial instruments are disclosed in Note 29.

Gains and losses on forward foreign exchange contracts designated as hedges of existing assets and liabilities without using hedge accounting are recognized as income or expense in the statement of profit or loss and other comprehensive income.

Amounts to be paid and received are offset in the statement of financial position and included in assets or liabilities category in the statement of financial position.

The Company has no policy to speculate in or engage in the trading of any derivative financial instruments.

### 3.4 Hedge accounting

#### Fair value hedges accounting

Where a derivative financial instrument hedges the changes in fair value of a recognized asset, liability or unrecognized firm commitment, any gain or loss on re-measuring the fair value or foreign currency component of the hedging instrument is recognized as income or expense or in statement of profit or loss and other comprehensive income. The hedged item is also stated at fair value in respect of the risk being hedged.

Hedge accounting is discontinued when the Company revokes the hedging relationship, the hedging instrument expires or is sold, terminated, or exercised, or no longer qualified for hedge accounting. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was deferred in equity is recognized immediately in profit or loss in the statement of profit or loss and other comprehensive income.

### 3.5 Cash and cash equivalents

Cash and cash equivalents are cash on hand, cash at banks and bank deposits with a maturity date less than 3 months excluded deposits at bank used as collateral and short-term investments with high liquidity.

### 3.6 Temporary investments

Marketable equity securities held for trading are stated at fair value, with any resultant gain or loss from revaluation recognized in the statement of profit or loss and other comprehensive income.

Costs of investment sold during the year are calculated using the weighted average cost method.

### 3.7 Trade and other receivables

Trade and other receivables are stated at their invoice value less allowance for doubtful accounts.

Allowance for doubtful accounts is an estimation of those amounts, which may prove to be uncollectible, based on historical collection experience and review of the current status of existing receivables. Bad debts are written off when incurred.

### 3.8 Inventories

Inventories are valued at the lower of cost or net realizable value.

Cost of inventories is calculated by weighted average method which comprises all costs of purchases, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. In the case of manufactured inventories, cost includes an appropriate share of overhead based on normal operating capacity.

Net realizable value is the estimated selling price in the ordinary course of business less the costs to make the sale.

An allowance is made for all deteriorated, damaged, obsolete and slow-moving inventories.

### 3.9 Investment property

Investment property is stated at cost less accumulated depreciation and allowance on impairment (if any).

Depreciation is charged as an expense to the statement of profit or loss and other comprehensive income on a straight-line basis over the estimated useful lives of each property.

The estimated useful lives are as follows:

	Years
Factory building	40
Building improvements	5
Tool and equipment	5

Depreciation is included in determining income and no depreciation is provided for construction in progress.

### 3.10 Equipment

Recognition and measurement

Equipment are stated at cost less accumulated depreciation and allowance on decline in value (if any).

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labor, any other costs directly attributable to bringing the assets to a working condition for their intended use as part of that property plant and equipment.

When parts of an item of plant and equipment have different useful lives, they are accounted for as separate items (major components) of equipment.

Gains or losses on disposal of an item of property plant and equipment are determined by comparing the proceeds from disposal with the carrying amount of property plant and equipment, and are recognized net within other income or other expense in the statement of profit or loss and other comprehensive income.

#### Subsequent costs

The cost of replacing a part of an item of property plant and equipment are recognized in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Company, and its cost can be measured reliably. The carrying amount of the replaced part is derecognized. The costs of the day-to-day servicing of equipment are recognized as an expense in statement of profit or loss and other comprehensive income as incurred.

#### Depreciation

Depreciation is calculated based on the depreciable amount of plant and equipment, which are the cost of an asset, or other amount substituted for cost, less its residual value.

Depreciation is charged as an expense to the statement of profit or loss and other comprehensive income on a straight-line basis over the estimated useful lives of each property. The estimated useful lives are as follows:

	Years
Tool and equipment	5
Furniture and office equipment	5
Vehicles	5 - 7
Assets for rental and demonstration	5

Depreciation is included in determining income and no depreciation is provided for construction in progress.

Depreciation methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

### 3.11 Goodwill

Goodwill that arises upon the acquisition of subsidiaries is included in intangible assets. The measurement of goodwill at initial recognition is described in Note 3.1. Subsequent to the initial recognition, goodwill is measured at cost less impairment loss. The Company assesses an impairment of goodwill annually, without consideration of indication that such goodwill may be impaired.

### 3.12 Intangible asset

#### Other intangible assets

Other intangible asset, which are acquired by the Company and have finite useful lives, are stated at cost less accumulated amortization and allowance for impairment (if any).

#### Amortization

Amortization is recognized as an expense in the statement of profit or loss and other comprehensive income on a straight-line basis over the estimated useful lives of intangible asset, other than goodwill, from the date that they are available for use as follows:

	Years
Computer software	5 - 10
Customer relationship	7

Amortization methods, useful lives and residual values are reviewed at each financial year-end and adjusted if appropriate.

### 3.13 Impairment of assets

The carrying amounts of the Company's assets are reviewed at each the reporting period date to determine whether there is any indication of impairment. If any such indication exists, the asset's recoverable amount is estimated. For goodwill and customer relationship, the recoverable amount is estimated each year at the same time.

An impairment loss is recognized whenever the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. The impairment loss is recognized as expense in the statements of profit or loss and other comprehensive income unless it reverses a previous revaluation credited to equity and subsequently occurs impairment, in which case it is charged to statement of other comprehensive income.

#### Calculation of recoverable amount

The recoverable amount is the greater of the assets' fair value less cost to sell or value in use. In assessing 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.

For an asset that does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

#### Reversals of impairment

An impairment loss in respect of financial assets is reversed if subsequent increase in recoverable amount and the recoverable amount can be related objectively to an event after the impairment loss was recognized as an expense in the statement of profit or loss and other comprehensive income.

An impairment loss in respect of goodwill is not reversed. Impairment losses recognized in prior periods in respect of other non-financial assets are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, as if no impairment loss had been recognized.

### 3.14 Lease

#### Operating Lease

Leases not transferring a significant portion of the risks and rewards of ownership to the lessee are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged to the statements of comprehensive income on a straight-line basis over the period of the lease.

When an operating lease is terminated before the lease period has expired, any payment required to be made to the lessor by way of penalty is recognized as an expense in the period in which termination takes place.

#### Financial lease

Lease in which substantially all the risks and rewards of ownership other than legal title are transferred to the Company is accounted for as financial lease. At inception, the fair value of the leased assets is recorded together with the obligation. The leased assets are depreciated using the straight-line method over their estimated useful lives. Interest or finance charge and depreciation are recognized as expenses in the statements of profit or loss and other comprehensive income.

### 3.15 Employee benefits

#### Short-term benefits

The Company recognizes salaries, wages, bonus and social security contribution as expenses when incurred.

#### Post-employment benefits - defined contribution plan

The Company operates a provident fund that is a defined contribution plan. The assets of which are held in a separate trust fund. The provident fund is funded by payments from employees and the Company. Contributions to the provident fund and obligations under contribution plan are charged as an expense to the statement of comprehensive income in the period to which they relate.

#### Post-employment benefits - defined benefit plan

The employee benefits liabilities for severance payment as the labor law is recognized as an expense over the employee's service period. It is calculated by estimating the amount of future benefit earned by employees in return for service provided to the Company in the current and future periods, with such benefit being discounted to determine the present value. The reference point for setting the discount rate is the yield rate of government bonds as at the reporting date. The calculation is performed by actuarial technique using the Projected Unit Credit Method.

When the employee benefits are improved, the portion of the increased benefit relating to past service by employees is recognized in the statement of profit or loss and other comprehensive income on a straight-line basis over the average period until the benefits become vested.

When the actuarial assumptions are changed, the Company recognizes all actuarial gains (losses) immediately in other comprehensive income.

### 3.16 Revenues

#### 3.16.1 Sale of goods

Revenue excluding value added taxes is arrived at after deduction of trade discounts.

Revenue from sale is recognized in the statement of profit or loss and other comprehensive income when the significant risks and rewards of ownership have been transferred to the buyer. No revenue is recognized if there is continuing management involvement with the goods or there are significant uncertainties regarding recovery of the consideration due, associated costs or the probable return of goods.

#### 3.16.2 Revenues from rendering of service

Revenues from rendering of service are recognized when services are rendered to customers.

#### 3.16.3 Revenue from service contract

Contract revenue includes the initial amount agreed in the contract plus any variations in contract work, claims and incentive payments to the extent that it is probable that they will result in revenue and can be measured reliably. As soon as the outcome of a service contract can be estimated reliably, contract revenue and expenses are recognized in the statement of profit or loss and other comprehensive income in proportion to the stage of completion of the contract.

The stage of completion is assessed by reference to the proportion that contract costs incurred for work performed to date bear to the estimated total contract costs.

When the outcome of a service contract cannot be estimated reliably, revenue contract is recognized only to the extent of contract costs incurred that it is probably will be recoverable.

When it is probable that total contract costs will exceed total contract revenue, the expected loss on a contract shall be recognized in the statement of profit or loss and other comprehensive income.

The completed part of service, which has not yet been delivered for acceptance or for billing, is recorded as unbilled receivables.

#### 3.16.4 Rental income

Rental income under operating leases is recognized in the statement of profit or loss and other comprehensive income on a straight-line basis over the term of the lease. Lease incentives granted are recognized as an integral part of the total rental income. Contingent rentals are recognized as income in the accounting period in which they are earned.

#### 3.16.5 Interest income and other income

Interest income is recognized in the statements of profit or loss and other comprehensive income on an accrual basis, based on the effective rate method.

Other income is recognized on an accrual basis.

### 3.17 Expenses

Expenses are recognized in the statement of profit or loss and other comprehensive income on an accrual basis.

### 3.18 Borrowing costs

Finance costs comprise interest expense on borrowings and contingent consideration.

Borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognized in statement of profit or loss and other comprehensive income using the effective interest method.

### 3.19 Income tax

Income tax expense for the year comprises current and deferred tax.

Current and deferred tax are recognized as income or expense in the statements of profit or loss and other comprehensive income except to the extent that they relate to a business combination, or items recognized directly in shareholders' equity or in other comprehensive income.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted and any adjustment to tax payable in respect of previous years.

Deferred tax is recognized in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognized for the following temporary differences: the initial recognition of goodwill; the initial recognition of assets or liabilities in a transaction in the consolidate financial statement that is not a business combination and that affects neither accounting nor taxable profit or loss; and differences relating to investments in subsidiaries and jointly-controlled entities to the extent that it is probable that they will not reverse in the foreseeable future.

Deferred tax is measured at the tax rates that are expected to be applied to the temporary differences when they reverse, using tax rates enacted or substantively enacted at the reporting date.

In determining the amount of current and deferred tax, the Company takes into account the impact of uncertain tax positions and whether additional taxes and interest may be due. The Company believes that its accruals for tax liabilities are adequate for all open tax years based on its assessment of many factors, including interpretations of tax law and prior experience. This assessment relies on estimates and assumptions and may involve a series of judgements about future events. New information may become available that causes the Company to change its judgement regarding the adequacy of existing tax liabilities; such changes to tax liabilities will impact tax expense in the period that such a determination is made.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax assets and liabilities, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realized simultaneously.

A deferred tax asset is recognized to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilized. Deferred tax assets are reviewed at the end of reporting period date and reduced to the extent that it is no longer probable that the related tax benefit will be realized.

### 3.20 Basic earnings per share

The calculations of basic earnings per share for the year were based on the profit for the year attributable to equity holders divided by the weighted average number of ordinary shares held by outsiders outstanding during the year. The calculations of diluted earnings per share for the year were based on the weighted average number of ordinary shares on the assumption that all dilutive potential ordinary shares have been converted to ordinary shares.

### 3.21 Fair value measurements

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Company takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in the financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of TFRS 2 (Revised 2017), leasing transactions that are within the scope of TAS 17 (Revised 2017), and measurements that have some similarities to fair value but are not fair value, such as net realizable value in TAS 2 (Revised 2017) or value in use in TAS 36 (Revised 2017).

In addition, fair value measurements are categorized into Level 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date.
- Level 2 inputs are inputs, other than quoted prices included within Level 1, which are observable for the asset or liability, either directly or indirectly.
- Level 3 inputs are unobservable inputs for the asset or liability.

### 3.22 Use of management's critical judgements in applying accounting policies

#### (1) Use of management's critical judgements in applying accounting policies

The preparation of financial statements in conformity with generally accepted accounting principles requires the Company's management to exercise judgments in order to determine the accounting policies, estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the end of reporting period and the reported amounts of revenue and expense during the reporting period. Although these estimates are based on management's reasonable consideration of current events, actual results may differ from these estimates.

Critical judgments in applying accounting policies are as follows:

#### Impairment

The Company shall assess the assets balance at the statement of financial position whether there is any indication that an asset may be impaired. If any such indication exists, the Company shall estimate the recoverable amount of the asset.

#### Allowance for doubtful accounts

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

#### Allowance for declining in value of inventory

The determination of allowance for declining in the value of inventory, requires management to make judgements and estimates of the loss expected to occur. The allowance for decline in net realizable value is estimated based on the selling price expected in the ordinary course of business less selling expense. The provision for obsolete slow-moving and deteriorated inventory, is estimated based on the approximate useful life of each type of inventory. The allowance for diminution in value of inventory as determined is compared with the original balance in the books of account and the increase or decrease in the allowance for diminution in value of inventory will be recognized as cost of sales and service in profit or loss.

#### Estimated construction project costs

The Company estimates costs of construction projects based on details of the construction work, taking into account the volume and value of construction materials to be used in the project, labour costs and other miscellaneous costs to be incurred to completion of service, taking into account the direction of the movement in these costs. Estimates are reviewed regularly or whenever actual costs differ significantly from the figures used in the original estimates.

#### Provision for losses on project services contract

Management applies judgement in estimating the loss they expect to be realised on each installation, based on estimates of anticipated costs that take into account the progress of the project and actual costs incurred to date, together with fluctuations in costs of installation materials, labour and the current situation.

#### Provision for penalty from delay delivery

The Company has provision incurred from delay delivery. The management applies judgement in estimating the penalty based on contract rate and the period of delay project work. The Company has recorded provision for penalty from delay delivery in the financial statements. However, actual results could differ from the estimates.

#### Classification of leases

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

#### Investment property/Depreciation

In determining depreciation of investment property, the management is required to make estimates of the useful lives and residual values of the investment property and to review the useful lives and residual values when there are any changes.

In addition, the management is required to review investment property for impairment on a periodical basis and record the impairment loss when it is determined that the recoverable amount is lower than the carrying amount. This requires judgement regarding forecast of future revenues and expenses relating to the assets subject to the review.

In determining the fair value disclosure of investment property, the management used the income approach supported by current and previous valuations by an independent appraiser.

#### 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 the estimated 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 the impairment loss when it is determined that the recoverable amount is lower than the carrying amount. This requires judgement regarding forecast of future revenues and expenses relating to the assets subject to the review.

#### Intangible assets

In recording the initial recognition and measurement of intangible assets as at the acquired date and subsequent impairment testing, the management is required 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.

#### Employee benefit obligations

The present value of the employee benefit obligations depends on a number of factors that are determined on an actuarial basis using a number of assumptions, including the discount rate. Any changes in these assumptions will have an impact on the carrying amount of such obligations.

The Company determines the appropriate discount rate at the end of each year. This is the interest rate that should be used to determine the present value of estimated future cash outflows expected to be required to settle the employee benefit obligations. In determining the appropriate discount rate, the Company's considers the market yield of government bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related obligations. Additional information is disclosed in Note 17.

#### Deferred tax assets

Deferred tax assets are recognized for deductible temporary differences and unused tax losses to the extent that it is probable that taxable profit will be available against which the temporary differences and losses can be utilized. Significant management judgement is required to determine the amount of deferred tax assets that can be recognized, based upon the likely timing and level of estimated future taxable profits.

#### (2) Key sources of estimation uncertainty

##### Fair value measurements and valuation processes

In estimating the fair value of an asset or liability, the Company uses market-observable data to the extent it is available. Where Level 1 inputs are not available, the Company engages qualified external values to perform the valuation to establish the appropriate valuation techniques and inputs to the model.

Information about valuation techniques and inputs used in determining the fair value of various assets and liabilities are disclosed in Note 28.

#### 4. RELATED PARTY TRANSACTIONS

The Company had transactions with related parties. These parties were related through common shareholders and/or directorships or close member of family. The significant transactions with related parties as included in the financial statements are determined at the prices in line occurring in the normal course of business based on the market price in general or the price as stipulated in the agreement if no market price exists.

Types of relationship of related parties were as follows :

Company/Person name	Country/ Nationality	Related	Relationship
Harn Engineering Co., Ltd.	Thailand	Related company	Directorships and/or common shareholders
Phraboriban Co., Ltd.	Thailand	Related company	Directorships and/or common shareholders
Mr. Jain Charnnarong	Thai	Related person	Shareholder and close member of the director's family
Mrs. Sirima Iamsakulrat	Thai	Related person	Shareholder and close member of the director's family
Key management personnel	Thai	Related person	Authorized person and responsible in management

Bases of measurement for intercompany revenues and expenses

	Pricing Policy
Purchase of goods	Market price
Purchase and sale of equipment and intangible asset	Contractually agreed prices
Other income	Contractually agreed prices
Rental and service expenses	Contractually agreed prices
Compensation to management	As approved by director and / or shareholder

Significant agreements with related parties

The Company entered into office building rental agreement as follows:

As at December 31, 2018			
	Lessor	Period	Rate per month (Baht)
Office rental agreement	Mr. Jain Charnnarong	3 years	53,100
	Harn Engineering Co., Ltd.	3 years	498,996
Warehouse rental agreement	Phraboriban Co., Ltd.	3 years	280,900

Balances with the related parties as at December 31, 2018 and 2017 consisted of:

	Baht	
	2018	2017
Trade and other receivables		
Harn Engineering Co., Ltd.	2,336,218	2,360,022

Transactions for the years ended December 31, 2018 and 2017 with related parties were summarized as follows:

	Baht	
	2018	2017
Purchase of equipment		
Harn Engineering Co., Ltd.	284,673	-
Office rental and service expenses		
Harn Engineering Co., Ltd.	5,987,952	5,987,952
Mr. Jain Charnnarong	637,200	637,200
	6,625,152	6,625,152
Warehouse rental expenses		
Mrs. Sirima Iamsakulrat	1,966,300	3,370,800
Phraboriban Co., Ltd.	1,404,500	-
	3,370,800	3,370,800
Expenses for directors and key management		
Directors remuneration	3,970,000	2,655,000
Key management's benefit		
Shot-term employee's benefits	12,059,930	12,162,354
Post-employment benefits	425,795	442,384
	16,455,725	15,259,738

Management benefit expenses represents the benefits paid to the Company's management and directors such as salaries, related benefit and directors' remuneration, including the benefit paid by other means. The Company's management is the persons who are defined under the Securities and Exchange Act. The management is comprised managing director or the managements who have the top position at the management level from the four lists following by the manager level.

## 5. CASH AND CASH EQUIVALENTS

Cash and cash equivalents were consisted of:

	Baht	
	2018	2017
Cash in hand	118,915	150,158
Cash at Banks - current accounts	3,758,241	4,116,991
- savings accounts	25,433,407	37,688,849
Total	29,310,563	41,955,998

## 6. TEMPORARY INVESTMENTS

Temporary investments were consisted of:

	Baht		
	As at December 31, 2018		
	Cost value	Unrealized gain (loss) on revaluation of investments	Fair value
Trading securities			
- Investment units	167,326,447	108,547	167,434,994
- Investments in listed securities	2,989	-	2,989
<u>Less</u> Allowance for diminution in value of investment	(2,989)	-	(2,989)
Total	<u>167,326,447</u>	<u>108,547</u>	<u>167,434,994</u>

	Baht		
	As at December 31, 2017		
	Cost value	Unrealized gain (loss) on revaluation of investments	Fair value
Trading securities			
- Investment units	197,304,219	1,815,040	199,119,259
- Investments in listed securities	5,977	-	5,977
<u>Less</u> Allowance for diminution in value of investment	(5,977)	-	(5,977)
Total	<u>197,304,219</u>	<u>1,815,040</u>	<u>199,119,259</u>

## 7. TRADE AND OTHER RECEIVABLES

Trade and other receivables were consisted of:

	Baht	
	2018	2017
Trade receivable		
Trade receivables - other companies	263,108,696	262,887,141
<u>Less</u> Allowance for doubtful accounts	(5,475,013)	(4,290,263)
Net	<u>257,633,683</u>	<u>258,596,878</u>
Other receivables		
Other receivables - related parties	2,336,218	2,360,022
Other receivables - other companies	1,157,930	224,933
Accrued retentions	9,457,971	9,150,116
Deposit of inventories	9,595,215	1,451,984
Prepaid expenses	3,677,167	2,862,823
Accrued income	673,761	194,405
Total other receivables	<u>26,898,262</u>	<u>16,244,283</u>
Total trade and other receivables	<u>284,531,945</u>	<u>274,841,161</u>

Trade receivables are classified by aging as follows:

	Baht	
	2018	2017
Current	171,737,088	184,348,418
Overdue		
Less than 3 months	81,579,532	69,658,516
Over 3 months up to 6 months	5,357,886	4,119,975
Over 6 months up to 12 months	804,084	1,065,338
Over 12 months	3,630,106	3,694,894
Total	263,108,696	262,887,141
<u>Less</u> Allowance for doubtful account	(5,475,013)	(4,290,263)
Trade receivables, net	<u>257,633,683</u>	<u>258,596,878</u>

#### 8. FINANCE LEASE RECEIVABLES

Finance lease receivables were consisted of:

	Baht	
	2018	2017
Finance lease receivables - printing devices	32,922,101	19,256,571
<u>Less</u> Current portion	(11,793,435)	(8,783,243)
Long-term finance lease receivables	<u>21,128,666</u>	<u>10,473,328</u>

The minimum lease payments and present value of minimum lease payments which receivable will be paid under the financial lease agreements as at December 31, 2018 and 2017, are as follows:

	Baht			
	2018		2017	
	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments
Collection period				
Within 1 year	16,521,656	11,793,435	12,279,962	8,783,243
Over 1 year but less than 5 years	30,963,874	21,128,666	14,852,670	10,473,328
	47,485,530	32,922,101	27,132,632	19,256,571
<u>Less</u> Deferred interest	(14,563,429)	-	(7,876,061)	-
	<u>32,922,101</u>	<u>32,922,101</u>	<u>19,256,571</u>	<u>19,256,571</u>

## 9. INVENTORIES

Inventories were consisted of:

	Baht	
	2018	2017
Finished goods	261,955,093	242,933,254
Goods in transit	58,621,511	61,745,947
Total	320,576,604	304,679,201
<u>Less</u> Allowance for loss on devaluation of inventories	(16,137,300)	(13,413,118)
Inventories, net	304,439,304	291,266,083

Decline in value of inventory recognized as cost of goods sold for the years ended December 31, 2018 and 2017 were Baht 3.21 million and Baht 4.70 million, respectively.

## 10. INVESTMENT PROPERTY

Investment property were consisted of:

	Baht			
	Balance	Transactions during the year		
	Dec. 31, 2017	Additions	Decrease	Balance Dec. 31, 2018
<u>Cost</u>				
Land	-	57,695,421	-	172,645,421
Factory building	-	55,675,068	-	55,675,068
Building improvements	-	2,671,760	-	2,671,760
Tool and equipment	-	957,751	-	957,751
Total	-	117,000,000	-	231,950,000
<u>Accumulated depreciation</u>				
Factory building	-	(99,147)	-	(99,147)
Building improvements	-	(19,032)	-	(19,032)
Tool and equipment	-	(13,645)	-	(13,645)
Total	-	(131,824)	-	(131,824)
Investment property-net	-			231,818,176

	Baht	
	2018	2017
Depreciation for the years		
- selling and administrative expenses	131,824	-
Total	131,824	-

During the year 2018, the Company has changed its objective for land holding from previously determined future use to be as held for capital appreciation. Therefore, the Company transferred such owner-occupied land as investment property with the cost at Baht 114.95 million. Moreover, the Company was appraised by an independent appraiser by applying the market price approach in the valuation. According to the report dated September 17, 2018, investment property had its fair value in the amount of Baht 117.04 million.

According to the Board of Directors' Meeting No. 5/2018 held on November 9, 2018, the Board of Directors had a resolution to approve entering into the to buy/to sell land and building agreement for the purpose to use as a single warehouse in the future. Later, the Company has entered into to buy/to sell land and building agreement at the amount of Baht 117.00 million. However, currently such land and building have two renters. The lease agreements end on March 15, 2019 and April 30, 2020. The Company had rental incomes of investment property for the year ended December 31, 2018 in total amount of Baht 922,886 and recognized as operating expenses amounting to Baht 131,824.

## 11. PROPERTY, AND EQUIPMENT

Property, and equipment were consisted of:

	Baht				
	Balance	Transactions during the year			Balance
	Dec. 31, 2017	Additions	Decrease	Transfer in/out	Dec. 31, 2018
<u>Cost</u>					
Land	114,950,000	-	-	(114,950,000)	-
Tool and equipment	3,686,673	624,263	(142,283)	11,781	4,180,434
Furniture and office equipment	24,913,580	1,757,113	(1,025,223)	-	25,645,470
Vehicles	26,130,288	4,661,404	(5,359,657)	-	25,432,035
Assets for rental and demonstration	36,680,064	5,838,956	(4,840,241)	-	37,678,779
Asset in progress	-	34,211	-	(11,781)	22,430
Total	206,360,605	12,915,947	(11,367,404)	(114,950,000)	92,959,148
<u>Accumulated depreciation</u>					
Tool and equipment	(2,590,154)	(553,771)	138,882	-	(3,005,043)
Furniture and office equipment	(13,855,517)	(4,599,305)	747,725	-	(17,707,097)
Vehicles	(14,396,823)	(2,381,448)	3,330,749	-	(13,447,522)
Assets for rental and demonstration	(25,049,860)	(4,427,130)	3,358,249	-	(26,118,741)
Total	(55,892,354)	(11,961,654)	7,575,605	-	(60,278,403)
Property and equipment-net	150,468,251				32,680,745

	Baht				
	Balance	Transactions during the year			Balance
	Dec. 31, 2016	Additions	Decrease	Transfer in/out	Dec. 31, 2017
<u>Cost</u>					
Land	-	114,950,000	-	-	114,950,000
Tool and equipment	3,426,173	244,141	(19,146)	35,505	3,686,673
Furniture and office equipment	23,809,369	1,616,007	(511,796)	-	24,913,580
Vehicles	27,550,904	829,501	(2,250,117)	-	26,130,288
Assets for rental and demonstration	34,646,278	6,032,510	(3,846,614)	(152,110)	36,680,064
Total	89,432,724	123,672,159	(6,627,673)	(116,605)	206,360,605
<u>Accumulated depreciation</u>					
Tool and equipment	(1,986,238)	(598,494)	11,374	(16,796)	(2,590,154)
Furniture and office equipment	(9,796,693)	(4,522,313)	463,489	-	(13,855,517)
Vehicles	(13,503,557)	(2,294,351)	1,401,085	-	(14,396,823)
Assets for rental and demonstration	(22,580,953)	(4,872,220)	2,244,910	158,403	(25,049,860)
Total	(47,867,441)	(12,287,378)	4,120,858	141,607	(55,892,354)
Property and equipment-net	41,565,283				150,468,251

	Baht	
	2018	2017
Depreciation for the years		
- cost of sale	4,189,592	4,502,127
- selling and administrative expenses	7,772,062	7,785,251
Total	11,961,654	12,287,378

As at December 31, 2018 and 2017, the Company had equipment which were fully depreciated but still in use with the cost price of Baht 27.69 million and Baht 24.30 million, respectively.

According to the minutes of the Board of Directors' Meeting No.4/2017 dated October 18, 2017, it had a unanimous resolution to approve purchasing land size 5 - 0 - 90 rai, amounted Baht 114.95 million which is located in Tambon Dok Mai (North Samrong) Praveth (Prakhanong) Bangkok to increase the warehouse center management efficiency, and the ownership already transferred at Land Department is on October 30, 2017. During the year 2018, the Company has transferred the such land to become investment property (Note 10).

## 12. GOODWILL

On November 29, 2016, Chillmatch Co., Ltd. and Q II S Co., Ltd. were transferred their entire business into the Company by issuing capital increase shares for Baht 675.36 million to exchange for the identifiable net assets of both companies for Baht 340.69 million, resulting in a goodwill of Baht 334.67 million.

### Testing for impairment of goodwill

During the year ended December 31, 2018 and 2017, the Company has tested for impairment of goodwill that arises from the acquisition of Chillmatch Co., Ltd. and Q II S Co., Ltd. which were the subsidiaries under Entire Business Transfer (EBT) process and allocation of Cash Generating Unit ("CGU") which consists of Refrigeration System Unit and Digital Printing System Unit by comparing the carrying amount of the unit includes the goodwill, with the recoverable amount. The recovery amount was based on its value in use, determined by future cash flows to be generated from the continuing use of the unit. The cash flows were projected over a period of 5 years before a terminal growth rate.

After consideration, management believed that goodwill is not impaired.

The key assumptions used in estimating the value in use are as follows:

Key assumption	Value	Approach used to determine the value
- Discount rate	10.05% Weighted Average Cost of Capital: WACC)	The discount rate which is a pre-tax rate that reflects the specific risk of the particular business unit
- Terminal Value Growth Rate	0%	Appropriate estimated rate

### 13. CUSTOMER RELATIONSHIP

Customer relationship were consisted of:

	Baht			
	Balance	Transactions during the year		Balance
	Dec. 31, 2017	Addition	Decrease	Dec. 31, 2018
<u>Cost</u>				
Customer relationship	104,307,663	-	-	104,307,663
<u>Less accumulated amortization</u>	<u>(16,225,661)</u>	<u>(14,901,094)</u>	<u>-</u>	<u>(31,126,755)</u>
Customer relationship - net	88,082,002			73,180,908

	Baht			
	Balance	Transactions during the year		Balance
	Dec. 31, 2016	Addition	Decrease	Dec. 31, 2017
<u>Cost</u>				
Customer relationship	104,307,663	-	-	104,307,663
<u>Less accumulated amortization</u>	<u>(1,324,566)</u>	<u>(14,901,095)</u>	<u>-</u>	<u>(16,225,661)</u>
Customer relationship - net	102,983,097			88,082,002

	Baht	
	2018	2017
	14,901,094	14,901,095
Amortization cost for the years - selling expenses		

#### 14. INTANGIBLE ASSET

Intangible asset were consisted of:

	Baht				
	Balance	Transactions during the year			Balance
	Dec. 31, 2017	Addition	Decrease	Transfer	Dec. 31, 2018
				In / out	
<u>Cost</u>					
Software licenses	36,323,635	495,729	-	752,300	37,571,664
Software in progress	409,490	446,810	-	(752,300)	104,000
Total	36,733,125	942,539	-	-	37,675,664
<u>Less</u> Accumulated amortization					
Software licenses	(9,431,776)	(4,264,545)	-	-	(13,696,321)
Total	(9,431,776)	(4,264,545)	-	-	(13,696,321)
Intangible asset-net	27,301,349				23,979,343

	Baht				
	Balance	Transactions during the year			Balance
	Dec. 31, 2016	Addition	Decrease	Transfer In / out	Dec. 31, 2017
<u>Cost</u>					
Software licenses	32,397,269	3,926,366	-	-	36,323,635
Software in progress	40,000	418,950	(40,000)	(9,460)	409,490
Total	32,437,269	4,345,316	(40,000)	(9,460)	36,733,125
<u>Less Accumulated amortization</u>					
Software licenses	(5,688,561)	(3,743,215)	-	-	(9,431,776)
Total	(5,688,561)	(3,743,215)	-	-	(9,431,776)
Intangible asset-net	26,748,708				27,301,349

	Baht	
	2018	2017
	766,137	366,813
Amortization cost for the years		
- cost of sale	3,498,408	3,376,402
- selling and administrative expenses	4,264,545	3,743,215
Total		

As at December 31, 2018 and 2017, the Company had intangible assets which were fully depreciated but still in use with the cost price of Baht 1.05 million and Baht 1.01 million, respectively.

## 15. TRADE AND OTHER PAYABLES

Trade and other payables were consisted of:

	Baht	
	2018	2017
Trade payables		
Trade payables - other companies	128,374,706	109,507,541
Other payables		
Other payables	6,363,099	7,635,292
Accrued commission expenses	15,545,412	15,724,913
Accrued bonus	17,851,309	17,038,854
Advance from customers for goods and services	29,354,624	13,667,774
Accrued expenses	7,239,383	6,554,919
Other	5,452,525	4,345,883
Total	81,806,352	64,967,635
Total trade and other payables	210,181,058	174,475,176

## 16. DEFERRED TAX ASSETS AND DEFERRED TAX LIABILITIES

Changes in deferred tax assets and deferred tax liabilities for the years ended December 31, 2018 and 2017 were summarized as follows:

	Baht			
	Balance as at Dec. 31, 2017	Income (expenses) during the year		Balance as at Dec. 31, 2018
		In profit or loss	In other comprehensive income	
Deferred tax assets:				
Allowance for doubtful accounts	881,759	233,664	-	1,115,423
Allowance for devaluation of inventories	2,682,624	544,836	-	3,227,460
Allowance for impairment of investment	1,195	-	-	1,195
Employee's benefit obligations	2,507,594	359,342	-	2,866,936
Foreign currency forward contracts	115,358	(20,329)	-	95,029
Total	6,188,530	1,117,513	-	7,306,043
Deferred tax liabilities:				
Inventories (from fair value adjustment of business combination)	257,334	96,979	-	160,355
Equipment (from fair value adjustment of business combination)	833,261	366,814	-	466,447
Unrealized gain (loss) on temporary investments	363,008	105,947	-	257,061
Customer relationship (from fair value adjustment of business combination)	17,616,400	2,980,219	-	14,636,181
Depreciation of equipment	274,637	68,502	-	206,135
Finance lease assets	298,687	(1,026,139)	-	1,324,826
Total	19,643,327	2,592,322	-	17,051,005
Deferred tax assets (liabilities) - net	(13,454,797)			(9,744,962)
Deferred tax income (expenses) - net		3,709,835	-	

	Baht			
	Balance as at	Income (expenses) during the year		Balance as at
	Dec. 31, 2016	In profit or loss	In other comprehensive income	Dec. 31, 2017
Deferred tax assets:				
Allowance for doubtful accounts	1,195,632	(313,873)	-	881,759
Allowance for devaluation of inventories	2,995,730	(313,106)	-	2,682,624
Allowance for impairment of investment	1,195	-	-	1,195
Employee's benefit obligations	2,018,065	480,295	9,234	2,507,594
Foreign currency forward contracts	35,709	79,649	-	115,358
Total	6,246,331	(67,035)	9,234	6,188,530
Deferred tax liabilities:				
Inventories (from fair value adjustment of business combination)	1,510,907	1,253,573	-	257,334
Equipment (from fair value adjustment of business combination)	1,280,764	447,503	-	833,261
Unrealized gain (loss) on temporary investments	1,432,885	1,069,877	-	363,008
Customer relationship (from fair value adjustment of business combination)	20,596,619	2,980,219	-	17,616,400
Depreciation of equipment	275,685	1,048	-	274,637
Finance lease assets	106,499	(192,188)	-	298,687
Total	25,203,359	5,560,032	-	19,643,327
Deferred tax assets (liabilities) - net	(18,957,028)			(13,454,797)
Deferred tax income (expenses) - net		5,492,997	9,234	

## 17. EMPLOYEE'S BENEFIT OBLIGATIONS

Movements of employee's benefit obligations for the years ended December 31, 2018 and 2017 were as follows:

	Baht	
	2018	2017
Beginning balance defined benefit obligations	14,897,993	13,910,041
Current service costs and interest	1,772,906	2,842,780
Actuarial (gain) loss	-	46,172
Benefits paid by the plan	-	(1,901,000)
Ending balance defined benefit obligations	16,670,899	14,897,993

The statements of comprehensive income for the years ended December 31, 2018 and 2017 are as follows:

	Baht	
	2018	2017
Current service costs		
Cost of sales	207,419	322,323
Selling expenses	478,869	597,060
Administrative expenses	673,138	1,419,061
Total	1,359,426	2,338,444
Interest on obligation	413,480	504,336
Total	1,772,906	2,842,780

Principal actuarial assumptions at the reporting date for the years ended December 31, 2018 and 2017 are as follow:

	Percentage	
	2018	2017
Discount rate	2.40 - 2.99	2.40 - 2.99
Salary increase rate	4.50	4.50
Employee turnover rate	0 - 29	0 - 29
Mortality rate	Thai Mortality Ordinary Table 2017	Thai Mortality Ordinary Table 2017

#### Sensitivity analysis

The results of sensitivity analysis for significant assumptions that affect the present value of the long-term employee benefit obligations as at December 31, 2018 and 2017 are summarized below:

	2018			
	%		Baht	
	increase	decrease	increase	decrease
Discount rate	2.90 - 3.49	(1.90) - (2.49)	(747,102)	804,187
Salary increase rate	1	(1)	1,481,105	(1,289,997)
Turnover rate	20	(20)	(1,970,811)	2,420,057
Mortality rate	20	(20)	(184,305)	187,015

	2017			
	%		Baht	
	increase	decrease	increase	decrease
Discount rate	2.90 - 3.49	(1.90) - (2.49)	(721,984)	778,277
Salary increase rate	1	(1)	1,303,244	(1,138,810)
Turnover rate	20	(20)	(1,702,110)	2,069,337
Mortality rate	20	(20)	(163,821)	166,202

On December 13, 2018, the National Legislative Assembly passed a resolution approving the draft of a New Labour Protection Act, which is in the process being enacted in the Royal Gazette. The Labour Protection Act includes a requirement that an employee who is terminated after having been employed by the same employer for an uninterrupted period of 20 years or more, receives severance payment of 400 days of wages at the most recent rate, which is increased from the current maximum rate of 300 days. When the labour law comes into force, the Company will recognize the increase in the employee benefits obligations approximately Baht 3.90 million, resulting in the decrease in profit approximately Baht 3.12 million.

#### 18. THE EMPLOYEE JOINT INVESTMENT PROGRAM (EJIP)

On May 22, 2015, the Securities and Exchange Commission approved the Employee Joint Investment Program (EJIP). The details of the program are as follows;

The period of EJIP	May 1, 2015 to April 30, 2020, with a total duration of 5 years.
Eligible employees under EJIP	The employees has over one year working experience or employees at director on the voluntary basis.
EJIP arrangement	The Company will make deduction from the payroll of eligible employees who voluntarily join the EJIP, at the rate 5% of each month and director at the rate 5-25% of each month. The Company will contribute 100% of the amount contributed by EJIP participants on a monthly basis.
EJIP buying schedule	Monthly basis.
Conditions for holding the securities	During the 1 <sup>st</sup> year - 2 <sup>nd</sup> year, cannot sell any shares After the 2 <sup>nd</sup> year, can sell 25% of accumulated shares After the 3 <sup>rd</sup> year, can sell 50% of accumulated shares After the 4 <sup>th</sup> year, can sell 75% of accumulated shares After the 5 <sup>th</sup> year, can sell all shares
EJIP program manager	Philip Securities (Thailand) Public Company Limited

During the years 2018 and 2017, the Company contributed Baht 4.30 million and Baht 3.42 million, respectively, to the program.

#### 19. PREMIUM ON ORDINARY SHARES

According to the Public Companies Act B.E. 2535, under the provision of section 51, the Company is required to set aside share subscription received in excess of the par value of the shares issued to a reserve account (“premium on ordinary shares”). The premium on ordinary shares is not available for dividend distribution.

#### 20. LEGAL RESERVE

According to the Public Companies Act B.E. 2535, under provision of section 115, the Company is required to set aside a statutory reserve of 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 share capital. The statutory reserve could not be used for dividend payment.

#### 21. APPROPRIATION OF RETAINED EARNINGS

On February 23, 2018, the Company’s Board of Directors No. 2/2018 passed the resolution to declare dividend at Baht 0.14 per share for 584,500,000 issued and paid up ordinary shares, in total amount of Baht 81,830,000. The dividend declaration had been approved from Annual General Shareholders’ Meeting No. 1/2018 on April 28, 2018.

On February 24, 2017, the Company’s Board of Directors No. 1/2017 passed the resolution to declare dividend at Baht 0.09 per share for 584,500,000 issued and paid up ordinary shares, in total amount of Baht 52,605,000. The dividend declaration had been approved from Annual General Shareholders’ Meeting No. 1/2017 on April 28, 2017.

#### 22. PROVIDENT FUND

The Company and its employees jointly registered a provident fund scheme under the Provident Fund Act B.E. 2530. The Fund is contributed to by both the employees and the Company. The Fund is managed by UOB Asset Management (Thailand) Company Limited. This Fund is registered under the conditions of Ministry of Finance and the Fund is managed by the approved fund manager.

For the years ended December 31, 2018 and 2017, the Company paid contributions to provident fund and recognized as expenses amounting to Baht 3.69 million and Baht 3.47 million, respectively.

#### 23. OPERATING SEGMENT

Segment information is presented in respect of the business segments. The primary format in segment information report is based on the management and internal reporting structure.

The Company comprises the following main business segments:

Segment 1	Fire Protection Products and Project
Segment 2	Sanitary and Air-Conditioning System
Segment 3	Refrigeration System
Segment 4	Digital Printing System

Operating segment by business in the statement of comprehensive income for the years ended December 31, 2018 and 2017 were as follows:

	2018					2017				
	Segment 1	Segment 2	Segment 3	Segment 4	Total	Segment 1	Segment 2	Segment 3	Segment 4	Total
Revenue from sale of goods	455,822,992	89,327,713	320,393,769	333,419,406	1,198,963,880	482,078,671	86,175,228	312,505,656	281,031,062	1,161,790,617
Revenue from rendering of services	113,762,085	-	-	31,540,724	145,302,809	97,465,789	-	-	26,708,105	124,173,894
Cost of sale of goods	(321,576,984)	(66,951,338)	(220,848,813)	(193,131,822)	(802,508,957)	(352,168,434)	(63,920,498)	(216,282,256)	(156,017,348)	(788,388,536)
Cost of rendering of services	(98,996,395)	-	-	(29,722,422)	(128,718,817)	(84,366,682)	-	-	(24,791,098)	(109,157,780)
Gross profit	149,011,698	22,376,375	99,544,956	142,105,886	413,038,915	143,009,344	22,254,730	96,223,400	126,930,721	388,418,195
Other income					11,749,984					14,736,394
Selling expenses					(118,974,255)					(105,189,730)
Administrative expenses					(138,307,328)					(136,830,200)
Finance cost					(341)					(239)
Profit before income tax expense					167,506,975					161,134,420
Income tax expense					(33,148,221)					(31,455,326)
Profit for the years					134,358,754					129,679,094
Other comprehensive income (expense)					-					(36,937)
Total comprehensive income for the years					134,358,754					129,642,157

Operating segment by business in the statement of financial position as at December 31, 2018 and 2017 were as follows:

	Baht									
	2018					2017				
	Segment 1	Segment 2	Segment 3	Segment 4	Total	Segment 1	Segment 2	Segment 3	Segment 4	Total
Assets for reportable segments										
Trade receivables	117,937,369	21,920,000	64,914,818	58,336,509	263,108,696	118,277,781	19,084,979	70,716,894	54,807,487	262,887,141
Inventories	150,572,953	11,878,951	72,802,342	69,185,058	304,439,304	136,777,641	9,087,611	87,324,064	58,076,767	291,266,083
Customer relationship	-	-	52,858,177	20,322,731	73,180,908	-	-	63,624,490	24,457,512	88,082,002
Goodwill	-	-	200,066,500	134,605,561	334,672,061	-	-	200,066,500	134,605,561	334,672,061
Assets under common use										
- Investment property	-	-	-	-	231,818,176	-	-	-	-	-
- Plant and equipment	-	-	-	-	32,680,745	-	-	-	-	150,468,251
- Intangible assets	-	-	-	-	23,979,343	-	-	-	-	27,301,349
- Others	-	-	-	-	284,707,228	-	-	-	-	302,664,893
Total assets for reportable segments	268,510,322	33,798,951	390,641,837	282,449,859	1,548,586,461	255,055,422	28,172,590	421,731,948	271,947,327	1,457,341,780
Total liabilities for reportable segments	-	-	-	-	281,381,013	-	-	-	-	242,665,142

For the years ended December 31, 2018 and 2017, there was no revenue from sales with a single external customers contributed 10% or more to the total revenue.

The Company has revenues from service with external customers over 10% of total revenue from service.

For the years ended December 31, 2018 and 2017, the Company has revenue from service with 2 major customers in amount of Baht 42.98 million and Baht 25.86 million, respectively.

## 24. EXPENSE BY NATURE

Expenses by nature for the years ended December 31, 2018 and 2017 consist of the significant expenses were as follows:

	Baht	
	2018	2017
Purchases of finished goods	813,401,193	842,886,768
Other changes in finished goods	(20,268,938)	(56,604,417)
Employee expenses	196,747,200	180,480,747
Office rental and service expenses	14,249,352	13,892,961
Depreciation and amortization	31,259,117	30,931,688
Others	153,121,774	127,978,738
Total	<u>1,188,509,698</u>	<u>1,139,566,485</u>

## 25. TAX EXPENSE (INCOME)

### 25.1 Major components of tax expense (income)

For the years ended December 31, 2018 and 2017 consisted of:

	Baht	
	2018	2017
Income tax expense (income) shown in profit or loss :		
Current tax expense:		
Income tax expense for the years	36,858,056	36,948,323
Deferred tax expense (income):		
Changes in temporary differences relating to the original recognition and reversal	(3,709,835)	(5,492,997)
Total	<u>33,148,221</u>	<u>31,455,326</u>

25.2 A numerical reconciliation between tax expense (income) and the product of accounting profit multiplied by the applicable tax rate.

For the years ended December 31, 2018 and 2017, which were summarized as follows:

	Baht	
	2018	2017
Accounting profit (loss) for the years	167,506,975	161,134,420
The applicable tax rate (%)	20%	20%
Tax expense (income) at the applicable tax rate	33,501,395	32,226,884
Reconciliation items:		
Tax effect of expenses that are not deductible in determining tax profit:		
- Expenses not allowed as expenses in determining taxable profit	20,775	92,100
Addition expenses deductible for tax purpose	(373,949)	(650,664)
Others	-	(212,994)
Total reconciliation items	(353,174)	(771,558)
Total tax expense (income)	33,148,221	31,455,326

25.3 A numerical reconciliation between the average effective tax rate and the applicable tax rate.

For the years ended December 31, 2018 and 2017 were summarized as follows:

	2018		2017	
	Tax amount (Baht)	Tax rate (%)	Tax amount (Baht)	Tax rate (%)
Accounting profit (loss) before tax expense for the years	167,506,975		161,134,420	
Tax expense (income) at the applicable tax rate	33,501,395	20.00	32,226,884	20.00
Reconciliation items	(353,174)	(0.21)	(771,558)	(0.48)
Tax expense (income) at the average effective tax rate	33,148,221	19.79	31,455,326	19.52

## 26. BASIC EARNINGS PER SHARE

Basic earnings per share is calculated by dividing the profit for the years by the weighted average number of ordinary shares in issue during the years.

	2018	2017
Profit for the years (Baht)	134,358,754	129,679,094
Weighted average number of ordinary shares (Shares)	584,500,000	584,500,000
Basic earnings per share (Baht per share)	0.23	0.22

## 27. COMMITMENTS AND CONTINGENT LIABILITIES

As at December 31, 2018 and 2017, the Company had commitments and contingent liabilities as follows :

27.1 As at December 31, 2018 and 2017, the Company has letters of guarantee issued by banks for goods and work under system installation service agreement in the amount of Baht 21.86 million and Baht 18.78 million, respectively.

27.2 The credit facilities with financial institutions as at December 31, 2018 and 2017 consisted of :

Type of credit	Facilities (Million Baht)		Referred interest rate (% per annum)	
	2018	2017	2018	2017
Bank overdrafts	11.00	11.00	MOR	MOR
			Fixed deposit	Fixed deposit
Letter of credit/trust receipt	160.00	160.00	MLR-1,MMR	MLR-1,MMR
Letter of guarantee	54.00	24.47	1.65 - 2%	1.65 - 2%
Forward exchange contracts	562.39	562.39		
Promissory notes	5.00	5.00	MLR	MLR
Up country check purchase	-	-		
Total	792.39	762.86		
Forward foreign exchange contracts (Million US dollars)	3.00	3.00		

27.3 Minimum lease and service payments are as follows :

Payment periods	Million Baht	
	2018	2017
Due not later than 1 year	11.92	13.71
Due later than 1 year but not later than 5 years	1.57	12.65

Rental and service expenses for the years ended December 31, 2018 and 2017 are Baht 14.25 million and Baht 13.89 million, respectively.

## 28. FAIR VALUE MEASUREMENT

The Company uses the market approach to measure its assets and liabilities that are required to be measured at fair value by relevant TFRS, except that the cost approach or income approach is used when there is no active market or when a quoted market price is not available.

### Fair value hierarchy

In applying the above-mentioned valuation techniques, the Company endeavors to use relevant observable inputs as much as possible. TFRS 13 Fair Value Measurement establishes a fair value hierarchy categorizing such inputs into three levels 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.

As at December 31, 2017 and 2016, the Company had the following financial assets and liabilities that were measured at fair value on which the fair value hierarchy is classified as follows :

	Baht			
	2018			
	Level 1	Level 2	Level 3	Total
Financial assets (liabilities) measured at fair value				
Investments in investment units	-	167,434,994	-	167,434,994
Foreign currency forward contracts	-	(1,677,459)	-	(1,677,459)

	Baht			
	2017			
	Level 1	Level 2	Level 3	Total
Financial assets (liabilities) measured at fair value				
Investments in investment units	-	199,119,259	-	199,119,259
Foreign currency forward contracts	-	(514,283)	-	(514,283)

#### Fair valuation techniques and inputs to Level 2 fair valuation

The fair value of investments in investment units that are not listed on the Stock Exchange of Thailand is determined by using the net asset value per unit as announced by the fund managers.

The fair value of derivatives 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, forward rate of the respective currencies, and interest rate yield curves.

During the period, there were no transfers within the fair value hierarchy.

#### Certain financial assets and financial liabilities is measured at fair value

The following table gives information about how the fair values of these financial assets and financial liabilities are measured at fair value on fair value hierarchy as at December 31, 2018 and 2017.

Financial assets and financial liabilities	Fair value (Baht)		Fair value Hierarchy	Valuation techniques and key inputs for fair value measurement
	2018	2017		
<b>Financial assets (liabilities)</b>				
Foreign currency forward contracts	(1,677,459)	(514,283)	Level 2	Discounted cash flow The estimated future cash flows is from foreign currency exchange rates (from observable forward exchange rates at the end of the reporting period) and contract forward rates, discounted at a rate that reflects the credit risk of various counterparties.

These financial assets and financial liabilities are presented as a part of other current assets and other current liabilities in the statement of financial position.

Valuation technique for financial instruments not measured at fair value of the Company are as follows:

Cash and cash equivalents, trade and other receivables, current portion of financial lease receivable had carrying values approximate their fair values due to the relatively short-term maturity of these financial instruments.

General investment had not significantly different from the carrying values stated in the reporting date.

Trade and other payables, short-term provisions and other current liabilities - the carrying amounts stated in the reporting date of these financial liabilities approximate their fair values because of the short-term period to maturity of these financial instruments.

## 29. FINANCIAL INSTRUMENTS

### Financial risk management policies

The Company is exposed to normal business risks from changes in interest rates and currency exchange rates and from non-performance of contractual obligations by counterparties. The Company does not hold or use derivative financial instruments for speculative or trading purposes.

Risk management is integral to the whole business of the Company. The Company has a system of controls in place to create an acceptable balance between the cost of risks occurring and the cost of managing the risks. The management continually monitors the Company's risk management process to ensure that an appropriate balance between risk and control is achieved.

### Capital management

The Board of Directors' policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Board monitors the return on capital, which the Company defines as result from operating activities divided by total shareholders' equity, and also monitors the level of dividends to ordinary shareholders.

### Foreign currency risk

The Company is exposed to foreign currency risk relating to purchases which are denominated in foreign currencies. The Company primarily utilizes forward foreign exchange contracts with maturities of less than one year to hedge such financial assets and liabilities denominated in foreign currencies. The forward foreign exchange contracts entered into at the reporting date also relate to anticipated purchases, denominated in foreign currencies, for the subsequent period.

As at December 31, 2018 and 2017, the Company has financial liabilities in foreign currencies as follows;

	Foreign Currencies	
	2018	2017
Not hedged		
US dollar	324,629	288,857
SG dollar	1,000	200
EURO	266,459	111,944
GBP	-	80,109

#### Credit risk

Credit risk is the potential financial loss resulting from the failure of a customer or a counterparty to settle its financial and contractual obligations to the Company as and when they fall due.

Management has a credit policy in place and the exposure to credit risk is monitored on an ongoing basis. Credit evaluations are performed on all customers requiring credit over a certain amount. At the reporting date, there were no significant concentrations of credit risk. The maximum exposure to credit risk is represented by the carrying amount of each financial asset in the statement of financial position. However, due to the large number of parties comprising the Company's customer base, management does not anticipate material losses from its debt collection.

#### Liquidity risk

The Company monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Company's operations and to mitigate the effects of fluctuations in cash flows.

### 30. ESTABLISHMENT OF A SUBSIDIARY IN VIETNAM

According to the resolution of the Board of Directors Meeting No. 5/2018 on November 9, 2018, the Board of Directors approved the registration of the establishment of a company in Vietnam with registered capital of Vietnamese Dong 800 million (or approximately Baht 1.14 million). The company holds 100% of the shares, then after investment, such company will be a subsidiary of the Company. The objective of this investment is to increase competitiveness and increase efficiency in customer service, by starting from the business unit "Digital Printing System". Presently, the company is registering for a trade license operate business and open overseas bank account (Offshore Account) in the name of the Company for spending a expense of the registration, lawyer fee and office expenses to be the contribution capital.

### 31. EVENT AFTER THE REPORTING PERIOD

#### 31.1 Increase of registered capital of a subsidiary in Vietnam

According to the resolution of the Board of Directors' Meeting No. 1/2562 on February 28, 2019, the Board of Directors approved the increase of the registered capital of the subsidiary (Note 30) from Vietnamese Dong 800 million to Vietnamese Dong not over 2,400 million in order to be sufficient for the operation and support for working capital. However, the total amount when combined with the registered capital will not exceed Baht 4.5 million.

#### 31.2 Dividend payment

According to the resolution of the Board of Directors' Meeting No. 1/2562 on February 28, 2019, the Board of Directors approved dividend payment at Baht 0.16 per share for 584,500,000 issued and paid up ordinary shares, in total amount of Baht 93,520,000. The dividend declaration will be proposed to the next Annual General Shareholders' Meeting for approval.

### 32. RECLASSIFICATIONS

Certain reclassifications have been made in the statements of profit or loss and other comprehensive income for the years ended December 31, 2017 to conform to the classifications used in the statements of profit or loss and other comprehensive income for the years ended December 31, 2018 as follows:

	Baht		
	For the year ended December 31, 2017		
	As previously reported	Increase (decrease)	As reclassified
Revenues from sales	1,153,918,431	7,872,186	1,161,790,617
Revenue from rendering of services	132,046,080	(7,872,186)	124,173,894
Cost of sales	788,388,567	(31)	788,388,536
Cost of rendering of services	116,652,267	(7,494,487)	109,157,780
Selling expenses	89,368,921	15,820,809	105,189,730
Administrative expenses	145,156,491	(8,326,291)	136,830,200

### 33. THE NEWLY ISSUED AND REVISED FINANCIAL REPORTING STANDARDS AND EFFECTIVE IN THE FUTURE

The Federation of Accounting Professions (FAP) has issued Notifications to mandate the use of accounting standards, financial reporting standards, and interpretations of accounting and financial reporting standards that are newly issued and revised.

These newly issued and revised financial reporting standards which are effective for the fiscal year beginning on or after January 1, 2019 are as follows:

TAS 1 (revised 2018)	Presentation of Financial Statements
TAS 2 (revised 2018)	Inventories
TAS 7 (revised 2018)	Statement of Cash Flows
TAS 8 (revised 2018)	Accounting Policies, Changes in Accounting Estimates and Errors
TAS 10 (revised 2018)	Events After the Reporting Period
TAS 12 (revised 2018)	Income Taxes
TAS 16 (revised 2018)	Property, Plant and Equipment
TAS 17 (revised 2018)	Leases
TAS 19 (revised 2018)	Employee Benefits
TAS 20 (revised 2018)	Accounting for Government Grants and Disclosure of Government Assistance
TAS 21 (revised 2018)	The Effects of Changes in Foreign Exchange Rates
TAS 23 (revised 2018)	Borrowing Costs
TAS 24 (revised 2018)	Related Party Disclosures
TAS 26 (revised 2018)	Accounting and Reporting by Retirement Benefit Plans
TAS 27 (revised 2018)	Separate Financial Statements
TAS 28 (revised 2018)	Investments in Associates and Joint Ventures
TAS 29 (revised 2018)	Financial Reporting in Hyperinflationary Economies
TAS 33 (revised 2018)	Earnings Per Share
TAS 34 (revised 2018)	Interim Financial Reporting
TAS 36 (revised 2018)	Impairment of Assets
TAS 37 (revised 2018)	Provisions, Contingent Liabilities and Contingent Assets
TAS 38 (revised 2018)	Intangible assets
TAS 40 (revised 2018)	Investment Property
TAS 41 (revised 2018)	Agriculture
TFRS 1	First-time Adoption of International Financial Reporting Standards
TFRS 2 (revised 2018)	Share-Based Payment
TFRS 3 (revised 2018)	Business Combinations
TFRS 4 (revised 2018)	Insurance Contracts
TFRS 5 (revised 2018)	Non-current Assets Held for Sale and Discontinued Operations
TFRS 6 (revised 2018)	Exploration for and Evaluation of Mineral Resource
TFRS 8 (revised 2018)	Operating Segments
TFRS 10 (revised 2018)	Consolidated Financial Statements

TFRS 11 (revised 2018)	Joint Arrangements
TFRS 12 (revised 2018)	Disclosure of Interests in Other Entities
TFRS 13 (revised 2018)	Fair Value Measurement
TFRS 15	Revenue from Contracts with Customers
TSIC 10 (revised 2018)	Government Assistance - No Specific Relation to Operating Activities
TSIC 15 (revised 2018)	Operating Leases - Incentives
TSIC 25 (revised 2018)	Income Taxes - Changes in the Tax Status of an Entity or its Shareholders
TSIC 27 (revised 2018)	Evaluating the Substance of Transactions Involving the Legal Form of a Lease
TSIC 29 (revised 2018)	Service Concession Arrangements: Disclosure
TSIC 32 (revised 2018)	Intangible Assets - Web Site Costs
TFRIC 1 (revised 2018)	Changes in Existing Decommissioning, Restoration and Similar Liabilities
TFRIC 4 (revised 2018)	Determining whether an Arrangement contains a Lease
TFRIC 5 (revised 2018)	Right to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds
TFRIC 7 (revised 2018)	Applying the Restatement Approach under TAS 29 (revised 2018) Financial Reporting in Hyperinflationary Economics
TFRIC 10 (revised 2018)	Interim Financial Reporting and Impairment
TFRIC 12 (revised 2018)	Service Concession Arrangements
TFRIC 14 (revised 2018)	TAS 19 (revised 2018)-The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction
TFRIC 17 (revised 2018)	Distributions of Non - cash Assets to Owners
TFRIC 20 (revised 2018)	Stripping Costs in the Production Phase of a Surface Mine
TFRIC 21 (revised 2018)	Levies

Newly financial reporting standards which are effective for the fiscal year beginning on or after January 1, 2020 are as follows.

TAS 32	Financial Instruments: Presentation
TFRS 7	Financial Instruments: Disclosures
TFRS 9	Financial Instruments
TFRIC 16	Hedges of a Net Investment in a Foreign Operation
TFRIC 19	Extinguishing Financial Liabilities with Equity Instruments

The management of the Company believes that these accounting standards, financial reporting standards, accounting standard interpretations and financial reporting standards interpretations which are newly issued and revised will not have any significant impact on the financial statements for the year when they are initially applied.

#### 34. APPROVAL OF FINANCIAL STATEMENTS

These financial statements were authorized for issue by the Board of Directors of the Company on February 28, 2019.

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