



Annual Registration Statement / Annual Report 2022

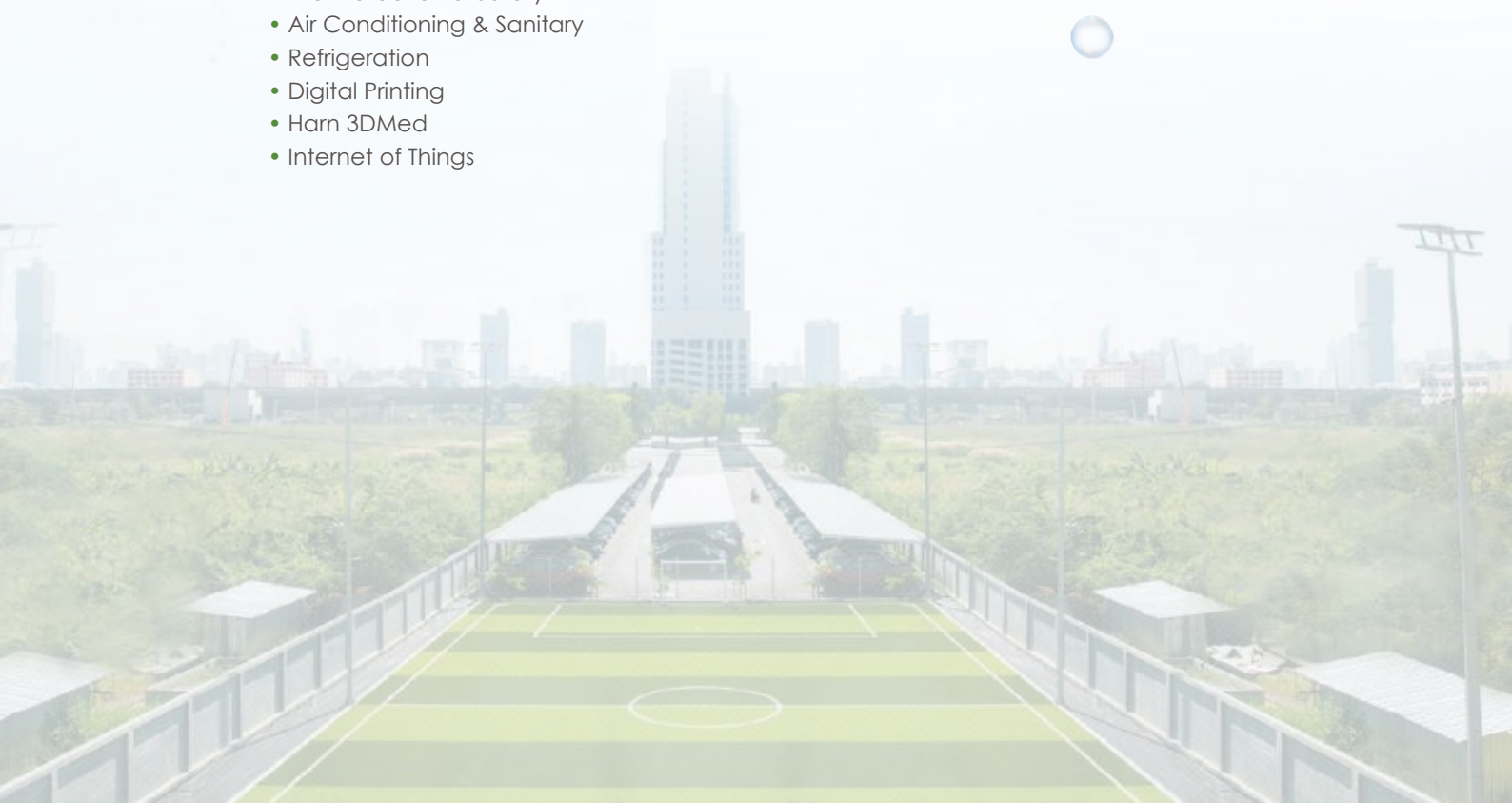
(Form 56-1 One Report)

Harn Engineering Solutions Public Company Limited



Quality Living Through Sustainable Engineering

- Fire Protection & Safety
- Air Conditioning & Sanitary
- Refrigeration
- Digital Printing
- Harm 3DMed
- Internet of Things



Contents

Message from the Board of Directors

4

Section 1

Business Operation and Performance

5

Section 4

Attachment

231

1. Structure and Business Operations	5
2. Risk Management	53
3. Driving Business for Sustainability	59
4. Management's Discussion and Analysis (MD&A)	87
5. General Information and Other Important Information	104

Attachment 1	231
Details of the Board, Executives, The person taking the highest responsibility in finance and accounting, The person supervising accounting and Company Secretary	

Section 2

Corporate Governance

105

6. Corporate Governance Policy	105
7. Governance Structure and Key Information of the Board, Board-Committees, Executives, Employees and Others	120
8. Corporate Governance Milestones	136
9. Internal Control and Connected Transaction	165

Attachment 2	240
Details of Subsidiaries Directors	
Attachment 3	
Details of Head of Internal Audit and Head of Compliance Department	241

Section 3

Financial Statements

173

• Board of Directors' Responsibility on Financial Reports	173
• Independent Auditor's Report	174
• Financial Statements	178
• Notes to the Financial Statements	185

Attachment 4	242
Business Assets and Details on Asset Valuation	
Attachment 5	242
Corporate Governance Policy and Code of Conduct Full Version	
Attachment 6	242
Report of the Audit Committee	

In case this Annual Registration Statement / Annual Report (Form 56-1 One Report) references information disclosed on HARN's website, the disclosed information shall be deemed to be part of Form 56-1 One Report. The Board of Directors certifies the correctness and completeness of disclosed information and annual information disclosure in Form 56-1 One Report.

Message from the Board of Directors

HARN Engineering Solutions Public Company Limited, “abbreviation as HARN”, operated an Import, distribution of products and services used in engineering system, Fire suppression system products, Air-conditioning system products, Sanitary system products, refrigeration system products, Digital printing system products, 3D for medical application system, Internet of things (IoT) system and Subsidiaries. In 2022, although it was the year when the economic situation began to show signs of recovery and gradually resumed normal operations after the COVID-19 epidemic began to subside, there were still impacts from previous years and impact of conflicts between superpowers on the global economy, along with the economy of Thailand still being in a period of uncertainty causing some businesses to slow down and not yet be able to return to normal operations. However, due to the dedication of all parties, who continued to advance action plans and bringing in new products to sell more to achieve the set goal in the face of business volatility, In 2022 the operating results of HARN increase at satisfactory level from past year. With HARN posted Baht 1,207.51 million in revenues from sales of goods and rendering of services, Baht 94.32 million in operating profit, and Baht 92.69 million in net profit, equivalent to Baht 0.16 in earnings per share. However, the Board of Directors, executives and employees is still determined to conducting business with caution and conciseness, in order to fostering to achieve steady growth, along with determination in striving for sustainable pursuits while complying to the principle of corporate governance.

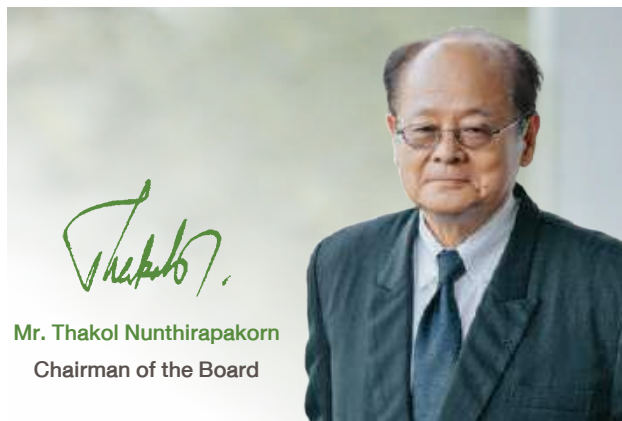
HARN importance adjustment to business with market situation and is still determined to expand the business by finding new products

to enter into the potential market by develop product innovation related to IoT and solutions, including to expand of more services in each business unit, such as a refrigeration assembly plant and a fire extinguishing compound plant, also, expanded the digital printing business in Vietnam in order to generate of more revenue and profit growth. For, Digital Center of Excellence showroom has continuous activities for both customers and material manufacturers are interested to visit the digital printer demonstration has enabling to find market good opportunities. Furthermore, developed the process operation to increase the internal work procedure efficiency with Digital Transformation Project, in order to efficiency, work from anywhere-anytime and to reduce costs. All of these reflect organization readiness to tackle economic, social and environmental situations changes on a foundation of financial status stability. 2022 was recognized as a period of transition that more clearly showcased the HARN positive transformation, reflecting in operations structure that have become more sound and sustainable. HARN have a clear risk mitigation practice that may occur in both the short and long term will that helps curb the fluctuation of revenue and profit, to securely generate growth as a leader in engineering, while preserving to being an organization that values for the Thai society.

With regards to sustainability, HARN have demonstrated a stance to reduce impact of climate change and set a goal to achieve a Net Zero target aligning to the Thailand's goals, one of the challenging goals that will HARN enable a steady and sustainable growth in the long term, has also continued to place emphasis to achieve resource efficiency while also considering the implementation of various projects in transition towards low-carbon businesses and fostering collaboration with the supply chain. The first empirical achievement was that HARN's office building was awarded the 2022 DGNB Gold Certificate for Green Building by the German-Thai Chamber of Commerce and DGNB GmbH, Germany, with a design concept involving future directions and trends in creating sustainability for HARN's employees, people, society, environment, and the world in the future, according to HARN's vision of providing sustainable solutions for engineering systems by believing in the importance of the quality of working life.

Under the good corporate governance policy and principle, HARN is still consistently given importance to the practice of good corporate governance principles. The strategies operate under to the framework of sustainable in achieving Corporate Governance, Risk Management, Internal Control, Anti-Corruption and compliance with the law related regulations in congruent to the principle of sustainable development in achieving Environmental, Social, and Governance (ESG) balance, an action with responsibility to customers, employees, shareholders and all stakeholders fairly, transparent and can be inspected. Consequently, HARN was placed at the scores 5 stars of "Excellent" on the Corporate Governance of Thai Listed Companies for 4 consecutive years and been certified as a member of the Collective Action Coalition against Corruption.

On behalf of the Board of Directors and executives, we would like to express our gratitude to the shareholders, customers, trade partners, business partners, stakeholders as well as the Board of Directors, executives and all employees that has always trusted and supported the operation of HARN and please be assured of the dedication and commitment overcome various obstacles of all the Board of Directors, executives and all employees to jointly the development of HARN to drive with future energy to the vision and target, innovative business development sustainable growth, into account of the responsibility stakeholders with the Environment, Society and Governance, and maximum benefits all shareholders and stakeholders.



Mr. Thakol Nunthirapakorn
Chairman of the Board



Mr. Thammanoon Tripetchr
Chief Executive Officer

Section 1 Business Operations and Performance

1. Structure and Business Operations

1.1 Business Policy and Overview

Background

Harn Engineering Solutions Public Company Limited ("HARN") previously known as Fire Victor Public Company Limited was set up as a section of Harn Engineering Company Limited ("Harn Company"). Later on, May 9, 2001, HARN was incorporated as a juristic entity named "Fire Victor Company Limited" by Charnnarong Group¹ and Mr. Wirat Sukchai, former executive of Harn Company 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, HARN 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 HARN 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 November 2016, has changed name from Fire Victor Public Company Limited after entering in a joint venture with Chillmatch Company Limited and Q II S Company Limited. The three companies were originally business units of Harn Company, with a long history of being a distributor and consulting, designing engineering systems since 1965, with more than 60 years of experience and reputation. This time, HARN is ready to focus on being the leading provider of sustainable solutions of safety engineering systems, cooling system, air conditioning system, and digital printing systems in Thailand and neighboring countries.

For safety engineering system solutions in 2001, started the business of importing and distributing valves, fire extinguishing systems, sanitary equipment, and air conditioning, along with providing fire extinguishing system installation services for projects. Later In 2003, expanded its business by adding Project Sales Division to provide consultation services, designing and installation services of all types of fire protection system such as Automatic sprinkler system, Foam fire protection, Fire alarm systems and Close circuit television system, 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, added carbon dioxide (CO₂) system and extinguishing system FM200². Until now, has been added product NOVEC 1230 Fire Suppression System, Inert Gas System, Wet Chemical Fire Suppression System.

In 2007, received an Outstanding Distributor Award presented by NIBCO Inc., USA. Currently HARN expanded into fire suppression systems for petrochemical industry with security systems.

For more than 60 years, HARN has experience in providing high quality refrigeration solutions for industrial and agricultural products by a team of engineers with expertise in designing a cooling system that is suitable for product preservation in order to maintain the highest quality, weight and freshness. Since 2002, there have been many energy crises, leading HARN to develop its expertise in developing energy-efficient solutions that have been widely accepted. Currently HARN is the leader in refrigeration technology in Thailand and continue to grow progressively.

In terms of digital printing systems, HARN started a business about printers and printing equipment, date of manufacture / expiration since 1965, with a commitment conduct a distribution business and provide after-sales service based on speed and quality in order to ensure highest customer satisfaction. Today, HARN is the leader in digital printing technology for production lines in Thailand and has gained the trust of leading companies nationwide. In 2015, expanded into 3D printing solutions until it was able to drive rapid prototyping and digital manufacturing in education, dentistry, medical and packaging and manufacturing industries. In 2019, focuses on being a leader in neighboring countries by registered the establishment of Han Vietnam Company Limited ("subsidiary"), Vietnam, with a registered capital of 800,000,000 Vietnamese dong or approximately Baht 1,057,444, HARN holds 100% of the subsidiary's shares in the registered capital on July 30, 2019.

¹ The Charnnarong Group consisting of Mrs.Prayoonsri Charnnarong, Mrs.Sirima Iamsakulrut and Mr.Jain Charnnarong

² 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.

HARN has implemented international quality. Presently has been awarded ISO 9001:2015 by UKAS (United Kingdom Accreditation Service), UK-based world-class certification body with quality inspection and verification conducted by SGS (Thailand) Company Limited. Certified ISO 9001:2004 since 2006 and migrated ISO 9001:2008 since 2009. Presently migrated certified ISO 9001:2015 in 2017.

1.1.1 Vision, Mission 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



Core Values



Target

In 2022, HARN remained focused on its operations to achieve a vision of sustainable solution service and a mission of enhanced customer satisfaction, in line with increasing employee potentiality, creating compensation for shareholders, and improving the quality of life for stakeholders under prudent management and good corporate governance. It also set a long-term growth of 3-5 years with 12 main business goals for the benefits of stakeholders, as well as the following environmental, social and governance goals towards sustainable business operations:



Long-Term Targets				
Generate sales more than 1,500 MB.	Payment of no less than 40% of net profit after income tax and legally required reserves.	Maintain customer satisfaction more than 90%	maintain employee satisfaction more than 85%	Taking of the environment, society, and governance in made business 100%

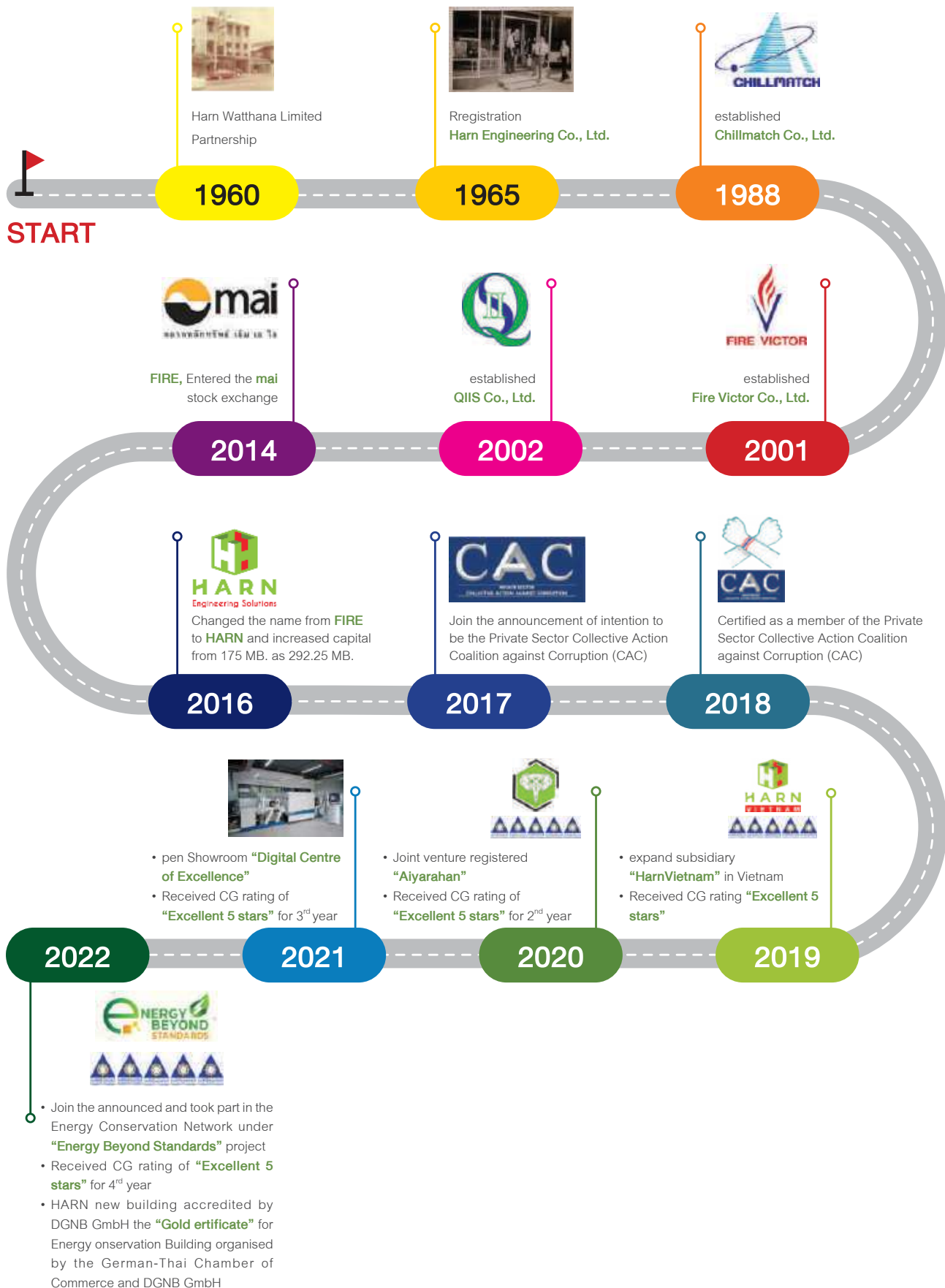
To achieve the Vision and Mission, in 2022, the Board of Directors has a review of vision, mission, business direction and has approved of 4 strategy mains as follow;



Also, optimizing current knowledge and business platforms to enhance competitiveness, HARN and Subsidiaries is still value stewardship of the environment, society, and corporate governance to ensure the achievement of truly becoming a sustainable organization. The Top Executive has passed the plan to executives and employees at all levels for their acknowledgement and continues to monitor the implementation of strategies to ensure that the set goals are met. The progress shall be reported to the Board of Directors every quarter.

In addition, HARN define to target a service leading sustainable solution through business diversification, that fully needs of customers, while being able to deliver sustainable returns and enhance better quality of life to all stakeholders and to achieve Vision, Mission to the guidelines "HARN ESG Venture" as moving towards carbon neutrality by the year 2040 and emission Net Zero by the year 2050, creating innovations relating to human being's basic needs and the environment, equalize all parties involved with HARN, eliminate inequality, and foster cooperation among all HARN partners. Which one of the organization's corporate strategies in congruent to the business catarget of sustainable in achieving Environmental, Social, and Governance (ESG) balance.

1.1.2 Significant Changes and Developments



During 2018–2022, there are several milestones and transformation as below:

2022



On December 6, 2022, it was certified as an organization that has shown intention to conserve energy and cooperate in the network of energy conservation, “Energy Beyond Standards.” HARN is focused on and determined to be an important mechanism to help Thailand overcome the energy crisis by conducting energy conservation within the organization and being an important force in promoting sustainable energy conservation.



On November 22, 2022, Mr. Thammanoon Tripetch, Chief Executive Officer, participated in a discussion on the topic “2D Barcode Printing Techniques on Products” at the 2022 Annual General Meeting of Code Institute, GS1Thailand Annual Meeting 2022, on the topic of “Next Generation of Retail Business for Consumer Safety & Protection, the new dimension of retailers joining to care for consumers.” Mr. Thammanoon also brought the printer to display at the event, as well as giving advice to enhance and develop the use of product barcodes to see the benefits of use.

October 30, 2022 was certified with CG Score as having good corporate governance principles for listed companies at a 5-star “Excellent” for the 4th consecutive year



Since July 4, 2022, HARN has facilitated the installation location of the “Tao Bin” vending machine, one of the projects for the disabled, to support the employment of the socially disabled for the year 2022. This project encourages people with disabilities to have access to jobs and career opportunities in their hometowns to be able to earn income and become self-resilience as well as a valuable member of the community.



On August 22, 2022, HARN received the Green Building Award, DGNB Standard Gold Certificate, organized by the German-Thai Chamber of Commerce and DGNB GmbH. The design concept of HARN building started from foreseeing the direction and future trends in creating sustainability for employees, companies, people, society, environment, and the world in the future, thus originating the idea of constructing buildings under the “Green Building” concept. In addition, it is also a space to learn about sustainable engineering in line with HARN's vision of providing sustainable engineering solutions, believing that quality of work life is important.



On June 11th, 2022, HARN took part in supporting the “Plant & Protect” project by Care the Wild, which aimed to plant and restore forests in Ban Oi, Moo 11, and Ban Bunreng, Moo 4, located in Ban Vieng Subdistrict, Rong Kwang District, Phrae Province. The project covered an area of one rai (400 sq m) and was in collaboration with the MAI association of registered companies in the Stock Exchange of Thailand.

2021



- October 30, 2021 was certified with CG Score as having good corporate governance principles for listed companies at a 5-star "Excellent" for the 3rd consecutive year
- June 16, 2021 HARN and Domino jointly launched an online showroom "Digital Center of Excellence" has press releases in international media, making it 1 of Domino's 3 Centers of Excellence together with Europe and America.

2019

- January 8, 2019 received the honor from Prof. Dr. Bundhit Eua-arporn, the president of Chulalongkorn University, to join the opening of '3D printing service Harn - Chula' at Chulalongkorn University as a part of project for community and society. HARN was pleased to facilitate faculty and students to access to the 3D printing technology at a price below the market cost.
- July 30, 2019 registered the establishment of Harn Vietnam Company Limited ("an affiliated company") in Vietnam with a registered capital of 800,000,000 Vietnamese dong or about Baht 1,057,444. HARN held shares in the affiliated HARN amounted to 100% of a registered capital



2020

- June 24, 2020 HARN joins hands with Ayarafun Group signed a joint venture for digital business development to build IoT Products and Solutions system to operate smart building development service under the name "Ayaraharn".



- HARN has been listed as one of the 20 companies that Thaipat Institute has selected as the ESG Emerging List of Sustainable Way Companies, based on the environmental, social and governance (ESG) trends of start-up companies or in the process of working that has the opportunity to generate more long-term returns for investors.
- November 19, 2020 was certified with CG Score as having good corporate governance principles for listed companies at a 5-star "Excellent" rating for the second consecutive year.
- Harn Vietnam ("Subsidiary") has successfully sold 1UV Digital Inkjet label printer and can be installed successfully by a team of Vietnamese engineers without requiring engineers from abroad to support due to the COVID-19 situation that does not allow foreigners to enter the country during that time.
- HARN has expanded cooperation with Domino UK Ltd., a manufacturer and distributor of UV Digital Inkjet label printer system, to establish a 120 square meter showroom, set up the printer on the first floor of a new office building. It is expected to be completed in Q1/2021, which will be used to support sales, training, and customer visits to the showroom, including online visitation by customers in Thailand and Asean countries. Domino agrees to pay the rental fee and sells machines to HARN at a special discount price along with a payment term of up to 1 year or when the device is sold to the customer.

2018



- November 5, 2018 was sponsored by the National Innovation Agency (Public Organization) in the project HARN 3DMed: creating the human organ models with the advanced 3D printing technology for effective medical diagnosis and treatment planning' in transforming technology into capital
- May 15, 2018 was certified as a member of the Private Sector Collective Action Coalition against Corruption in the round quarter 3/2018

1.2 Nature of Business

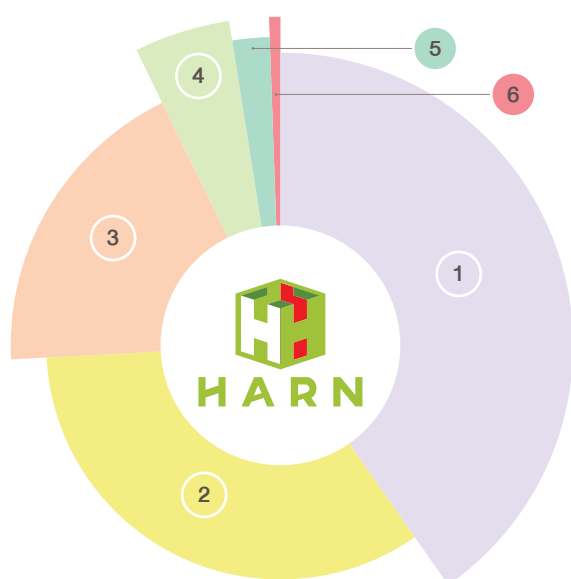
HARN operates of importing and distributing products in Fire Protection system, Air-Conditioning system, Sanitary system, Refrigeration system, Digital Printing system, Development services for IOT Products and Solutions, including the provision of consulting, designing services in projects and provision of engineering solutions complete. In addition, HARN's as provider for installing various system projects such as Foam Fire Protection System, Fire Suppression and Alarm Systems with expert engineering team.

1.2.1 Revenue Structure

Type of Revenue	% Shareholding	2022 ¹⁾		2021		2020	
		MB.	%	MB.	%	MB.	%
Revenues from sales and services							
• Fire suppression products and firefighting system installation services	100.00	599.74	45.06	423.94	40.53	534.18	45.68
• Air-conditioning and sanitary products	100.00	55.70	4.49	47.85	4.57	63.82	5.46
• Refrigeration products	100.00	230.34	18.54	197.35	18.86	202.83	17.34
• Digital printing products	100.00	366.65	29.51	351.90	33.64	349.07	29.85
• Internet of Think products (Aiyaraharn)	65.00	7.23	0.58	4.94	0.47	2.43	0.21
Total revenues from sales and services		1,219.66	98.18	1,025.98	98.07	1,152.33	98.54
Other revenues ²⁾		22.63	1.82	20.15	1.93	17.10	1.46
Total revenues		1,242.29	100.00	1,046.13	100.00	1,169.43	100.00

Notes: ¹⁾ Referring to Harn Engineering Solutions PCL.'s audited consolidated financial statement

²⁾ 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 Year 2022

1	Fire Protection & Safety Baht 599.74 million	45.06%
2	Digital Printing Baht 366.65 million	29.51%
3	Refrigeration Baht 230.34 million	18.54%
4	Air-Conditioning & Sanitary Baht 55.70 million	4.49%
5	Other incomes Baht 22.63 million	1.82%
6	IoT Baht 7.23 million	0.58%

Key Financial Information

			2022 ⁴⁾	2021 ⁴⁾	2020 ^{4) 5)}
	Operating Results				
	Sales and Services Revenues	MB.	1,219.66	1,025.98	1,152.33
	Total Revenues	MB.	1,242.29	1,046.13	1,169.43
	Costs of Sales and Services	MB.	873.26	713.71	799.83
	Gross Profit	MB.	346.40	312.27	352.49
	Net Profit/(Loss) (NCI Excluded)	MB.	88.78	72.27	97.98
	Total Comprehensive Income (NCI Excluded)	MB.	88.84	73.52	97.58
	Financial Position				
	Total Assets	MB.	1,783.10	1,685.72	1,658.20
	Total Liabilities	MB.	434.48	367.19	339.83
	Total Shareholders' Equity	MB.	1,347.99	1,317.97	1,317.77
	Financial Ratios				
	Return on Equity ¹⁾	%	6.66	5.49	7.65
	Return on Assets ²⁾	%	6.58	5.52	7.72
	Gross Profit Margin	%	28.40	30.44	30.59
	Net Profit Margin ¹⁾	%	7.15	6.90	8.37
	Debt to Equity Ratio	Times	0.32	0.28	0.26
	Total Assets Turnover Ratio	Times	0.72	0.63	0.72
	Stock Data Annual Average				
	Par Value per Share	Baht	0.50	0.50	0.50
	Book Value	Baht/Share	2.31	2.25	2.25
	Dividend per Share ³⁾	Baht/Share	0.13	0.10	0.13
	Dividend Payout Ratio	%	86.67	83.33	76.47
	Basic Earnings/(Loss) per Share	Baht/Share	0.15	0.12	0.17

Note: ¹⁾ Net profit/ (Loss) used in calculation.

²⁾ Earnings before interest and finance costs used in calculation.

³⁾ Not confirmed until the approved by the 2023 Annual General Meeting of Shareholders.

⁴⁾ Referring to consolidated financial statement.

⁵⁾ Financial data Y2020 was adjusted EJIP to comply with TFRS 2 Share Based Payment.

1.2.2 Description of Products and Services

Products and services into 5 categories as follow; Fire suppression products and firefighting system installation services, Air-Conditioning and Sanitary Products, Refrigeration Products, Digital Printing Products and 3D Medical and Internet of Things Products



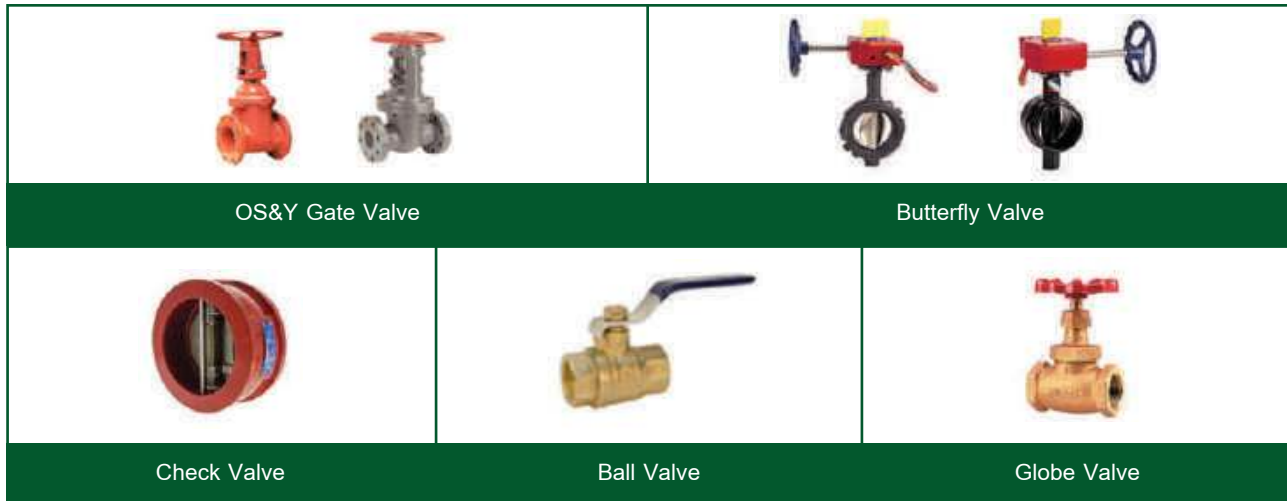
Fire suppression products are part of engineering systems of buildings, small and large factories, power plants, and petrochemical industrial plants, used for prevention, alarming and control of fire and smoke. The products distributed by HARN include valves and fittings that are erected in the fire 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 is 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 to allow for complete functioning of the fire protection system, including other firefighting devices such as Fire protection valve, such as Grooved coupling and fitting, Fire hose cabinet including internal equipment, Fire hose, fire extinguisher and sprinkler systems (fire sprinkler head), Flexible sprinkler and fire pump. HARN is the owner of "Guardian" fire extinguishers brand for fire extinguishers.

Firefighting system installation services; HARN also provides consulting, designing and installation services for all types of firefighting systems such as Foam fire protection system, FM-200, NOVEC 1230, CO₂, Inert Gas and Fire Alarm System in both buildings and factories as well as the petrochemical industry and power plants, in which the demand for fire extinguishing system is likely to increase in order to comply with building and factory control laws that requires a renovation on these facilities to be equipped with a standard fire protection system. It has a skillful engineering team to coordinate with customers, introduce HARN'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, including fire extinguishing system inspection service in which the installation of fire extinguishing systems, fire valves and equipment will be used together with the equipment involved in various fire extinguishing systems, including foam fire extinguishing system, gas automatic fire extinguishing system, fire alarm system and video fire detection system (VFDS).

Fire suppression system products

1. Fire Protection Valve

It is installed in the fire protection system. The valve is UL/FM certified for fire protection system and can withstand a working pressure of not less than 175 psi (pound per square inch). Different types of valves are as follows:



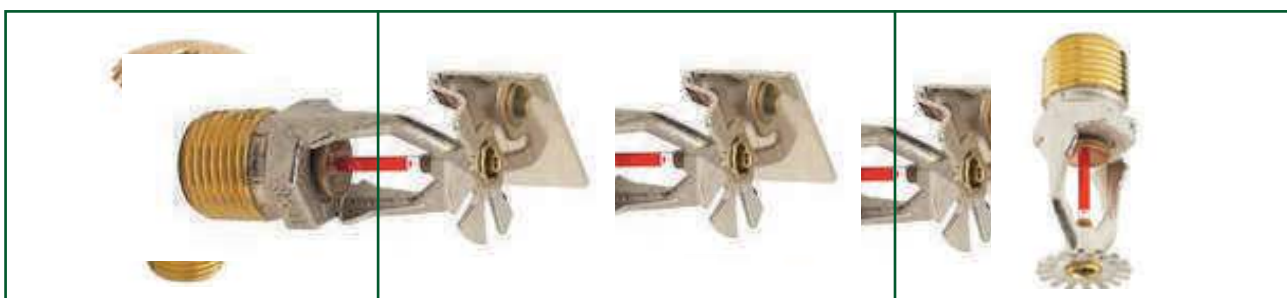
2. Grooved Coupling and Fitting

It is used for connecting pipes in the fire extinguishing system. It replaces the conventional pipe welding with an electric welding machine and a wire to connect the pipes. Some Grooved Couplings can also support expansion and contraction or the movement of pipes and buildings. It can especially connect the pipes up to 10 times faster than conventional pipe welding.



3. Sprinkler

It is used with the automatic fire suppression system to protect property and life, which is likely caused by fire. It also possesses an automatic fire extinguishing feature without control. It can immediately control while the fire is still small, so it stops expansion with less smoke and in a limited area. Moreover, the automatic fire suppression system gives people in the building more time to evacuate the fire.



4. Flexible Sprinkler

It is installed for fire sprinklers, which should be up to 10 times faster than welded installation. It can also be promptly moved, modified or leveled up and down to suit the ceiling level. So, working time is reduced and problems are eliminated.



5. Fire Hose Cabinet and Equipment

- Fire Hose Cabinet

It is a red cabinet for fire extinguishers, with glass in front that can be opened or broken to bring assistive devices out in case of an emergency.



- Hose Valve

It is a valve to supply water from the fire hose system to the outside.



- Hose Station, as follow;



Fire Hose Rack



Fire Hose Reel

It is used to extinguish fuels that contain carbon compounds, such as wood, paper, cloth, garbage, etc. It possesses fire extinguishing properties by having the coolness to extract heat from the fuel materials until reaching the point where it can not be ignited.

HARN owns the brand "Spark" for fire hose kits.



- Fire Department Connection

It is a device for receiving water from outside the building or the fire truck to supply into the building's fire suppression system.

- Portable Fire Extinguisher, it is a fire extinguisher installed inside or outside the building, along with other fire extinguishing systems. It can be used for primary extinguishing while the fire is starting. There are 6 main types (according to substance types contained in the fire extinguisher) as follows:



- 1) Multi-Purpose Dry Chemical, it is filled in a red tank with various types of pressurized chemical powder. It can extinguish fires: Class A, B, C, or perhaps Class D if containing special chemical powder. It is cheap and easy to buy for general areas, such as offices and homes.



- 2) Carbon Dioxide (CO₂), it is filled in red tanks. The end of the hose is shaped like a cone. The injected gas is a very cold vapor like dry ice to reduce the heat of a fire, without leaving any stains. It can extinguish fires: Class B and C, suitable for machine rooms, production lines of various industries, electrical equipment room, etc.



- 3) Water, it is filled in a stainless-steel tank. It can extinguish fire: Class A, suitable for outdoor without conductive media.



- 4) Foam, it is filled in stainless steel tank. When injected, it forms a foam covering the burning fuel surface. Therefore, it can extinguish Class A and B fires, but not Class C because it is conductive. It is suitable for fire extinguishing in the industrial sector or thinner fuel, and flammable, volatile substances.



- 5) Wet Chemical-Kitchen, it is filled in a stainless-steel tank for extinguishing fire: Class K. It is suitable for kitchens to extinguish fire caused by frying oil.



- 6) Halotron-1, it is filled in a red or green tank with clean substances or halotron-1 inside. When injected, it can evaporate by itself without leaving any stains. It can extinguish fire: Class A, B, C, suitable for computer rooms, clean rooms, electrical rooms, and electronic equipment storage rooms.

HARN owns the “Guardian” brand of fire extinguishers.

6. Switch



- Flow Switch, it is a device in the wet pipe fire suppression system. A signal is sent to the control panel of the fire alarm system when the device detects a flow in the pipe caused by the working of a fire sprinkler or fire hose.



- Pressure Switch, it detects pressure in the fire water pipe system. When the pressure changes, it sends a signal to the control room.



- Alarm Gong, it is a sound alarm notification in case of fire. The sound alarm is featured by using water flow as a mechanical drive.

7. Fire Pump, it is for water pumping to extinguish the fire.

Firefighting System Installation Services

HARN provides consulting services for design and installation of various fire suppression systems, such as Foam Fire Protection System, Fire Pump System, Fire Water Pipe System, Gas Automatic Fire Suppression Systems (FM-200, NOVEC 1230, CO₂, Inert Gas), and Fire Alarm System for projects in both buildings and factories, as well as petrochemical industry and power plants, which tend to require more installation of fire suppression systems in compliance with building and factory control laws and the need of renovation towards a standardized fire protection system. HARN has a team of expert engineers to coordinate with customers, recommend products, including designing and presenting products and services according to the international firefighting standards, along with the testing after fire suppression system installation and the system inspection such as using of valves, fittings, and other related devices in the fire suppression systems (Products in item 1). The details of projects for fire suppression systems are as follows:

1. Foam Fire Protection System

it is a system that mixes water and foam concentrate to extinguish the fire, using the principle of foaming or creating foam on flammable liquids to block oxygen from the fuel. The foam fire protection has important equipment as follows:

- **Bladder Tank**, it is used to fill foam fire extinguishers which can extinguish the fire caused by oil.



- **Foam Concentrate**

1. Aqueous Film Forming Foam, it is a foam solution used for extinguishing fires caused by Hydrocarbon fuels such as crude oil, gasoline, diesel, etc., which are not suitable for extinguishing fires caused by Polar Solvent fuels (a fuel that can combine with water such as thinner, alcohol).
2. Alcohol Resistant Aqueous Film Forming Foam, It is a foaming solution for extinguishing fires caused by hydrocarbon fuels and polar solvents.



- **Foam and water mixer and foam injection equipment**



2. Gas automatic fire suppression system

It is a fire extinguishing system in which the extinguishing agent is not conductive, with no leaving of stains, and not causing damages to equipment after the injection of a fire extinguishing agent. It is suitable for extinguishing fires: Class A, B, C, especially the electrical/electronic equipment rooms, including:

- Automatic fire suppression system

1. Carbon dioxide (CO_2)



2. Inert gas such as Nitrogen (N_2), Argon (Ar), Inergen ($\text{N}_2 + \text{Ar} + \text{CO}_2$), Argonite ($\text{N}_2 + \text{Ar}$)



- Automatic fire suppression system FM-200



- Automatic fire suppression system NOVEC 1230



3. Fire Alarm System

It is an alarm system in case of a fire for evacuation and firefighting to reduce the loss of life and property. Main equipment in the system consists of Control Panel, Detectors, sound or light alarm, Manual switch.



4. Video Fire Detection System - VFDS

It applies the principle of image analysis, whether smoke or a flame, in the detection area. This device is connected to the building's control cabinet. If there is smoke or a flame, the device sends a signal to the control cabinet for a notification. Main equipment in the system consists of a Camera, VFDS Sever, Device Alarm box, Monitor



For the operations of various projects, HARN has insurances with insurance companies to protect against damages that may arise from the installation of the system. It considers the nature of work in each job from time to time, such as insurance against damages to the employer's goods/property in case of installing a fire suppression system in the used areas, such as a warehouse where goods are stored, etc. Also, HARN has added protection for bodily injury to employees or agents of the employer. HARN provides regular service by checking the equipment when it expires. If the products or devices are under warranty or in the service contract. In case the products of customers have problems, HARN will coordinate with distributors abroad and consider the causes of damage together to negotiate on product insurance claims according to the product warranty agreement, under the product warranty period of approximately 1-2 years from the date that the products leave the port of the distributing country.

Air-Conditioning
and
Sanitary Products

Importer and distributor of complete
air conditioning system equipment
To create convenience and safety for consumers

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. HARN 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 Stop valve, Pressure gauge, Thermometer (device to measure the temperature and water pressure in the system), Flow Switch, Aluminum Filter, Grooved Coupling and Fitting, Pump Room Solutions, Copper pipe and Copper fitting And Refrigerant, In addition to importing and distributing well-known international brands.

HARN also owns the “Valtec” brand for valves and sanitary and air conditioning products and is the owner of “Koppar” brand for copper pipe products.

1. Water shut-off valve, it is used to control the flow of water, whether off-on or water flow adjustment, as follows:



- Gate Valve, it is for on-off water, with a lot of weight and space required for installation. It is suitable for use in the water pumping room and fire pump room, outside the building or general area. It is not suitable for water flow control.



- Butterfly Valve, it is for on-off water, with lightweight, less space for installation in the buildings or general area. It is not suitable for water flow control.



- Ball Valve, is used for turn on-off the water. It is suitable for small pipes and can turn on-off immediately. There is less leakage because of more valve closed contact.



- Globe Valve, it is for controlling the water flow rate to cause the dropping of water pressure between the front and the back of the valve.



- Balancing Valve, it is for balancing water in the air conditioning system to adjust the flow rate to the desired value. According to the designed state, the amount of water is adjusted to flow into the cool air of the air conditioning system.



- Automatic Pressure Independent Control Valve (PICV), it controls the on-off of cool water and the amount of water flow being sent to the cool air in the air conditioning system to send the coolness as specified.

In addition, to importing and distributing well-known foreign brands, HARN also owns the “Valtec” brand for valves and sanitation and air conditioning products.

2. Pressure Gauge, it is to display pressure values with its units as pound-force per square inch (PSI) and kilograms per square centimeter (kg/cm²).



- Liquid Filled Gauge, it is suitable for installation in vibration areas to reduce the impact of pressure and make the life-longer use.
- Non-Filled Gauge, it is suitable for general installation.

3. **Thermometer**, it is used to measure temperature or heat level, which can be divided into main types as follows:



- **Liquid-in-Glass Thermometer**, it is for general temperature measurement, with the property of expanding liquid when heated and contraction when unheated. It is expressed in Fahrenheit (F) and Celsius (C) degrees.



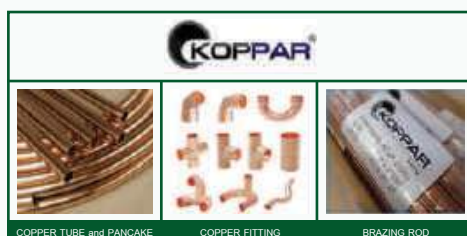
- **BiMetal Thermometer**, there are expansion properties of 2 types of metals. When heated, both types of metals expand unequally. The temperature generally ranges from -75 °C to 550 °C range.



4. **Flow Switch**, it is used to detect the flow of water, with protective properties of water pump damages due to non-flowing water. It is installed in the same direction as the flowing of water in the pipe.



5. **Aluminum Filter**, it is washable and can filter dust and dirt in the air and make cleaner ventilation. It also prevents dust and dirt from clogging in the air conditioner, with a water-washable feature.



6. **Copper pipes and copper fittings**, it is suitable for all types of refrigeration and air-conditioning applications. The copper pipes that HARN distributes come in many types and sizes, including straight pipes (sizes K, L, M), pancake coil, as well as various types of copper fittings. HARN owns the “Koppar” brand for copper pipe products.



7. **Refrigerant**, it acts as a medium for transferring heat out of the passenger compartment by absorbing heat into itself under low temperature and pressure, then transfers heat away from itself at high temperature and pressure. HARN owns the “Yuki” brand for refrigerant products.

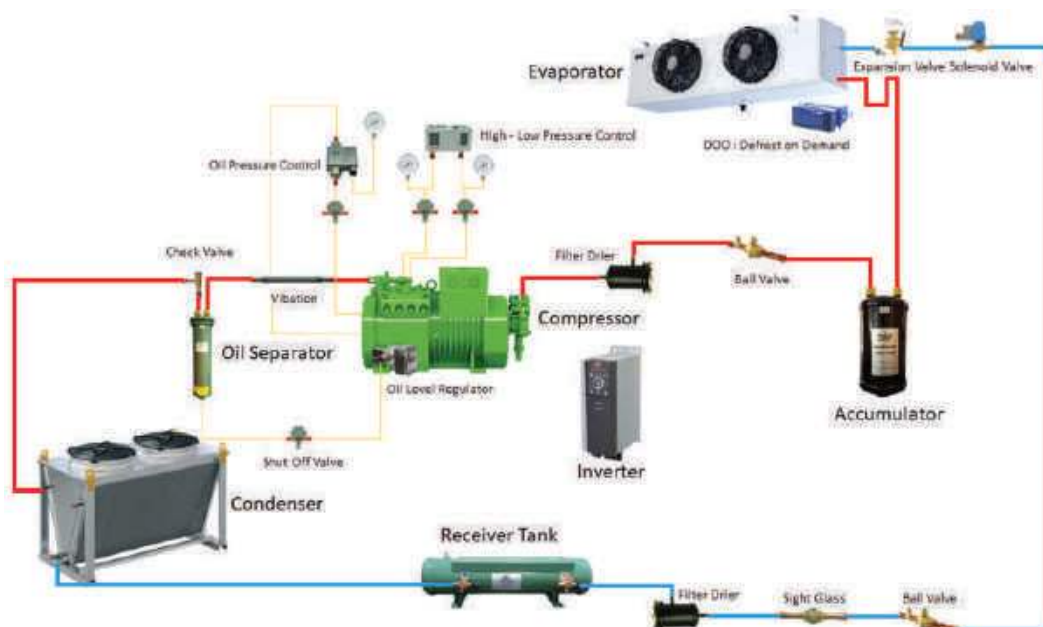


8. **Refrigeration system: Variable Refrigerant Flow (VRF)**, it is an air conditioning system that can change the amount of refrigerant according to the load of cooling and the number of internal units installed. It is also a commercial air-conditioning system suitably for a limited area of installation with hot coil (outdoor unit) because 1 coil can install multiple evaporators (indoor unit). The evaporators can be separated independently, thus controlling the temperature accurately with the view of an orderly-look building.

Refrigeration Products

The leader in refrigeration equipment
Sales And a leading edge in technology Specialized
In refrigeration system design and consulting

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°C and $+25^{\circ}\text{C}$., HARN offers a complete range of refrigeration products, consisting of Compressor, Condenser, Evaporator, Customized evaporator, Inverter, Defrost on Demand (DOD) equipment, Inverter for Compressor and valve in the refrigeration system, had available in many types, as Check-Valve, Ball-Valve, Shut off valve, Solenoid valve and Expansion-valve which is an important device used for starting or stopping the liquid flow and the cooling pressure.



HARN has also designed and produced Condensing units, both single and rack forms, by using a piston and screw-type compressor, including design and production of small cooler set for drinks vending machines 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. It also distributes small ready-made condensing kits of “Danfos” brand for small cold rooms or convenience stores.

1. Compressor

Is used for compressing refrigerants in the vaporized state by creating pressure through the reagent copper pipes to the evaporator, hot coil, and expansion valve. The compressor is one of the components in Condensing Unit.



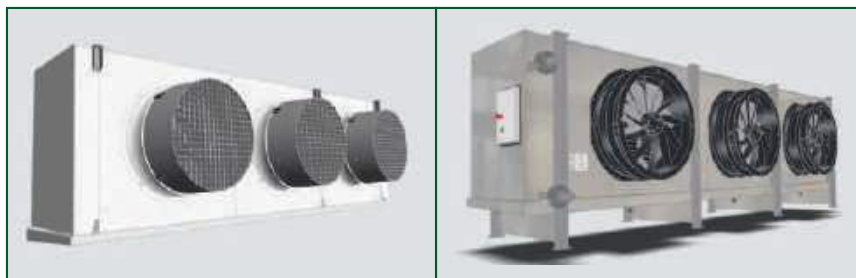
2. Condenser

It is a high-pressure refrigerant condensing device that changes the liquid state from vapor to liquid and takes the heat out of the liquid by Air Cooled Condenser seen from outside of the evaporator and Watercooled-Condenser, using water to cool the liquid.



3. Evaporator

It is a low-pressure refrigerant evaporation device that changes the liquid state from liquid to vapor by bringing the cooling in the evaporator into the room to cool the room temperature with a fan, seen as the installed hanging on the ceiling in the room.



4. Customized Evaporator

it is an evaporator that can be manufactured and designed to match the application very well and support a wide range of applications from the general refrigeration industry to the specific refrigeration industry that requires durable equipment of the highest safety, such as the industry related to chemicals and flammable materials, with a variety of protection, whether it is chemical corrosion resistant, exploding protection (ATEX-Execution), germ protection, etc.



5. Refrigeration control valves include:



- Expansion Valve, it is used to reduce the pressure of the refrigerant in the evaporator to control the evaporation temperature in evaporator valves designed for specific applications for temperature work, Air Condition, Cold Room and Freezer Room.



- Electronic Expansion Valve, it is for reducing the pressure of refrigerant in the evaporator, controlled by an electric signal of high accuracy to increase cooling capacity and provide ease of use, with added value for the cooling system that is able to work in all temperature ranges.



- Solenoid Valve, it is designed for specific applications in refrigeration plants with all voltages and frequency ranges. Valves are also be designed according to customer requirements.



- Shut-off Valve, it is a manual on-off valve designed for installation in the refrigerant pipes on the liquid, suction, and hot gas sides of the refrigeration system. Valves can be connected to copper pipes by welding or screwing.



- Ball Valve, it is a manual on-off valve that can be operated in both directions as required. Ball valves are designed for installation in pipes with high gasket density, making less loss of pressure. It has the maximum refrigerant flow when fully opened. Ball Valve is also designed for operations over wide temperature ranges and approved for use with any fluorinated refrigerants. Standard ball valves may be used in high pressure refrigerant applications, including R410A and CO₂ work with pressures up to 90 bar (1300 psig).

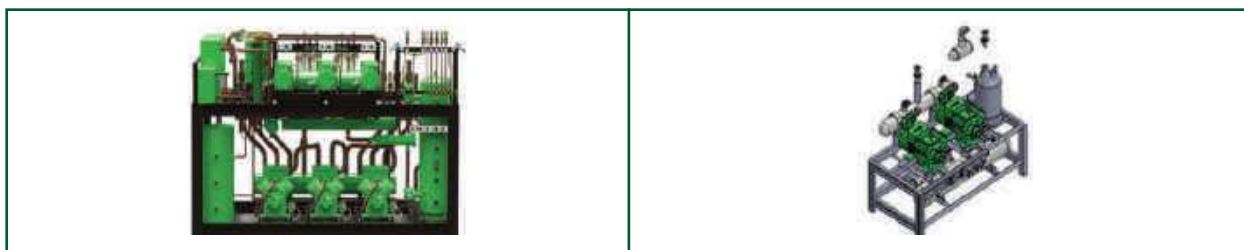


HARN owns the “Blue Ice” brand for its refrigeration equipment products, including refrigeration valves, cooling devices, desiccant devices, pressure gauges, etc.

6. Condensing units

HARN designs and manufactures condensing units according to European standards for long-lasting durability, ease of service, and easy installation, which can be chosen in a variety of temperatures, Ideally for freezer rooms, cold storage rooms, hypermarkets, supermarkets, convenience stores, refrigeration industry, air conditioning system, or areas for economical and efficient room temperatures, available from -30°C to $+25^{\circ}\text{C}$ and with cooling capacities from 4 to 112 kW or 2 to 50 hp, while moving towards data systems with Industrial Internet of Thing (IIOT) as follow:

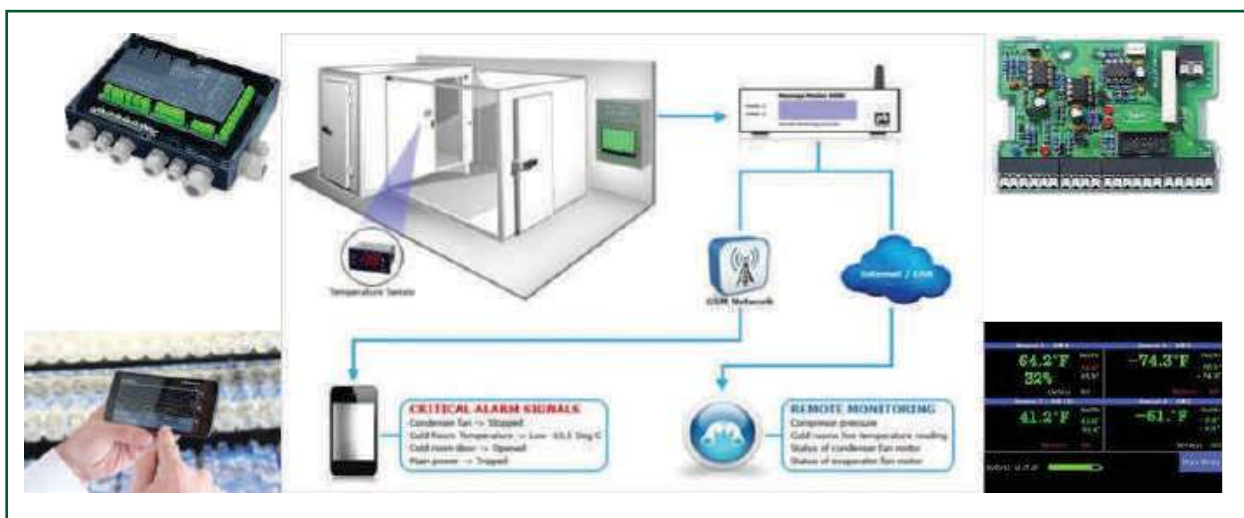
- Multi Compressor Rack (Screw and Piston Compressor), it is a combination of several compressors in the same set to reduce energy costs, save installation expenses and time, lower maintenance costs, and increase longer life of use, and have the greater cooling capacity with a wide range of temperatures. It is suitable for industrial and commercial businesses, such as department stores, distribution centers, etc.



- Control equipment unit, it is for protection and energy saving to reduce electricity costs, as well as remind and prevent problems in the cooling system, lower maintenance costs, and create added value.



- The IOT communication system connection kit connects the entire system to know the working status. It alerts and displays the system status via Bluetooth wireless system, speeding up problem analysis, reducing maintenance costs, and creating added value.



7. Defrost on Demand (DOD)

It is suitable for all kinds of cold rooms to store products. The microprocessor in the DOD helps to control the temperature with power management and humidity level in the air, including the defrosting frequency in accordance with the actual working conditions without any adjustments with difficulties just as other brands of control devices, making it easy to implement with a precise intelligent defrosting control system, as well as the use of the remaining energy in defrosting (Latent Energy) for usefulness. This results in savings of 15 - 25% in energy costs.



8. INVERTER

It helps to control the speed of the compressor to work continuously according to actual cooling load conditions with continuous work control to improve cooling efficiency and help reduce temperature changes in the cooling areas, as well as make the temperature at the cooling point accurate.

As a result, the set temperature is consistent to make the goods stored in good quality and maintain freshness for a long time, while saving up to 40% and extending the life-long use of the compressor. While working, the compressor does not suffer any vibrations.



9. Danfoss Condensing units

It is a small prefabricated condensing unit, with a cooling capacity from 0.7 to 11 kW in the temperature range of +15 to -15°C and 0.6 to 6 kW in the temperature range of -10 to -40 °C. It is suitable for small cold rooms, prefabricated cold rooms, and freezer rooms in restaurants with limited space. It is designed with maximum cooling efficiency, compact shape, low noise, lightweight, and is easy for installation and maintenance.



- Reduce the amount of refrigerant filling up to 35%
- Able to be installed both indoors and outdoors
- Use several refrigerants in one model
- Work at outdoor temperature up to 48 degrees Celsius
- Reduce time for service and maintenance
- Corrosion resistant of Micro channel coil and panel

10. Small refrigeration kit for beverage vending machines

It is compact and can be used with a small refrigerator or automatic beverage vending machine. It is designed to provide maximum cooling efficiency, with durability to cover all functions and energy saving as important in the design.





HARN distributes Digital Printing Products and 3D Medical System such as Continuous InkJet Printer (CIJ), laser printer, Thermal Transfer printer and Label Sticker Printer, Digital UV Inkjet, Packaging printer and other packaging equipment, Printer equipment and various types of consumables including 3D Printer etc. Details are as follows:

- **Digital printing product group for printing of manufacture/expiry dates and lot number**, consists of machine for printer texts on packages, feeder, printing equipment, various types of supplies, etc. HARN's products are coding printers for printer 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.
- **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 education, diagnose, preoperative planning, included medical research and development with digital technology.
- **Digital UV inkjet printer product group**, for printer 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.
- **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.

Digital Printing Products

1. Continuous InkJet Printer (CIJ)



It is used to print the manufacture date, expiration date, and lot number. It can also be applied to almost all surfaces such as plastic, metal, glass, mirror, aluminum, film, paper, wood, and synthetic wood, including smooth, rough, or curved surfaces, making it a highly popular and multipurpose printing technology. It is suitable for automated production lines, semi-automatic or installed with other machines particularly, the printer has a system to prevent clogged nozzles, which can be adaptable to all formats with many ink colors to choose, various properties, low printing costs, energy saving, and environmentally friendly.

2. Laser Printer



It is used to print the date of manufacture. Expiration date, and lot number, etc. on plastic, glass, paper, and sticker products. It is a laser light system using heat to react with printing surfaces as numbers / letters without using ink. It can work automatically by entering the numbers or letters on the control screen and updated according to the real date and time. It has the advantage of saving costs, high speed, production efficiency, less burden of care and maintenance.

3. Thermal Transfer Printer



It is used to print the date of manufacture, expiration date, lot number, logo, barcode, 2D Datamatrix, QR Code, etc., onto film, plastic, paper of smooth surface. Thermal Transfer printer uses the heat of the print head to melt ink for printing numbers, letters on the area size up to 128 mm. with detailed text accurately and clearly. It can also specify the text to be printed on the control screen and update it according to the real-time and date. Moreover, it can be installed for all types of sachets packing machines. Particularly, it is a clean technology, no volatile matters, and high quality, sharp, easy to read, and beautiful. It is suitable for large volumes of data with cost-effectiveness and high speed.

4. Digital UV Inkjet Printer

Label stickers can be printed with the digital technology of high quality, sharp, beautiful, and bright colors at high speed on various materials, such as paper, plastic, foil, and laminate on standard materials from the factory, with good adhesion performance. Color is durable, not easy to fade, which can help to reduce costs for label sticker manufacturers. It can also add special patterns to draw attention to the products, such as embossing on the surface, variable Information printing in numbers, letters, graphics, Barcode, QR Code, 2D Datamatrix, etc.



5. 3D Printer

It is a printer for creating models or forming parts according to the customer's specific designs by printing the workpieces with high-efficiency and high-quality resin to create a model. The workpiece surface is smooth and sharp at every point. It is suitable for printing applications, such as product packaging design, dental, hearing aids, jewelry, and automotive, etc. HARN currently sells and provides 3D printing services for industrial and general customers who want to create prototypes that they need. It has also added a new service for the medical industry in the 4.0 era to convert files from a scanner type of MRI/CT to a 3D PDF file to display high-quality images to clearly indicate normal or abnormal areas. It also includes printing organ models from MRI/CT files to support education, diagnosis, preoperative planning, and digital medical research and development.



6. Packaging printers and other packaging equipment, as follow;

Letter stencils for printing on the sides of large packages which are not suitable for the conveying belts, Hot Foil Printer, roller type printer, high speed labeling machine, Print & Apply Labeler, and a set of date stamps, etc.

7. Printing equipment and various types of consumables

Including printing ink, ink mixture, ink remover, ink ribbon, resin solution, filter kit, equipment spare parts for manual printer, roller and foil sets to print production date, etc.



Aiyarahan Company Limited (“Subsidiary”) operates an online utility tracking system business to help building technicians and project managers monitor their operations of the building assembly system and the historical data so they can reduce their travel time and contact with the job site. In the past year, Aiyarahan installed a total of 8 locations in Bangkok and other provinces. Also, it continually builds new business related to Building Automation System (BAS) for the intelligence building control system to connect between users and the outside world. The main customers include those in real estate and condominium businesses, as well as factories. Before its joint venture with HARN, it used to develop IoT solutions for condominiums, office buildings, middle-class manufacturing plants, with tools and equipment for processing into large amounts of data.



Aiyarahan has witnessed a high level of technological advances in Thailand. The Internet of Things (IoT) is one of the keys to getting information automatically. Thailand has begun to apply it as the quality monitoring systems and the data analysis for any trends. The accurate information can help the business and the industrial sectors to analyze, plan, and forecast in advance. Aiyarahan expects that the Internet of Things will reach a higher demand this year.

In the past, the online utility tracking system consisted of many involved working systems, which can cause the installation to take a long time and high costs. The system is therefore not suitable for finished buildings. For the trend in 2022, Aiyarahan is committed to developing a specific utility tracking system and increasing the ability to communicate wirelessly with easy installation and reasonable prices to reach more customers.

1.2.3 Procurement of Products or Services

Most of the products sold by HARN, approximately 70%, are ordered from many producers from foreign countries, which most of them are producers of leading products related to firefighting system, sanitary system, air-conditioning system, cooling system products and world class digital printing system products. HARN has a policy which focuses on selling quality products and with standards that match with the customers' requirements with procurement and selection procedure to obtain quality products, certified by various credible departments or institutions. In this regard, HARN aware importance of the safety and health of customers is one of the businesses operationally.

In ordering products to sell to the customers, HARN has an advance ordering plan in the appropriate quantity, taking into consideration the market trends, the customers' demands in each time period including the inventory quantity in order to prepare sufficient number of products for distribution, reducing the damage from opportunity loss due to lacking product in the inventory or the inability to source the products on time and enough to satisfy the customers' demands. At the same time, the inventory quantity must be controlled to an appropriate level not allowing the products to be left in the inventory for too long until causing to expire, or damage from depreciation according to period or the over useful life.

There are over 13,000 categories of products sold by HARN under over 60 famous brands. Within this number HARN owns 7 brands and 45 brands that HARN has been appointed as a distributor in Thailand for 5 producer's brands including 2 US producers' brands which are Potter Electric and Weiss, 3 German producers' brands which are KUBA DOD, ESK SCHULTZE and DOD defrost on demand, as well as producers from other countries which are DOMINO (UK), KORTHOFAH (Netherlands) and EDM (Japan). In this regard, HARN is the importer and distributor of each product category as follows;

Product group	Manufacturer	Brand country
Valves and firefighting equipment which includes piping system equipment, groove coupling, fire extinguish valve, automatic sprinkler, fire hose set, fire line, fire hose rack, portable fire extinguisher, chemicals, firefighting foam, firefighting foam equipment, automatic fire suppression system, smoke detection system, clean fire suppressant system, fire and smoke detection camera, etc.	- POTTER ELECTRIC - VICTAULIC - MOYNE ROBERTS - BADGER - GIACOMINI - HYGOOD 5-ELEM - NIBCO - CHEMGUARD - WAGNER - SIEMENS - SRI - GKB - RELIABLE	- USA. - USA. - Ireland - USA. - Italy - United Kingdom - China - USA. - USA. - Germany - Germany - Malaysia - Taiwan - USA.
Valves and sanitary system equipment which includes gate valve, butterfly valve, check valve, air vent, strainer, pipe and piping system equipment, pipe connector, pressure and temperature measuring devices, etc.	- WEISS - VICTAULIC - HONEYWELL	- USA. - USA. - USA.
Balancing valve, PIVC	OVENTROP	Germany
Cooling equipment which includes copper pipe and copper pipe connector, compressor lubricant, cooling agent, compressor, cooling coil, automatic defrost control equipment, energy saving equipment, pressure control device etc.	- Kelvion - DOD - ESK SCHULTZE - BITZER - ABB	- Germany - Germany - Germany - Germany - Finland

Product group	Manufacturer	Brand country
	- DANFOSS - O&F - ZEILABEGG - EBM PAPST - BVA - Suniso 9 LIFE - NARA 3Q - EVAPCO	- Denmark - China - Germany - Germany - China - Belgium - Taiwan - South Korea - Thailand - USA.
Digital printing equipment for packaging system which includes expiry date printer package label printer, workpiece feeder for 3D printing and color sticker label printing including printing equipment and various types of consumables etc.	- Domino - Korthofah - EDM - MSSC - United RIB type - Envision TEC - Materialise	- United Kingdom - Netherlands - Japan - USA. - USA. - Germany - Belgium

HARN selects a manufacturer in order for HARN selects a contract manufacturer to produce HARN branded products by taking into consideration the capability of the manufacturer and the capability of the factory. For each of the brand, HARN chooses to use the same producer who has been a business partner over an extended period, which is a production contract from time-to-time, no long-term production contract is made. In the past, the distribution ratio of products under HARN own brand is considered small in comparison to the imported products from foreign countries. The sales ratio in 2021 and 2022 is calculated at 3.05% and 5.00% of the total revenue.

In this regard, in 2021 and 2022, HARN did not receive order from any one of the manufacturers exceeding 30% of the total order value.

Quality and standard of the products

HARN 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 HARN. The products sold by HARN are mostly certified by the UL (Underwriters Laboratories)³ and/or FM (Factory Mutual)⁴ and/or BS (British Standard)⁵ and/or TIS (Thai Industrial Standards)⁶ and/or EN (European Standard) and/or Vds Standard⁷. As for HARN's OEM, these are produced under BS or ASTM International, including all aspects of HARN's operation is certified by the ISO 9001:2015.

Products Insurance

HARN ensures the damages or defectives of products following the insurance conditions of the products that HARN distributes or installs for the customers for 6 months to 1 year or for the machines and the spare parts, respectively. The products of HARN had been insured already by the suppliers for similar time.

For project sales, after completion of installation work, HARN ensures the installed products under the conditions for 1 year where the suppliers also ensure the products to HARN for 1 year as well and may consider purchasing additional warranty from the seller in case the customer wants a longer warranty.

³ 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.

⁴ Factory Mutual (FM), responsible in testing protective and fire extinguisher equipment of the insurance group in the USA.

⁵ British Standard (BS), safety standards by the British Standard Institution (BSI)

⁶ Thai Industrial Standards (TIS), industrial standards, products guaranteed by the Thai Industrial Standard Institute.

⁷ VdS is an independent institution that tests fire prevention and extinguishing equipment That guarantees safety And reliability in the field of fire protection and safety Germany

Processes of storing products in warehouses and transportation products

HARN has 3 warehouses: as follow;

The main warehouse, is located at 888/14-16 Moo.21, Bang Phli Yai, Bang Phli, Samut Prakan 10540. The rental area covers 6,374.23 square meters which HARN owns the ownership to store valve products and other products in Fire protection system, Air-Conditioning system, Sanitary system, Refrigeration system and Digital printing system. This place is also used to assembly equipment's on a made to order basic.

The 2nd warehouse, is located at 509, Soi Soonvijai 4, Bang Kapi, Huay Kwang, Bangkok 10310. Is rented from a person related with HARN to store products, assembly and maintenance of printers and equipment in digital printing system. This place is also used to assembly equipments on a made to order basic.

The 3rd warehouse, is located at 38/43, Moo 4, Lam Luk Ka Road, Lam Luk Ka, Lam Luk Ka, Pathum Thani 12150. This place covers 80 square meters and is rented from an outsider who provides the warehouse service and is not involved with HARN. It is used to keep hazardous chemicals that purchased from manufacturer and wait to distribute to customer or use to install the fire protection system for customer.

Processes of storing products in warehouses

Warehouse staff prepare space to store and a bar code product as details receives from a purchasing staff to check correctness and make an acknowledgement receipt. Which warehouse staff will inspect product type, quality, quantity, bar code, and acknowledgement receipt to correctness. Then, will store products in warehouse, placing products came first outside and products came later inside for convenience in next distribution and control quality of product before reaches customer. In case of incorrect purchasing and product defect/ damage, the warehouse staff will report to the purchasing division in order to examine as well as inform manufactures, and/or the insurance.

Processes of transportation products

Delivery staff record a picking list and makes a delivery control note to the warehouse staff for check name of customers, product quantity, delivery place, and to plan a logistic route, in order the sales division will have data to inform customer an appointment about the estimated delivery time. Also, packing staff to collect documents related for all delivery to transportation providers who contracted by HARN for check type, detail, and total of products delivery, then, sign on the delivery control note as evidence. Afterthat, deliver to accord to route specified, which control the service and safety by DVR on Mobile system, so customers can be assured of safety and accuracy when delivering the product correctly and completely. In case of emergency delivery or appointment for advanced shipping, the packing staff will receive a delivery note from salesperson and coordinate with the to transportation providers who contracted by HARN.

HARN distributes products from warehouses to customers (shipping cost included in product price) by HARN trucks and other delivery trucks hired from the transportation operators outside who are not involved with HARN. Now, operators are selected and registered as the approved vendor list (AVL) by our HARN. We also have insurance for products kept at warehouses to prevent damage or accident during storing and operating in case of fire, lightning strikes, earthquake, storm, flood, and other accidents in warehouses. Now, the insurance covers assets at the Head Office and products at warehouses. As of 2022⁸ our HARN have insurance on product shipping domestically for high value purchasing to prevent loss or damage from accident, during lifting product to the delivery truck and transporting on truck. HARN is an only beneficiary and from 2012 until present we never claim damage from a serious accident except for some minor accidents from moving products at warehouses, costing less than Baht 10,000 in each time.

Marketing Policy

HARN commitment to be the leader in distributor and 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 enhance the quality and the safety of the consumers life with high quality products, modern technologies, sales and services that are fast, accurate and worth the value, including the provision of expertise consulting, which create customer's satisfactions, differentiate

⁸ HARN's will determine a sum assured in each year according to asset values from the latest financial budget before having insurance and review the increase/decrease of insurance amount as appropriate

and increase the ability to compete, including securing the brand loyalty in the long term. Also, creating articles communicate engineering knowledge via facebook and website of HARN to knowledge understanding of customers and general consumers, with competitive strategy as follows;

Selling quality products with recognized standards

Focus on selling quality products with globally recognized standards where HARN shall select quality products especially building engineering system products such as firefighting system, air-conditioning system, sanitary system and cooling system, including digital printing system products which greatly importance to safety, product storage process and the continuity of production process. Therefore, it is crucial to select good quality products which are certified by international standards and suitable to the customers' needs, well known products which are popular and widely accepted in the market, to build trust, confidence and customer satisfaction continuously.

Expand range of dealership

HARN plans to expand the range of dealership in building engineering products which include firefighting system, air-conditioning system, sanitary system and cooling system as well as digital printing system where the products will be ordered gradually in order to increase customers' choices whereby the customers' needs will be supported in all groups of product standards. Furthermore, HARN shall increase the number of personnel to be sufficient with the business expansion, especially in the work in firefighting system installation projects and other building engineering system work. HARN pushes to have adequate number engineers to support works in projects which are increasing in amount and value.

Offers a variety of products in complete range with sufficient stock to meet the customers' demands without leaving the customers to spend much time waiting for the products

HARN is one of the distributors of complete range of building engineering products by being the leader in business of importing and selling products in firefighting system, cooling system, air-conditioning system and sanitary system including digital printing system, with a large selection of products. Most of the products sold are imported from other countries which takes time in ordering and waiting for the products to be transported into the country. HARN therefore must do a sales projection, make plans for product orders and keep an appropriate amount of stock in order to have sufficient current products to meet the customers' demands and able to deliver the products to the customer in a timely manner without delay which may damage the sales and the opportunity of a return customer. At the same time, HARN will not overstock that it would contribute to a high cost of stock keeping, until causing damage from depreciation according to period or the over useful life.

Organize promotional activities to boost sales

HARN organizes promotional activities on a regular basis such as participation in trade shows to create awareness and reach the target customers directly. There are product seminars for project designers and clients to create product familiarity for them to choose the products that HARN sells. There are advertisements in the various magazines which relate to the business of HARN as well as sending invitations to project designers to join activities in visiting the factories of producers in foreign countries, who are famous in global market, in order to study the technology and gain new perspectives on the concepts of building industry to elevate the standards of construction in Thailand, which is one of HARN CSR policies, and building confidence in the products imported by HARN to be sold leading to their choosing of HARN products to be used in the various projects with confidence.

The year 2022 was still a year of recovery from the COVID-19 pandemic and the spread is likely to be under control, therefore, HARN has moved forward with organizing exhibitions, product seminars, product selection training for customers, as well as other sales activities both domestically and internationally. However, the health and safety of the participants in the mentioned activities were prioritized under the operation and measures to control the spread of COVID-19.

Pricing Policy

HARN policy on pricing is Cost Plus Pricing whereby the determination of HARN products selling price must be flexible and suitable to the characteristics of each product, distribution channel, target customers, volume and value of the orders as well as taking in consideration the market price of that product, which in some instance, a discount may be given in accordance with the market conditions and the competition in that moment in order to remain competitive in the market. At the same time, the gross profit margin must be maintained at a level that can support the cost of sales, administration and other operations.

Regarding pricing for project works, HARN mainly determines the service charges in accordance with the customer's budget and the cost of each project where there shall be flexibility in the quotations given in order to compete with other competitors in the market, while at the same time, importance must be given to the quality of service as well as the products and equipment used in the task, in order to build continuous credibility and trust from the customers. Moreover, in offering quotations, HARN must achieve adequate level of gross profit margin to support the cost of sales, administration and other operations.

Target Customers Groups and Distribution Channels

HARN main target customers are customers in building construction projects, government sector or industrial plants such as shopping malls, office buildings, condominiums, BTS skytrain projects, underground subway projects, government buildings, factory buildings, cold storage buildings and warehouses, including international contractors from Korea, Japan and USA for large petrochemical and power plants, as examples, that require an installation of building engineering system such as firefighting system for safety in accordance with building control laws, sanitary and air-conditioning system in buildings or factories, cooling system in cold storage or system room. HARN clients may be direct clients who hold the ownership of the construction project, or project contractors who purchase HARN products to install in their projects, as well as stores or distributors of products related to the various systems who purchase HARN products to resell to project contractors or direct users, in which HARN has always have a good relationship the mentioned group of clientele. Moreover, there are groups of clients who regularly order HARN products because of their confidence in the quality and the safely of the products, in which most of them have received international standards certification, combining with excellence service by the sales team who possess great knowledge about the various products. However, in 2021 and 2022, HARN does not have any clients who's spending exceeds 10% of total revenue from sales and services.



HARN sells all products in the country by HARN Sales & Marketing team which currently there are 160 employees with sales responsibilities divided by each type of product including the sales of project works. The Sales & Marketing team are responsible for customers' contact, attending to the customers' needs and product presentation to the customers as well as continuously coordinating with the producers or business partners to recognize the current customers' demands and future demand trends including the products' detail, trends of products' quantity and price from the producers in the market for the benefit of effective planning, sales and product pricing.

Most of products HARN receives advance orders from the customers for most of the products sold where there is a time period to prepare the purchase and delivery to the customers as per the agreement, in which most of the time the customers will inform their specific requirements to HARN including the products' standards, the source or the producers, in order for HARN to be able to offer the products as per the customers' needs along with quotation and other sales conditions. Most of the products distributed are from producers whom the customers trust and in compliance with the standards used in the works of firefighting system, air-conditioning system, cooling system and digital printing system, customers therefore continuously trust in HARN's products. In this regard, HARN distribution channels are divided into 3 main channels as follows;

1) **Main building contractors or system contractors**, it sells to construction building projects, government projects or industrial factory projects and cold storage contractors, as examples, in which the contractors shall source the products or install HARN products in the various projects in accordance with the specification that the project designer has outlined. Most of HARN sales are through this distribution channel or calculated at 49.10% and 51.55% of the total revenue from sales and service in 2021 and 2022 respectively.

2) **Retail or related product suppliers**, distribution through this channel enables HARN to distribute the products more widely. The sales ratio through this channel is calculated at 8.19% and 6.61% of total revenue from sales and service in 2021 and 2022 respectively. Additionally, in some cases the aforementioned retail or distributor are also HARN business partner that sells some products to HARN in order to install in a project according to the customers' request or to resell to the contractors who have ordered products from HARN in which the mentioned product may be a product from other producers that HARN does not distribute or is a product that doesn't have such a high demand in the market and HARN does not keep it in stock, for example.

3) **End user**, is a distribution directly to the owner of the building, industrial factory or general users where it is a sale of digital printing system that includes products and/or service in a form of installation project work on firefighting system and other various engineering system that HARN is equipped the aspect of engineering and manpower, design, installation, inspection and maintenance service for the firefighting system as well as being distributed to the general retail users, however, the quantity is not significant and the volume of order per transaction is not of high value. The ratio of distribution through this channel is calculated at 42.71% and 41.84% of total revenue from sales and service in 2021 and 2022 respectively.

1.2.4 Innovation Development

In 2022, the COVID-19 outbreak resulted in the sluggish economic system. HARN therefore took the period throughout 2022 to develop the IoT system related to the refrigeration business or the "Telechill S2 project." A model room for cold storage was successfully created to show many forms of energy saving innovation, along with the wireless monitoring system for cold storage by keeping all different data on the Cloud. In 2022, there were 2 seminars for customers in the cold storage business, namely "Smart Solutions Refrigeration System" (70 participants) and "Energy Saving Equipment in the Future" (30 participants), in line with "Telechill S2 Smart Solution" for innovation at the Office of HARN Engineering Solutions.



At the end of 2022, the Board of Directors resolved to support the creation of innovation within the organization, starting from a culture wherein employees and executives could brainstorm ideas. The management recruited a team of consultants with expertise in design thinking to join activities with a group of 25 talent employees express knowledge through creative ideas, this is a project beneficial to the organization, it can reduce operating costs, develop effective work processes, taking into account social responsibility, environment and governance (ESG) to support sustainable growth. Such activities would also continue at the early year of 2023.

1.2.5 Marketing and Competition

HARN has engaged in import and distribution of Fire Suppression products, Air-conditioning and Sanitary products, Refrigeration products and Digital Printing products for industrial, and providing IoT products and solutions system development services, 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, HARN'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. Nevertheless, HARN has the ability to distribute business risks, which is demonstrated by the Refrigeration business and Digital Printing business being correlated to the food and packaging industry, which is different from the fire extinguishing system business and the air-conditioning business.

Thai Economy in 2022

The Thai economy in the 3rd quarter of 2022 expanded by 4.5% (%YoY) improving from 2.3% and 2.5% in the first quarter and 2nd quarter of 2022 respectively and when the results of the quarter are adjusted, the Thai economy in the 3rd quarter of 2022 expanded by 1.2% from the 2nd quarter of 2022 (QoQ_SA). In the first 9 months of 2022, the Thai economy expanded by 3.1%.

Export of goods was valued at USD 219,791 million, expanded by 10.2%. The proportion of imports amounted to USD 204,917 million, expanded by 20.7%, and resulted in a trade surplus of USD 14.9 billion (Baht 502.1 billion).

Production in agriculture, forestry and fisheries Production in agriculture, forestry and fisheries increased by 2.7%, an improvement from 1.7% in the same period last year with the agricultural production index rose by 2.8%, the agricultural price index rose by 11.2%, and the overall farm income index rose by 14.4%.

The industrial production sector increased by 2.5%, compared to a 5.3% increase in the same period last year with the manufacturing production index increased by 2.8%, the average capacity utilization rate was 63.40%.

The wholesale and retails sector, vehicle and motorcycle repair increased by 3.1%, an improvement compared to a 1.3% increase in the same period last year.

Transport and storage sector increased by 9.9%, accelerating from 5.2% in the previous quarter mainly due to the accelerated expansion of air and land transportation and pipeline services.

Transport and storage sector increased by 6.4%, an improvement compared to a 4.9% decline in the same period last year.

Thai Economy Trend

In 2022; is expected to expansion by 3.2%, improving from a 1.5% in 2021, expected to inflation rate is at 6.3% and the current account is at 3.6% of GDP.

In 2023, expansion is expected at between 3.0 - 4.0% with key supporting factors from the recovery of the tourism sector, expansion of investment both from private and public sectors, the continuous expansion of domestic consumption and the favorable growth of the agricultural sector. In this regard, private consumption is expected to grow by 3.0%, the proportion of private investment and public investment by 2.6 and 2.4%, respectively, and export value in terms of US dollars to grow by 1.0%. Average headline inflation is in the range of 2.5 - 3.5% and the current account surplus is 1.1% of GDP.

Details of economic projections in 2023 in various aspects are as follows:

1. Consumption spending

- Private consumption expenditure is expected to expand by 3.0% in 2023, compared to a high growth of 5.4% in 2022, supported by the expansion of the income base in the economy and the labor market that tends to recover continuously, and

- Government consumption expenditure is expected to decrease by 0.1%, compared to a 0.2% decrease in 2022, in line with a decrease in the fixed expenditure budget under the 2023 annual expenditure budget of Baht 2,489,923 million, down by 1.8% from the budget of Baht 2,535,682 million in fiscal year 2022 and a decrease in spending under the Royal Decree (The Royal Decree empowering the Ministry of Finance to grant the Ministry of Finance the power to borrow money to solve problems, heal, and restore the economy and society affected by the outbreak of the Coronavirus Disease 2019 B.E. 2563 (2020)) of Baht 1 trillion and Baht 500 billion.
2. Total investment is expected to increase by 2.5% compared to 2.6% in 2022 with:
 - Private investment is expected to expand by 2.6% in 2023, compared to 3.9% in 2022, in line with the global economic slowdown and export sector, while.
 - Public investment is expected to grow by 2.4%, up from a 0.7% decline in 2022, in line with an increase in the capital expenditure budget under the annual budget of Baht 695,077 million, an increase of 13.5% in 2023 from a budget of Baht 612,566 million in fiscal year 2022, including support from progress in the implementation of major infrastructure investment projects of state enterprises.
 3. The value of merchandise exports in US dollar terms is expected to increase by 1.0%, compared to 7.5% in 2022. Merchandise export volume is expected to increase by 1.0%, decelerating from 3.2% in 2022 according to the trend of economic slowdown and global trade volume. The proportion of export prices is expected to grow in the range of (-0.5) to 0.5%, compared with 4.3% in 2022, while exports of services are likely to grow in line with the number and income from foreign tourists. In the base case, the revenue from foreign tourists in 2023 is expected to be Baht 1.2 trillion, compared to Baht 0.57 trillion in 2022, resulting in the export volume of goods and services in 2023 likely to increase by 8.5% compared to 8.2% in 2022.

Macroeconomic Policy Management Issues in 2023

The administration of macroeconomic policy in 2023 should focus on:

1. Overseeing and solving debt problems of retail debtors both in the household sector and in the small and medium business sector (SMEs).
2. Monitoring agricultural production and farm income by restoring agriculture affected by floods and preparing measures to support agricultural products that will be released to the market during the 2023/2024 planting season.
3. Maintaining the momentum from product exports by:
 - Exporting products to markets with good economic growth prospects and creating new markets for potential products,
 - Monitoring global economic and trade conditions to take advantage of the economic and trade policies of major economies,
 - Development of agricultural products, food, and industrial products to have quality and standards that meet the requirements of importing countries,
 - Taking advantage of the Regional Comprehensive Economic Partnership (RCEP) framework coupled with accelerating the negotiations of FTAs that are currently in the process of negotiations, and
 - Encouraging the business sector to manage risks from exchange rate volatility.
4. Supporting the recovery of tourism and related services by:
 - Resolving problems and preparing the tourism sector to fully support the return of foreign tourists,
 - Promotion of high-quality and sustainable tourism development,
 - Organizing tourism promotion activities and related activities, and
 - Promotion of domestic tourism.
5. Promoting private investment by:
 - Overseeing the liquidity for the business sector amid rising interest rates and a slowing global economy
 - Accelerating the process for entrepreneurs who have been approved and issuing BOI certificates during 2020-2022 to encourage investments especially investment projects in targeted industries
 - Solving any problems that foreign investors and entrepreneurs that they are obstacles to investment and business operation
 - Implementing proactive and facilitating investment promotion measures to attract investors in the targeted industries;
 - Promoting investment in the Eastern Economic Corridor (EEC) in various special economic development zones;
 - Driving investment in developing economic areas and important transportation infrastructure; and
 - Developing high-skilled labor force; and

6. Driving public spending and investment; and
7. Monitoring and surveillance the volatility of the foreign economic and finance.
8. Monitoring and surveillance to cope with the pandemic and the new strains of COVID-19.

Source: Macroeconomic Strategy and Planning Division, Office of the National Economics and Social Development Council

Fire Extinguisher, Air-conditioning and Sanitary Business

Marketing

The market condition of the fire extinguishing and air conditioning system business, in 2022, there increase sales from last year about 29% due to the COVID-19 situation that continued to improve, customers are confident that the situation will return to normal, as well as the constructions of projects that have slowed down during the COVID-19 period have started to return to accommodate more buyers, thus the department has more sales from the previous year. However, in 2022, HARN still has products delivered too many large projects. There is a push to sell products and new innovation that responds to the contractors' work of installation projects to be able to work faster and easier with fewer workers in response to the problem of labor shortage which has had an increasing trend. Moreover, has added products in the air conditioning system, a VRF system product and copper pipe product group, to help increase sales. According to the COVID19 mutation to omicron, we can see that it is less violent. Therefore, expected that the situation in 2023 will begin to improve accordingly. However, in the year 2023, we expect to face the problem of the continuous increase in the price of products and constant currency fluctuation, which may affect the cost of goods to some extent; therefore, the management of the number of products in the warehouse still needs to be emphasized so that we can manage the cost of goods to gain more profit than last year.

Air Conditioning System and Fire Extinguisher Equipment

The overall image of 2022, the total revenue of both systems increases from 2021 about 24% because the COVID 19 has improved, as a result, the construction of many projects was expansion, especially the construction of condominiums and factories, thus improving the demand for fire-fighting equipment and notice that some products groups have increased the sales number. For example, the Flexible Sprinkler, a product in the fire suppression system, has increased sales by 85% due to the labor shortage, where customers need faster projects installation and fewer people to install. Therefore, such product is popular and has increased sales significantly. As for the air-conditioning system, have started marketing seriously VRF products to sell and added marketing of sell copper pipe along with of both. Focused on the market that the public utility sector, hospital sector, and industrial plant sector are likely to return to expansion, and from the market trend towards the end of 2022, it was found that there were more shipments than the middle of the year and there was an increase in purchase orders. Therefore, it is a good sign that the situation in 2023 will be better than 2022. In addition, HARN has introduced new products very often to the market, such as the Flexible Sprinkler and VRF and Copper Pipe, etc., which help customers who are contractors to install work faster and save labor costs.

Extinguisher System for Industrial Projects

Overall, in 2022, sales increased about 2.9% compared to the previous year, due to the COVID 19 has improved, which resulted in various projects beginning to install and take delivery of products from many customers. In 2022, the customer group with the highest purchases was still the group of constructors with 89% of total product sales and the top-selling products were Hygood brand products.

It is expected that the sales will increase in 2023 from the accrued revenue of about Baht 90 million from 2022, which the revenue recognition is expected to be about Baht 65-70 million in 2023 and there is a high chance that there will be many more jobs from auctions. The fire suppression inspection services have good growth prospects from the existing customer base in 2022. The sales performance has increased continually from 2021, and new service customers that will increase after the end of the project warranty period that HARN has installed.

Extinguisher System for Petrochemical and Power Plant Projects

Overall, in 2022, sales increased about 280% due to the extension of the construction period on the COVID-19 have begun the installation work and calling products to the unit. Overall, this market is still slowing because it is a large project, which requires a high investment budget and a long project period, so investors continue to wait and monitor the situation.

In 2023, has backlog orders is approximately Baht 29 million. There are still large-scale projects waiting for a price summary, it is also expected, which HARN has a high chance to win the auction. The total work value is approximately Baht 80-110 million from the petrochemical industry, including improvements, additions and expansions of the power plant section of the additional fire suppression system in the next phase.

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 HARN are companies that distributes the products from overseas in which the numbers are not extremely 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 HARN as well. When considering the market share of HARN by comparing with the revenue of the 3 main competitors who holds approximately 80% of the market share, HARN owns about 25% of the market share. Our fire protection product sales presumably occupy 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

In the past year, the competition remains fierce. However, due to the large market size and the large diversity of HARN products as well as product acceptance by customers, as well as there is an increase in the searches for products in the group of sanitary and air-conditioning system, therefore a continued growth is anticipated with greater distribution channels to the customers. HARN has the advantage of selling various products that are well known in the market and can reach both general customers and contractors equally.

The main competitors are companies that are the distributors of the products valve are installed air-conditioning systems with water 5 competitors, water control valve (PICV) 5 competitors, water pressure temperature devices 2 competitors, and VRF air-conditioning 2 competitors, when comparing the all revenue of the fire extinguisher, air-conditioning business with 22 other competitors, accounted 3% of total market value.

Refrigeration System Business

Marketing

As for the refrigeration market in 2022, the overall competition in the cooling system business showed high competitions in terms of prices, product quality and the availability of the products for distribution. The best-selling products in the past year were condensing units and small refrigeration units, of which customers have confidence in the design and production by HARN, including HARN's accumulated experience in machine assembly that made production fast and error-free. The second-best selling products were evaporator products, which were sold to many customer groups, such as convenience stores, industrial plants, and cold storages. In today's refrigeration market, there is high competition from both domestic and international distributors,

including the situation of raw material shortage and the fluctuation of the baht inevitably resulting in higher product costs. In addition, the tensions between Russia and Ukraine directly affect energy prices, causing producers to bear additional costs. As an overview of project work in 2022, there were ongoing projects related to distribution centers and food factories due to the situation of COVID-19 that continued to improve, which led to entrepreneurs resuming their operations according to their previous business expansion plans. The industries that drove the growth of refrigeration systems were:

1. Frozen Food Industry

For Thailand, there are several groups of frozen food exported around the world, with main export products include frozen fresh fruits and vegetables, frozen seafood, and fresh and frozen chicken. According to data from the Ministry of Commerce, during January - September 2022, Thailand exported chilled and frozen food of more than Baht 87,896 million, which was greater than the full year's export value in 2023.

The frozen food industry has continued to grow under the situation of the COVID-19 outbreak as a result of changing consumer behavior, with modern consumers focusing on convenience and speed, coupled with the work-at-home culture that has made the frozen food business grow steadily, and frozen food can be kept fresh for a long time. The frozen food business has attracted interest from both Thai and foreign investors, referring to information from the Ministry of Commerce that mentioned a significant increase in the registration of frozen food businesses in Thailand over the past 2 years.

In addition, the frozen ready-to-eat food industry is another industry that throughout the past COVID-19 situation has changed for the better due to changing lifestyles. Most of the frozen ready-to-eat foods are mainly produced for domestic distribution with a variety of distribution channels and easy access for consumers such as convenience stores that have a large number of branches in line with the continuous expansion of urban communities in Thailand.

2. Retailing business

As for the retail business in the category of discount stores and supermarkets in 2022, there has been a gradual improvement. The supporting factors came from the government's economic stimulus, as well as the increase in agricultural income and the recovery of tourism sector from the gradual opening up of the country, which lead to the recovery of the tourism sector, including the online distribution which brought good results for supermarkets and wholesale businesses of food and daily necessities. There were ongoing improvements to existing branches in order to make more efficient use of the available space, and the entrepreneurs continued to expand branches in large communities in order to serve consumers more comprehensively.

The overall image of Thai retail trade: in 2022 Began to recover gradually according to the opening of the country and the arrival of foreign tourists, and more spending by domestic tourists. However, it continued to be affected by inflation and household debt problems that resulted in a decrease in spending.

Discount store / Hypermarket: Over the past year, hypermarkets and discount stores that combine multiple product categories in one place have grown with store expansion across the country, and most target customers are middle-income or less. Price competition within the business remains intense as the products sold are similar to those sold in other retail outlets such as convenience stores and supermarkets. They also had to compete with retailers selling cheaper branded products to seize market share as consumers nowadays focus on buying cheaper products due to the economic slowdown.

Thailand's major export products according to the Structure of world export products

Product	Product		
	2020	2021	2022*
Fruit, Frozen	8,062	11,596	13,973
Vegetables, fresh chilled, frozen	7,744	9,471	7,441
Shrimp, fresh chilled, frozen	19,387	21,741	17,678
Squid, fresh chilled, frozen	8,040	8,566	8,091
fish fillets and fish, fresh chilled, frozen	12,194	12,682	10,862
Crab, fresh chilled, frozen, steamed or boiled	886	1,417	1,029
Chicken, fresh chilled, frozen	28,335	28,831	28,182
Duck, fresh chilled, frozen	566	543	640

The value 2022, is in the range of Jan. - Sept.

Source: Office of the Permanent Secretary, Ministry of Commerce and the Customs Department

Supermarket: It is a group whose target customers are middle to high-income customers, with strengths in quality and variety of products. In 2022, there has been steady growth due to the expansion of branches into various cities with high purchasing power, as well as further development in terms of online distribution channels.

Convenience store / Minimart: In 2022, it was still able to grow amid the COVID-19 situation at the beginning of the year by focusing on the strategy of selling ready-to-eat food products and home delivery services, which helped boost some sales. At the same time, we also saw that large, branded hypermarket operators have opened smaller stores in the market to compete for market share in this group. This made the competition in this market continued to be more intense.

3. Compact refrigeration business group

To distribute products to the consumer's hand, and with the advancement of technology, the distribution of products is not limited to general stores only. Vending machines are one of the channels developed from technology, which the automatic kiosk can distribute products to make it easier to reach consumers and able to meet the needs of both consumers and business owners with low investment, lower rental fee and requires less space. It can be easily added into high-priced locations, making it accessible to all areas. It transforms small space into a valuable retail space that can distribute product quickly, conveniently and round the clock.

Many types of products in a vending machine must be stored in a low temperature cabinet so that the products can remain their freshness, thus a small cooler is required to maintain the product temperature. This is the market opportunity to expand the refrigeration business in the vending machine group, which the trend is currently growing. There are around 21,100 machines presently and it is expected that from now on, the level of expansion will skyrocket from the ability to provide greater convenience. In particular, the payment for the products is not limited to coins or banknotes, but various types of payments are accepted such as QR code, e-wallet, and credit-debit card. Such factor contributes to the expansion of compact refrigeration business into vending machine market as the new market that has a potential to continue growing.

Competition

Importing and distributing products for refrigeration system

In 2022, the overall domestic market was still highly competitive in terms of product prices and speed of delivery. However, many distributors have increased the product price, but also imported lower-priced goods from China to add more options for the customers to be able to reduce the cost of building a cold room. In addition, the products related to IoT systems have also begun to be sold in order to create distinctive features and added value for each product brand because today's young entrepreneurs are more interested in controlling and communicating in the form of digital data. As a result, the cold storage industry has to adapt to the times, whether it is the introduction of wireless cold storage temperature and working status monitoring technology to meet the needs of this group of business owners. In 2022, there were projects that started to resume, resulting in the delivery of goods in many large projects. There are also a number of big projects waiting to be delivered in 2023.

As for the competitive situation of the refrigeration business as a whole, it is still under pressure from many aspects whether it is from the cost of the main raw materials used in the production of refrigeration parts that have increased significantly recently, including copper pipes and steel, which are the main raw materials used in the production of parts of the cooling system, causing the cost of importing products to increase, and along with the shortage of production materials such as brass and electronic chips, caused significant delays in shipments. However, in the sales of refrigeration systems, there were still advantages in terms of advanced stock preparation and the readiness for service in unusual circumstances to respond to customer needs quickly. Furthermore, in the past year, we were able to produce a large number of condensing units and compressor racks in the market and received satisfaction from customers in terms of quality and good after-sales service.

Digital Printing Business

Marketing

The main target groups of HARN'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. HARN 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.

Competition

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; and 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 extremely 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 top 10, representing a total sale of Baht 2,062.77 million, accounted 76.80% of total market value. However, Digital Printing System Business has increases the revenue 5.63% when comparing the total revenue of top 10 of increases 5.03%, and is among the top 3 in the market with approximately 13.47% (Source: Department of Business Development, sales in 2021).

1.2.6 Undelivered Project

As of December 31, 2022, there were backlog order total about Baht 464.43 million (excluding subsidiaries), 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 Baht 350 million, Refrigeration products total about Baht 86.05 million and Digital Printing products total about Baht 28.38 million. PO have been awarded by customers and wait to be delivered in 2023.

1.2.7 Business Assets

Investment properties

As at 2022 HARN's investment properties which can generate profit from rental or from value appreciation or both. The net book value of HARN's investment properties less accumulated depreciation and allowance for impairment the total shown in the consolidated, details as follows:

Unit: THB million

Investment properties	net book values as of December 31, 2022	Proprietary nature	Obligation
1. Land	135.29	HARN's owned	None
2. Buildings and structures	17.38	HARN's owned	None
3. Buildings and structures improvements	0.61	HARN's owned	None
4. Tools and equipment	0.07	HARN's owned	None
Total	153.35		

Land, Buildings and Equipment

As at 2022 HARN's total operating fixed assets consist of land, buildings and structures, tools and equipment, furniture and office equipment, vehicle, assets for rent and demonstration, and assets under construction. The net book value of HARN's operating fixed assets less accumulated depreciation and allowance for impairment the total shown in the consolidated, details as follows:

Unit: THB million

Land, Buildings and Equipment	Net book values as of December 31, 2022	Proprietary nature	Obligation
1. Land	37.36	HARN's owned	None
2. Buildings and structures	32.63	HARN's owned	None
3. Tools and equipment	3.90	HARN's owned	None
4. Furniture and office equipment	22.30	HARN's owned	None
5. Vehicle	6.54	HARN's owned	None
6. Assets for rent and demonstration	21.21	HARN's owned	None
7. Assets under construction	0.62	HARN's owned	None
Total	124.56		

Long-Term Leases

HARN entered into a lease agreement for building and warehouse space to be used as a headquarter location and to store goods, including renting out buildings and warehouse buildings by entering into a lease agreement with the third-party companies and persons related to HARN, details as follows:

Counterparties	Place			Rental period			Area (sq.m.)
	No.	Floor	Road / Sub-District / District / Province	Term of lease	Contract start	Contract end	
<u>Office Building</u>							
1. Lessor: Jainnopsiri Co., Ltd. Renter: HARN	559 ^{1/}	1 - 6	Rama 9 soi 13, Bangkapi, Huaykwang, Bangkok	3 year ^{1/}	January 1, 2021	December 31, 2023	6,594
<u>Warehouse buildings and racks</u>							
2. Lessor: Phraboriban Co., Ltd. Renter : HARN	509		Soi Soonviai 4 Bangkapi, Huaykwang, Bangkok	36 month	November 1, 2020	October 31, 2023	356.38
<u>Warehouse</u>							
3. Lessor: Phattararit 1997 Co., Ltd. Renter: HARN	38/43		Moo 4, Lamlukka Road, Lamlukka, Pathumtani	60 month	March 2, 2020	March 2, 2025	80

Note : ^{1/} On January 1, 2021, HARN entered into a new office building lease agreement with Jainnopsiri Co., Ltd. and the conditions under the contract the commitment of the lessor to lease the office building for another 7 years after the contract expires.

Property Insurance Policy Contract

HARN's insured 2 policies of all risk insurance with Dhipaya Insurance Public Company Limited, totaling 2 policies, with a total sum insured of 498.83 million baht, following details;

Type insurance	Company Insured	Property Insured	Capital (MB.)	Period assured	Assured
<u>insured no.1</u> All Risk Insurance	Dhipaya Insurance Public Company Limited	- Property Location, 559 Soi Soonvial 4 Bangkapi, Huaykwang, Bangkok <u>The insured property.</u> - All kinds, various raw materials including all packaging, and including all assets belonging to the insured and/or under the care of the Insured as a keeper. <u>Protection</u> - This insurance policy covers loss or damage to insured property resulting from various events such as fire, lightning, explosions, vehicle impact, smoke, aircraft, water damage, storms, floods, riots, strikes or malicious acts (excluding those committed for political, religious, or ideological purposes), acts of nature such as earthquakes, and other unforeseen or unspecified events that are not specifically excluded in the insurance policy contract (OCI Form). <u>Limit of liability</u> - For flood disaster, not more than Baht 70 million per time and throughout the insurance period. <u>Extending protection</u> - Insurance for electrical appliances limit not more than: Baht 30 million per time and throughout the insured period - Glass insurance limit not more than: Baht 30 million per time and throughout the insured period - Losses due to theft of property, which show no signs of forced entry (excluding stocks and all types of goods), are not covered under this policy, limit not more than: Baht 30 million per time and throughout the insured period - Machine insurance limit not more than: Baht 30 million per time and throughout the insured period - Protection of electronic equipment, equipment due to unforeseen external factors and theft involving visible signs of forced entry, limit not more than: Baht 20 million accident and throughout the insurance period - Money insurance (Por Ngor.2) limit not more than: Baht 2 million per time and throughout the insured period - Cover damage to real estate located in an open space or a building with one side open, including a fence, gate, from the dangers of scorpions, storms, floods, ice, sand, or dust, limit not more than: Baht 10 million per time and throughout the insured period - The maximum liability for loss or damage to insured property resulting from theft or robbery (Tor Sor. 1.21) is limited to the sum insured.	65.00	September 18, 2022 to September 18, 2023	HARN

Type insurance	Company Insured	Property Insured	Capital (MB.)	Period assured	Assured
<u>insured no.2</u> Property All Risk Insurance	Dhipaya Insurance Public Company Limited	- According to location of branch offices namely; 2.1) Office and Wharehouse, 888/14-16 (branch no. 11) <u>The insured property</u>, includes: buildings, furniture, fixtures, affixed and stock - Building No. 888/14 - 16 Moo 21, Bang Phli Yai Sub-District, Bang Phli District, Samut Prakan (excluding foundation), including renovations, additions, fences, gates, utilities such as air-conditioning systems, water systems, electrical systems and other systems. - Decorations, renovations, additions, furniture, fixtures, office equipment, computer systems, computers, tools, appliances, demonstrations, all kinds of related machinery and equipment, forklifts, and all kinds of assets belonging to the insured and/or under the care of the insured as a keeper and all kinds of products various raw materials. - All kinds' products, raw materials, including all packaging and including all property belonging to the insured and/or under the care of the Insured as a keeper. 2.2) 100 Years Building, 1st Floor Faculty of Engineering Chulalongkorn University (branch no. 10) <u>The insured property</u>, includes: furniture, fixtures and products stock. 2.3) Warehouse, 38/43 Moo 4, Lam Luk Ka Road, Lam Luk Ka Sub-district, Lam Luk Ka District, Pathum Thani. <u>The insured property</u>, includes: products stock 2.4) Warehouse, 509 Soi Soonvijai (branch no.8) <u>The insured property</u>, includes: furniture, fixtures and products stock. Extending protection - Insurance for electrical appliances limit not more than: Baht 30 million per time and throughout the insured period - Glass insurance limit not more than: Baht 30 million per time and throughout the insured period - Losses due to theft of property, which show no signs of forced entry (excluding stocks and all types of goods), are not covered under this policy, limit not more than: Baht 30 million per time and throughout the insured period - Machine insurance limit not more than: Baht 30 million per time and throughout the insured period - Protection of electronic equipment, equipment due to unforeseen external factors and theft involving visible signs of forced entry, limit not more than: Baht 20 million accident and throughout the insurance period - Money insurance (Por Ngor.2) limit not more than: Baht 2 million per time and throughout the insured period - Cover damage to real estate located in an open space or a building with one side open, including a fence, gate, from the dangers of scorpions, storms, floods, ice, sand, or dust, limit not more than: Baht 10 million per time and throughout the insured period - The maximum liability for loss or damage to insured property resulting from theft or robbery (Tor Sor. 1.21) is limited to the sum insured.	433.83	September 18, 2022 to September 18, 2023	HARN

Type insurance	Company Insured	Property Insured	Capital (MB.)	Period assured	Assured
		<u>Public Liability</u> <u>Protection</u> - The insurer is legally liable for bodily injury, loss of life, and property damage to third parties caused by defects on the insured premises or the negligent actions of the insurer or their employees within the insured premises during the policy period. - The expenses and fees for claiming indemnity, which the insured shall pay to the claimant, with the insured's written consent to the company. <u>Special conditions</u> - The liability for providing first aid by the insurance policyholder limit not more than: Baht 10 million per time and throughout the insured period - The liability arising from parking premises limit not more than: Baht 0.5 million per time and limit not more than: Baht 5 million throughout the insured period - The liability arising from NIA and advertising signs, Form Ror Bor.102 limit not more than: Baht 1 million per time and throughout the insured period - The legal liability for fire and explosion hazards for properties not owned by the insurance policyholder, Form Ror Bor. 007. - Expanding coverage for medical expenses for injuries occurring within the business premises, Form Ror Bor. 008: Maximum liability of up to Baht 0.01 million per person and limit not more than: Baht 1 million per time and throughout the insured period - MECHANICALLY PROPELLED VEHICLES limit not more than: Baht 1 million per time and throughout the insured period			

Intangible Asset

HARN's intangible assets include computer software, goodwill, customer relationships, and trademarks. The details as of December 31, 2022 are as follows:

- Computer software which has a net book value of Baht 11.82 million, with amortization by the straight-line method over the asset's useful life of 5-10 years
- Goodwills with a total value of Baht 334.67 million, unamortized and impairment testing in complying of TAS36 "Impairment of Asset"
- Relationship with net customers with a total value of Baht 12.62 million, by amortization using the straight-line method over the useful life of the assets of 7 years
- Trademarks/service marks which have developed their own brand of 7 brands, namely HARN, VALTEC, Spark, GuardiaN, BLUEICE, KOPPAR, YUKI. Details are as follows:

No.	trademark	Owner	Registration	For Products / Services	Period
1.		HARN	201120438	For the administration of sales, design, installation and service of firefighting system equipment, air-conditioning system and sanitary, administration of sales and the assemble of industrial cooling system equipment, administration of sales, installation and service of machines, equipment, spare parts, consumables of digital printing system on the package, packet, labels including workpiece creation from digital file.	March 28, 2018 to March 27, 2028
2. ^{1/}		HARN	Kor162287	For the metal water pipe valve products	October 18, 2021 to October 18, 2031
3. ^{1/}		HARN	Kor381341	For the fire hose set, fire hose, fire hose connector products	October 30, 2022 to October 29, 2032
4. ^{1/}		HARN	Kor62121	For the fire extinguisher products	June 20, 2016 to June 19, 2026
5. ^{1/}		HARN	171127993 171127974	For the compressor lubricant products For the - oil separators as part of the compressor - pressure regulators as part of the compressor - an emergency device of the compressor to stop the operation of the compressor when the lubricant is lower than the limit - Anti-vibration devices of the compressor	April 4, 2016 to April 3, 2026
6. ^{1/}		HARN	171127981 171127990	For the copper pipes, copper joints, copper welding wires For the insulations	April 4, 2016 to April 3, 2026
7. ^{1/}		HARN	181101901	For the refrigerant products	April 4, 2016 to April 3, 2026

Note : ^{1/} Products under the trademark of HARN (No. 2 - 7) are contracted products with domestic or foreign manufacturers.

Investment Policy in Subsidiaries and Associates

As a policy, HARN invests in subsidiaries, joint ventures, to support and promote business growth and ensures governance and by assigning its representatives to serve as Directors in subsidiaries, joint ventures. The presence of HARN's representatives as Directors in subsidiaries, ventures enable it to participate in policymaking, stay informed, and periodically monitor performance. Any activity that may have a significant impact on HARN must be approved by the Board of Directors first.

Details on Asset Valuation

During 2020, the company had two independent appraisals for land, buildings, and constructions. These appraisals were approved by the Securities and Exchange Commission, using market value criteria to assess land value, and replacement cost method to evaluate constructions. According to the report, the total fair value amounted to Baht 238.40 million according to the asset valuation report dated December 22 and 23, 2020 (as per the financial statements as of December 31, 2020, the total value was Baht 222.65 million). The details are as follows:

1. Vacant land with an area of 5-0-9 rai had a book value of Baht 114.95 million, according to the asset valuation and appraisal report. The fair value of the property was Baht 117.04 million.
2. Land with warehouse, land area of 6-2-00 rai and warehouse with 3 units, total usable area of 6,374.23 square meters. The book value is Baht 107.70 million according to the appraisal report conducted. The fair market value of the property is Baht 121.36 million.

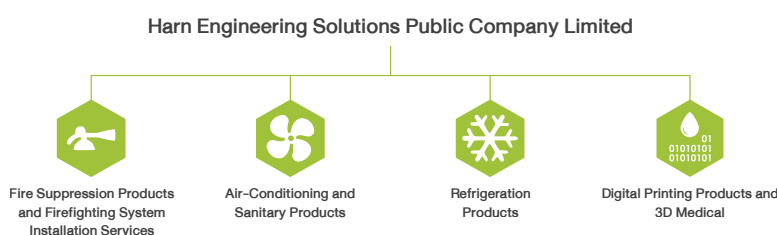
It should be noted that the aforementioned fair market values were shared as real estate investments, amounting to Baht 159.51 million for the vacant land and Baht 78.89 million for the land and warehouse, following a change in the purpose of holding some of the land and buildings from being rented out to being used as a warehouse for HARN (further information can be found in the analysis and description section of HARN's management and financial reports).

1.3 Shareholding Structure of HARN

1.3.1 Shareholding Structure of HARN

HARN operations with an emphasis on value added to its businesses as well as creating innovation, HARN has mission maximize our customer satisfaction, maximize potential employee, make a good investment return to shareholders, make grow our business in a sustainable, create long term values for stakeholders with taking care of the environment to be strong, has a clear and transparent shareholding structure and there is no pyramid shareholding structure in the group of HARN Therefore does not cause a conflict of interest to any party the following structure illustrates the integration of business operations: as follow;

Business Structure of HARN and Subsidiary



HARN became an import and distribution of products, fire suppression system, air-conditioning system and sanitary system, refrigeration system, digital printing system, provide development IOT Products and Solutions, including the provision of consulting, designing services in projects and provision of engineering solutions complete



HARN registered the establishment of Harn Vietnam Company Limited ("subsidiary"), Vietnam. With a registered capital of 800,000,000 Vietnamese dong or approximately Baht 1,057,444. HARN holds 100% of the subsidiary's shares in the registered capital on 30 July 2019.



HARN collaborated with Aiyarafun Group by a joint venture agreement signing between Mr. Prasertsak Detudom and Mr. Satit Wanitchaikit to operate a business on producing, trading, servicing, and developing of IOT Products and Solutions system. The business is to provide services on the development of Smart Building under the name Aiyaraharn Co., Ltd ("subsidiary") address 559 Soi soonvijai 4, Rama 9 Road, Bangkok, Huaykwang, Bangkok 10310 with registered capital at Baht 2,000,000. The shares that HARN holds 65% of the subsidiary's shares of the registered capital on June 24, 2020.

1.3.2 Parties with Conflict of Interest

- None -

1.3.3 Relations with Major Shareholders' Business Group

HARN has mission make a good investment return to shareholders, make grow our business in a sustainable, create long term values for stakeholders, under the supervision of the guidelines of the Stock Exchange of Thailand (SET) and the Office of the Securities and Exchange Commission (SEC), including the provisions of the Public Limited Companies Act B.E. 2535 (including those amended), has a clear and transparent shareholding structure without cross-holding with major shareholders. Therefore, does not cause a conflict of interest to any party.

1.3.4 Shareholders

HARN had shareholding structure as of December 31, 2022, the record date for the year as follows:

	No. of shareholders	No. of Shares held	%	Juristic person			Individual person		
				shareholders	shares	%	shareholders	shares	%
Thai shareholders	3,768	510,581,225	87.35	7	3,260,200	0.56	3,761	507,321,025	86.79
Foreign shareholders	3	73,918,775	12.65	1	73,316,475	12.55	2	602,300	0.10
Total	3,771	584,500,000	100.00	8	76,576,675	13.11	3,763	507,923,325	86.89

Top 10 shareholders of HARN as of December 31, 2022 are as follows: (There are 161,742,988 minor shareholders representing 27.672% of the total shares)

No.	Names		Shares	% shares
1.	Mr. Wirat	Sukchai	86,795,159	14.849
2.	Mrs. Sirima	Iamsakulrat	81,884,151	14.009
3.	Nice Noble Limited		73,316,475	12.543
4.	Mr. Jain	Charnnarong	68,953,030	11.797
5.	Miss Nopporn	Charnnarong	26,307,444	4.501
6.	Mr. Thammanoon	Tripetchr	22,779,886	3.897
7.	Mr. Chaiwat	Taepaisitpong	15,920,000	2.724
8.	Miss Panatda	Thongliam	14,832,149	2.538
9.	Mrs. Nopparat	Sukchai	13,000,000	2.224
10.	Mr. Wasan	Nantakwang	11,995,600	2.052
Total top 10 shareholders			415,783,894	71.134

Note:

- Number 3 are nominee accounts, exercise no influence over HARN's management policy formulation, including director nomination.
- Number 1, 2, 4 and 6 with significant influence on the establishment of HARN's policy and strategy, but are ineligible for voting at shareholders' meetings in any agenda has conflict of interest, for other shareholders no significant influence of HARN's.

1.4 Registered and Paid-up Capital

1.4.1 Common Stock

As of 2022, HARN's registered share capital was of Baht 292,250,000, comprising of 584,500,000 common shares at a par value of Baht 0.50 per share. Paid-up capital was Baht 292,250,000 in paid-up capital, or 584,500,000 common shares.

1.4.2 Other Shares with Different Terms or Rights from Common Shares

- None -

1.4.3 HARN's Shares or Convertible Securities as Underlying Securities

- None -

1.5 Issuance of Other Securities

1.5.1 Convertible Securities

- None -

1.5.2 Debt Securities

- None -

1.6 Dividend Policy

HARN's Dividend Policy

HARN's dividend payout policy is to pay at least 40% of the separate net profit after deductions of all categories of reserves as specified in applicable laws, considering of the consolidated financial statements. Each year, the dividend payments are subjected cash flows and investment plans and other necessities and factors the Board of Directors (the Board) deems appropriate. The Board may consider paying the annual dividend with approval from the Annual General Meeting of Shareholders (AGM), except to the payment of interim dividend, which the Board has the authority to approve periodically when HARN's profit deems appropriate. The interim dividend payment shall be reported at the following AGM.

Dividend payment	2022 ¹	2021	2020	2019
Interim dividend payment (Baht per share)	-	-	-	0.18
Annual dividend payment (Baht per share)	0.13	0.10	0.13	-
Stock dividend (Baht per share)	-	-	-	-
Earnings per share (Baht) ²	0.15	0.12	0.17	0.26
Dividend payout ratio (%) ²	86.67	83.33	76.47	69.23
Par Value (Baht per share)	0.50	0.50	0.50	0.50
Outstanding ordinary shares (Share)	584,500,000	584,000,000	584,500,000	584,500,000

Note: 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.

¹ The 2022 dividend payment of Baht 0.13 per share paid being submitted to approval at the 2023 Annual General Meeting of shareholders.

² Referring to consolidated financial statement.

Subsidiary's Dividend Policy

The Dividend Policy for Subsidiaries of HARN shall be considered by the Board of each subsidiary, and later proposed to each subsidiary's AGM for approval each year. Consideration shall be made on investment plans and other requirements, such as adequacy of cash flow of each company after deducting reserve funds in compliance with the law.

2. Risk Management

2.1 Risk Management Policy and Plans

Risk Management Policy

Recognizing the value of risk management under changing circumstances that may affect businesses due to internal and external factors, HARN relentlessly complied with the principles and approach of COSO, an international standard on risk management. Regards risk management as a critical component of all its business processes that must be comprehensively connected, so it has risk management policy for everyone to observe. The Risk Management Committee were thus appointed to steer overall risk management for maximum efficiency.

Risk Management

Corporate risks are systematically managed through risk management committees to give risk management plans effectiveness and efficiency in line with corporate goals and strategies. Operational risks fall under the supervision of executives responsible for a given function. All units are responsible for managing and controlling risks to manageable levels and this has been spelled out in the job descriptions of all units.

However, HARN has investigated and applied various risk management tools, including adopted Risk & Control Self-Assessment (RCSA) to help analyze the risk factors and prioritized to assess the level of impact of the major risks and Key Risk Indicators (KRI), to indicate the impact on operating results in the form of the existing control level, as well to define measures, prevent and monitor. In addition, it monitors key changes in external factors and emerging risks to develop proactive risk management measures before such risks harm business.

HARN cultivates risk management awareness among all its employees along with nurturing risk management ambiance and culture, focusing on due resource allocation and provision of assorted supports for continuous improvement of corporate risk management efficiency, a risk management policy has been published on a website accessible to all, along with risk management training courses, as well as an annual review opinion and understanding of corporate risk management.

2.2 Risk Factors Facing HARN's Businesses

HARN analyzes internal and external circumstances as well as various trends (economic, social, political, technological, industrial, competitor, and others) to arrive at corporate risk factors, grouped as follows:

Risk from Loss of Distributorship Status

HARN 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 40.63% and 44% of its total sales in 2021 and 2022 respectively. As such, a loss of its distributorship right to the significant brands could affect its sales.

Having distributorship authorization is highly essential to HARN's business. There are two types of distribution authorization, i.e., with expiration and without expiration. However, for most of the brands distributed by HARN, it has not yet officially entered into distributorship contract with the brand owners, 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 HARN's sales. Which, since

2011, HARN'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 5,400 customers, HARN is confident that if it loses distribution authorization of any brand, it will be able to secure alternative brand to satisfy the market demand. Also, HARN has also developed its house brands for some product items to mitigate risk of dependence on other brands.

In addition, throughout the past years, HARN 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, HARN is confident that brand owners will continue to assign HARN as their distributor through the years ahead, it is therefore classified as assessment the risk control at a satisfactory level.

Risk from Brand Owners Implementing Marketing by Themselves

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

Nonetheless, HARN 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, it is therefore classified as assessment the risk control at a satisfactory level.

Regulation Risks

Changes in the government's policies focusing on economic growth in parallel with development of society, communities, and the environment do not affect current businesses, however HARN has therefore monitored new investigated laws and regulations, changes in government policies, e.g. laws on trade competition and the Public Procurement and Supplies Management Act, laws concerning public-sector financial discipline, laws on anti-corruption, Personal Data Protection Act, laws on cybersecurity, and laws whose interpretation is unclear. To ensure that HARN's operation complies with the laws, regulations, announcements, rules, and the public sector's directives that bind businesses, promptly cope with changes, include cultivating awareness of the importance of legal compliance among all employees.

In addition, HARN also attention on the Personal Data Protection Act (PDPA) to supervise and steer personal data management in line with the PDPA Act B.E.2562 (2019) to assure data owners of HARN's data security. Actions taken included training and counseling for corporate personnel and development of information systems and personal data management of higher efficiency.

Business Disruption Risks

The spread of COVID-19 and relevant public-sector measures, have directly shaken business HARN has to manage risks and issue various measures to plan and manage the crisis short-and-long-term to maintain competitiveness and strength, including had adjust the way conduct business by enabling technologies to help core systems allowing work to be performed outside anytime and anywhere considering the safety of employees, being able to deliver a continuous flow of products and services to customers, the process as follows.

- Designate the guidance and communicate to employees regarding raising awareness of self-care, visiting customers, overcrowding on site is avoided and Social Distancing etc., provide strictly screened employees regularly before outside work and employees in the risky group are quarantined, by continuously monitoring the number of infected people and people at risk.
- Improved communication formats with customers through electronic meetings and communication via video conference and developing online video training programs.
- Formulating the Work from Home Policy for all employees or accessed computers from other work place through the virtual private network (VPN), and supporting the use of digital equipment for work efficiency. The access the network, computers must pass HARN's security standard.
- Establish a working group; namely chief executive, building management department and human resource department, in order to assess the situation in the emergency and coordinate with the appropriate authorities.

In 2022, Dealing with new risks emerging, assesses the results of risk control are at a controlled level, but still not satisfactory, A total of 147 employees were found to be infected, accounting for 60% of the total number of employees, affecting the cost of prevention and treatment 266,129 Baht. However, has no serious impact on the life and safety of employees.

Manpower and Competency Capacity Risks are Insufficient for Business Growth.

HARN is aware of the adequacy of manpower to be in line with the vision, strategy, and direction of the organization, therefore manages the risk through the following measures:

- Reviewed its organization structure and required human resource plan.
- Implemented the recruitment by selecting and adding channels for adopting various technologies to be in effective recruitment.
- The Executives prepares development plans skillful personnel in line with based on business growth to consider successors in each business to develop specialized skills for each career path as well as leadership development and promotion of overall learning of HARN, ready to grow into a future executive. These moves ensure that HARN will constantly command an adequate supply of quality executives and employees to effectively support future business growth.
- The personnel retention with strengthen cordial relationships through activities, such as new employee orientation, annual tour, new year's Party and sports day activities, including an employee satisfaction survey annually for the improvement of work processes and its better work environment.

In 2022, the evaluation employee satisfaction survey was 80.54, compared with 81.49% in 2021, decrease 0.95%. However, HARN has analyzed the results and recommendations and assigned the relevant department to make a revised plan in 2023.

In 2022, the resignation of employees was 13.33%, increase of 8.15% compared to 2021, but still able to achieve the target not exceeding 14% per year, and the rate of recruitment to fill the vacancies was 19.69%, decreased of 22.31% compared to 2021, but still achieved 18% higher the target, However, HARN has still reviewing to the qualifications and remuneration structure by comparing in the labor market at the same level annually, risk control is at a good level. However, in 2023 still focus great emphasis to accelerating the implementation of Guidelines for Sustainable Development in the Smart PEOPLE Dimension.

Volatility Exchange Rate Risk

The products distributed by HARN are mainly imported from abroad. Its import volume in 2021 and 2022 made up 74.08% and 76.24% of total volume of product procurement respectively. Tender offer and payment for products are primarily denominated in US dollar, Pound Sterling and Euro currency totally 99.02% and 99.17% respectively of the foreign purchase volume, while most products are almost entirely for local distribution in Thai baht. In some cases, HARN 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. However, there are agreements for some customers to pay in USD, EUR and GBP.

HARN well aware of such impact, has the exchange rate management policy as the follow:

- Required executed forward contracts with financial institutions to provide hedging against such risk. The contract value covers all existing foreign trade account payables. In addition, HARN has opened foreign currency deposit accounts in USD, GBP, EUR, JPY and AUD in order to receive payments from customers in foreign currency. And is another way to reduce exchange rate risk.
- Also continuously monitor the trend in the change of the currency for evaluation and to manage the risks from the exchange rate closely

To ease risks of foreign currency fluctuation, in 2021 and 2022, HARN has purchasing forward foreign currencies for smart repayment and commercial transactions total Baht 455.02 million and Baht 654.97 million, or 88.83% and 97.46% of its import volume. Furthermore, HARN managed its exchange rate risk by always keeping abreast of foreign exchange movement, resulting in only not much risk exposure as can be seen from its exchange risk management outcome. In 2021 and 2022 which recorded foreign exchange gains of Baht 3.61 million and Baht 0.11 million, respectively, it is therefore classified as assessment 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, HARN will revise its selling prices based on market conditions with prior notice thereof to its customers. HARN 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 HARN.

Risk from Impairment of Goodwill

HARN 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 subsidiary, which is higher than a fair value of Chillmatch Co., Ltd. and subsidiary as of the date of issuance of newly ordinary shares as a consideration for the said entire business transfer. In this respect, the executive of HARN will conduct an impairment test in every year and set aside an allowance for impairment loss (if any). HARN 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 executive conducted the impairment test of goodwill consists of Refrigeration Business and Digital Printing Business. The management estimated the expected free cash flow sometimes called "Realizable Value" of the two business. Those cash flow is consisted of forecasted sales, cost of goods sold, selling and administrative expenses (depreciation and amortization excluded), income tax, capital budgeting necessary to operate and also the changes in relevant working capital such as accounts receivable, inventory and accounts payable. Those annual free cash flows were discounted into present value to determine the realizable value. The discount rate used is a pre-tax rate that reflects the specific risk of HARN as whole according to the Value in Use criteria.

The 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 fixed assets used in the operation of the business unit, goodwill and customer relationship it arrives from entire business transfer from Chillmatch Co., Ltd and Q II S Co., Ltd. Therefore, there is no indication of impairment of goodwill as of December 31, 2022. Also, complied the financial reporting standards was audit by the certified public accountant.

Risk from Corruption

The products sold by HARN are imported from abroad, which are sold to government and private sectors. In accordance to these processes may cause corruption, therefore, to prevent that HARN does not follow the procedure, such as importing goods, customs clearance, offerings & auctions product sales and/or installation high-value projects, such internal processes may be caused by non-compliance with the work practices of procurement, control of goods or assets, disbursement of improper expenses, paying or being called payments to accept from government or incorrect accounting records, therefore, measures as follows:

- Established a Risk Management Committee, analyze and determine measures manage business risks, prevent and monitor risks of corruption both at the organization and operation levels a quarterly basis.
- Provide an internal audit from efficient auditors external and have internal monitor to quality standards ISO 9001:2015 every year.
- Declaration of intent to be member of the Thai Private Sector Collective Action Coalition Against Corruption (CAC) since 2017, certified as member on November 5, 2018 and applied for CAC recertification and won approval, with effect from September 30, 2021 to present, demonstrate its commitment to all anti-corruption, HARN determine anti-corruption policies and guidelines, together with communicated to the board, executives, staffs and all stakeholders to be acknowledged in the specified channels, and report to the Board a quarterly basis.
- Provide complaints channels and whistles.

In 2022, assesses this risk control at a satisfactory level and no fraud or unethical offenses were found.

Cybersecurity Threats Risks

The risk of Cybersecurity threats is very important and are rapidly on the rise these days, it will impact the operation of HARN, especially the important working system such as network, finance and accounting, internal management and human resources system, which system contains personal information owned by HARN. If there is a problem with HARN's information technology system, access the personal information owned by HARN, will lead to image and reputation loss, and possibly disruption to business interruptions.

HARN continuously prioritizes cybersecurity, therefore, plans and investment in development support to new technology, and the prevention the risk of Cybersecurity threats. The plans include improve the availability of computer networks to avoid network and server failures ensure that the system can work continuously and formulate strict security control measures, e.g., firewall, data access rights establish a network and backup center to support emergencies so that business continuously, as well as raising awareness of cyber threats to employees and clear security incident response plan.

Climate Change Risks

Climate change is becoming increasingly critical. This is evident meeting of member states under the United Nations treaty on climate change, no. 27 (COP 27) held from November 6-18, 2022, In a bid to set the direction for activities on climate change in the global community according to the strategy, such as the Paris Agreement of the United Nations Framework Convention on Climate Change, and to set mutual goals in reducing greenhouse gas emissions, Thailand has a clear goal to achieve Net Zero GHG Emission in 3 main areas: 1) GHG mitigation, 2) climate change adaptation and 3) Finance. Meanwhile, it is focused on the standpoint and its commitment to engaging with the global community against climate change. Also, the philosophy of sufficiency economy is implemented as an important guideline for the country's development towards the "BCG Economy Model" of sustainable economic development.

HARN has set measures to control and reduce the impact of direct and indirect greenhouse gas emissions in compliance with the country's strategic direction, as well as one-third of the long-term goals of the organization. There is a clear goal to reduce greenhouse gas emissions and make progress towards carbon neutrality in 2040, and emission Net Zero by the year 2050. It has the implementation of various projects to control the amount of greenhouse gas emissions, such as reforestation and forest conservation projects to increase greenhouse gas storage, etc.

Emerging Risk

Since 2019, the spread of the COVID-19 virus has impacted life and health, causing the overall economy of the country and the rest of the world to slow down. This has also affected the supply chain since manufacturers and shippers in foreign countries have been closed while working from home due to COVID-19. Thus, the import of goods for distribution or delivery to customers has been unlikely. HARN's imported goods from foreign countries accounted for 2.80 times the purchase of domestic goods. That said, HARN has adjusted its supply chain management plan to prevent business interruption, by increasing the number of orders per time, choosing an alternative delivery channel for faster transportation and finding new transportation channels, e.g., land transportation from the People's Republic of China, etc. HARN has controlled this risk at a satisfactory level, with no penalty or complaints due to delayed product delivery in 2022.

2.2.2 Investment Risks for Shareholders

- None -

2.2.3 Risks Facing Investing in Foreign Securities

- None -

3. Driving Business for Sustainability

3.1 Sustainability Management Policy and Targets

3.1.1 Sustainability Management Policy

HARN Engineering Solutions Public Company Limited (“HARN”), realizes the importance of operating the business according to sustainable development guidelines which cover all economic, social and environmental dimensions under good governance principles and code of conduct to become a leading provider of sustainable solutions for firefighting and safety engineering systems, cooling system, digital printing, and IoT systems in Thailand and neighboring countries. HARN therefore defines its commitment to sustainability as “Quality Living through Sustainable Engineering”, as well as the framework in vision, mission, and values based on risk factors and all stakeholders in HARN’s sustainability cycle. Such commitment and framework can be developed into HARN’s long-term sustainability strategy in four dimensions, namely SMART Business - SMART Technology - SMART People - Smart ESG through the involvement, confidence, and values to all stakeholders and related individuals by establishing HARN’s sustainability management policies and reviewing those policies annually in compliance with changing situations and important issues of the sustainable development organization. In 2022, it was found that the policies covered new issues consistent with the vision, mission, strategic plans, and business goals according to the complete sustainability guidelines, which have already been approved by the Board of Directors.

3.1.2 Sustainability Management Targets (Economy, Society, Environment, Governance)

Sustainability management is part of HARN’s business strategy which focuses on transparency and sustainable business development to support vision, mission, strategic operations, and sustainability goals, including the environmental, social, and governance (ESG) trend to achieve a balance between the needs and expectations of all stakeholders. HARN has therefore reviewed and established its strategic plans and sustainability development goals to cover the ESG in 2022, towards operations the goals of becoming carbon neutrality by the year 2040 and emission Net Zero by the year 2050 for social and environmental responsibilities as follows:

Quality Living Through Sustainable Engineering			
SMART Business		SMART Technology	
	Create good returns to shareholders and expand the business to continue to grow and sustainably • Maintain sales and net profit growth • Business expansion with new products or new distribution channels • Maintain financial status and performance results to be ready for business expansion • Continuously develop work systems and business management processes to achieve excellence		Improve competitiveness through the use of digital technology • Use advance information technology and management technology Digital Transformation
SMART People		SMART ESG (Environment - Social - Governance)	
	Create a happy, energetic and innovative work environment and is constantly evolving • Manage human resources to support the Company’s vision and stay competitive • Improve work satisfaction and employee engagement • Creating knowledge and a learning organization		Enhance the quality of life of all stakeholders. Under the operation that takes into account the environmental, social responsibility and good corporate governance • Operate business according to good corporate governance policy • Use resources efficiently • Adjust business processes to reduce environmental impact • Promote safety, occupational health and environment in every process

3.2 Impact Management to Stakeholders in the Business Value Chain

3.2.1 Business Value Chain

HARN has taken into account the utmost importance of the stakeholder management throughout the business value chain, covering those impacted by HARN's business operation or have influences on HARN from the past, present and into the future. As a result, there is an emphasis on the value chain management's effectiveness by specifying its stakeholders involving in the business value chain, which starts from purchasing and transporting products into the warehouse to evaluating impacts as shown in the diagram below:

Diagram the Business Value Chain



3.2.2 Stakeholder Analysis from the Business Value Chain

To ensure our mission to balance all groups of stakeholders equally. HARN has analyzed the stakeholders in the business value chain. Into 7 main groups is executive and employee, customer, trade partners and/or creditors, competitor, Investor, public sector, community, and society and environment, as well as establishing communication channels and exchanging information with each group of stakeholders continuously. To find out their views and expectations from business operations. Also devises appropriate methods for regular stakeholder engagement, outbreak where is well aware that supports and viewpoints from all stakeholders will benefit HARN's business operation and sustainable development, Impacts and influence from one stakeholder to another into the following guidelines:

Employee  Promoting capability building professionally and ensuring that employees' well-being is level with other leading companies in order to strengthen employee engagement.	Channels	• Conference, LINE Official, company announcement, intranet, email, Digital Signage, direct communication from CEO to employees via Town Hall once a year
	Expectation	• Treated equally fair, there is an opportunity to grow and progress. • It is safe and hygienic. • have remuneration and welfare suitable
	Response operation	• Promote participation and two-way communication in organization • Promote safety at work • There are channels for complaints or suggestions
	Performance	• Labor problems or complaints equal to 0% • Salary and other benefits compare results with the labor market every - Central Division In standard Sales - Service Group Above average market • Operational accidents equal to 0.40% • The number of employees with the criteria metric is 100%. • Working satisfaction is 80.54%
Customer  Ensuring customers satisfaction and loyalty by delivering world-class quality products and services at fair prices.	Channels	• Visits, LINE Official, FB, Website, Seminar
	Expectation	• Deliver goods and services in accordance with the agreement. • Employees have knowledge and understanding of products / services. Able to provide accurate helpful advice • Obtaining on-time after-sales service
	Response operation	• Educate to customers/partners through the Knowledge Sharing Project • Employee training
	Performance	• Product / service complaints were 0.009% • The average number of employees who received product / service training is 1.7 hours. • Customer satisfaction is 91.04% • 15 Knowledge Sharing Projects have been organized in Bangkok, its vicinity, and other provinces.

Trade partners and/or creditors

Conducting fair business practice with all trade partners while promoting trust, good relationship, and cooperation to expand business capability and increase efficiency in long-term business partnerships.

Channels

- Visits, websites, e-mails, conferences, seller evaluation

Expectation

- Fair, follow the commercial terms
- Have been aware of the problem and how to fix it honestly.

Response operation

- communicate news and a complete, timely trading policy
- Visit and exchange information to improve collaboration

Performance

- Vender evaluation twice a year
- Domestic Vender evaluation for the first half of the year and the second half of 2022 is 98.00% and 97.20% respectively.
- Foreign Vender evaluation for the first half of the year and the second half of 2022 is 95.52% and 97.77% respectively.

Competitor

Complied with the rules of fair competition and treated business competitors fairly under the Competition Law Framework. Refrained from dishonesty or improperly seeking confidential information on business competitors.

Channels

- Facebook, Website: www.harn.co.th

Expectation

- Competition freely on the legal framework

Response operation

- Not any seeking competitors' confidential information through dishonest

Performance

- 1 complaint of infringement of competitor's property

Investor

Operating profitable businesses that lead to sustainable growth while generating optimal returns.

Channels

- Shareholder meeting
- Opportunity Day performance conference
- Investor Relations Website

Expectation

- Sustainable business growth
- Continuously receive returns
- Business operations are transparent

Response operation

- Increase growth channels and expand business to new potential markets
- Have good corporate governance

Performance

- Developing full range of solutions and services
- Pay a dividend not less than 40%
- CG Score "Excellent" level

Public sector

Support public sector policy, ensuring business to support economic growth of countries.

Channels

- Website www.harn.co.th
- Visiting the staff according to the notification
- Monthly report submission

Expectation

- Comply with all applicable laws, rules, regulations and regulations.
- Operate business responsibly and with transparency.

Response operation

- Review relevant laws, rules and regulations
- Repeat operation test regular

Performance

- There is no penalty for neglecting to comply with the law.
- Become an affiliate Thailand Private Sector Collective Action Coalition Anti-Corruption (CAC)
- CG Score "Excellent" level

Community, Society and Environment

Maintaining an excellent corporate standing in Thai society by exercising environmental stewardship of internationally standards and improving the quality of life for communities and societies.

Channels

- Website: www.harn.co.th

Expectation

- Conduct business to reduce the impact on the communities and the environment

Response operation

- Promote natural resources protection activities/ campaigns and use resources wisely

Performance

- Use renewable energy with solar panels, accounting for 26.30% of the total electricity used in 2022.

3.3 Social Sustainability Management (SMART Business)

3.3.1 Social Policy and Practice

- Maintain sales and net profit growth
- Business expansion with new products or new distribution channels
- Leader innovative products and to reduce environmental impact
- Develop solutions and complete services and add value products

HARN 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 HARN. HARN always considers investing for the maximum benefits of the consumers as well.

HARN is committed to sharing the engineering knowledge of HARN with its customers and the general public by posting contents on Facebook and HARN’s website to provide society with wider knowledge and deeper insights. Moreover, in 2022 HARN did a project called “Knowledge Sharing” HARN did a project called “Knowledge Sharing” aimed at training customers and interested participants in the South to have the knowledge of how the cooling system works In Surat Thani, Chonburi, Rayong and Bangkok. Total on 8 times with adherence to the principle “The giver learns and grows” motto.

In the 2D Barcode for Consumer Safety and Protection project, HARN’s sales director joins in the working group and becomes a lecturer in printing technology. This is an operation by CP All and GS1 Thailand Institute for a change on the printing of production and expiration dates on food packaging, from only numbers and letters to 2D Barcode together. When scanning the product for payment, the scanner reads information from the 2D barcode for payment and verifies the product’s expiration date at the same time. In case of an expired product, it notifies of such immediately. This is a campaign so called “2D barcode printing to prevent the sale of expired products at the point of sales”, to improve the quality of life of consumers while creating business opportunities.

HARN has joined in the design and invention of water cooling and ice making systems in a vending machine or a 24-hour automatic coffee vending machine of “Tao Bin” for Forth EMS Co., Ltd. during 2020 - 2022, of a total 2,691 sets with total sales of more than 45.49 million baht. Thus, it is considered as bringing knowledge and expertise in refrigeration systems of HARN’s employees and executives to meet the needs of customers according to the set goals.

The 3DMed research project creates an organ model with advanced 3D printing technology to help diagnose and plan effective treatment.

In the 3D for Medical Application, Siriraj Hospital made a memorandum of agreement to make 3D model files, totaling 25 cases in 2022 and 4 cases in 2021. At Rajavithi Hospital, there were 13 accumulated cases in 2022 and 55 cases in 2021. The number of accumulated cases before 2022 were more than 300 cases. HARN is also a coordinator between the Faculty of Dentistry, Chulalongkorn University, King Mongkut’s University of Technology Thonburi, and Materialise to organize a workshop on the application of Mimics program in creating 3D files and 3D models for diagnostic purposes and surgical planning for about 15 medical doctors, while being in the process of coordinating to arrange a workshop for Khon Kaen University. This can be another success as a leader and professional in bringing the 3D technology to the medical field. Moreover, HARN is a co-sponsor of the 3D printer research grant to print biomaterials for Professor Ratchathin Chanchaen, which was approved by the National Research Council of Thailand, under the project of “Biometrics with embedded measurement device for 3/4D printing”.

Operating performance in 2022

- Retention of existing customer base with total sales of Baht 1,041 million compared to the target of Baht 991 million, or an increase of 5%
- Business expansion with new products or sales channels for total sales of Baht 165 million compared to the target of Baht 255 million, or a decrease of 35% due to the economic slowdown

Academic Partner, government, and document department



Promote fair competition

HARN is committed to conducting business under the policy of Promote fair competition, in 2022 not any advantage by seeking competitors' confidential information through dishonest or improper means, and do not defaming competitors using slander that lead to reduction or limitation of trade competition, including no disputes with trade competition occurred, with the guidelines as follow;

- Undertake the business activities in compliance with the law and competition regulations, and cooperate with the government authorities.
- Establish the procedure and measure preventing the involvement in or conspiracy with the behavior against fair competition.
- Ensure the employees be aware of fair competition and compliance with applicable competition law.
- Promote fair competition and activities, and support anti-monopoly and anti-dumping.
- Pay attention to 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

HARN is committed to conducting business under the policy of Promote social responsibility in value chain, in 2022 not any violation of good corporate governance, code of conduct and compliance with relevant laws, rules and regulations, has safety and legal management standards, with the guidelines as follow;

- Define social and environmental measures in the policy and procedures for procurement and distribution.
- Encourage other relevant companies to accept and apply the similar policy in order to prevent unfair competition.
- Actively participate in elevating awareness of the principles and issues relating to CSR activities in which takes part.
- 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 assets rights

HARN is committed to conducting business under the policy of Promote respect for assets rights, in 2022 not any violation of intellectual property infringement by complying with the law related regulations, with the guidelines as follow;

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

HARN allows for reporting of any possible offence or filing any complaint of any breach of law or ethics through chairman of Audit Committee. HARN 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 Board's.

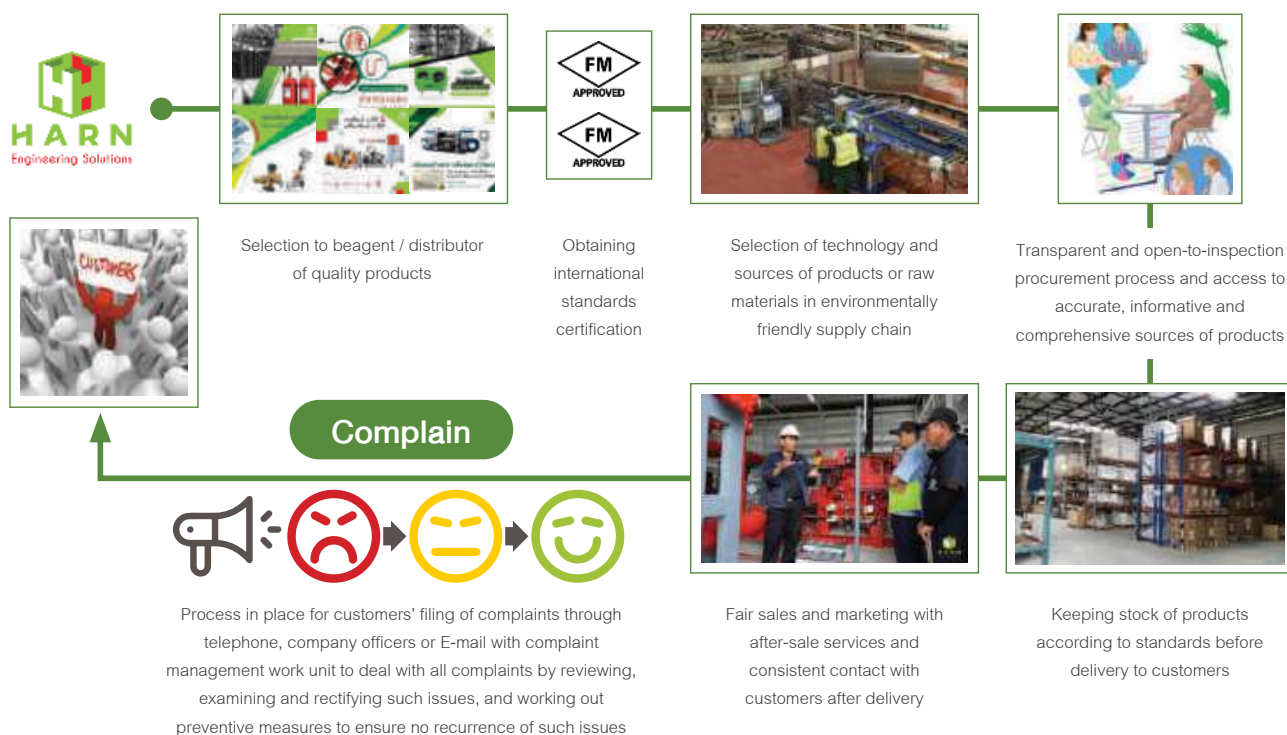
In addition, HARN also sets a practice guideline for the directors, top executives and employees, including code of ethics and accountability for the stakeholders. The guideline is aimed at creating behavioral standard for the operation of such personnel on an integrity basis. It is also a guideline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

Management Plan and Responsibility to Consumers

Responsibility to Consumers

HARN is committed to conducting business under the policy of develops the responsibility to consumers through the practical process and the staff activities in various departments, Operations under ISO 9001:2015 have been strictly executed along with continuous improvement of the management system as well as development of an efficient internal system for data collection and review, to minimize any possible error in data transmission and to facilitate data validation. The audit unit is responsible for driving the assessment of compliance with laws and regulations while developing some tools or systems that help enhance work efficiency. In 2022 were reported with zero major non-compliance case, following assessment against laws and regulations by the ISO Certification Institute from SGS (Thailand) Co., Ltd. On November 21-23, 2022

With realization of the importance of products that enhance quality of life and safety of consumers, HARN has paid great care and attention to all processes on an end-to-end basis until the goods reach the consumers according to policies and guidelines, as follows;



Confidentiality of Customer's Personal Data

HARN adheres to the importance of respecting the rights and committing to protect the personal data of customers which have been collected, stored, used, and revealed in presenting products and services to meet the needs as appropriate. HARN has announced its policies on privacy at the website to show transparency in its operations. The personal data protection officers (DPO) are responsible for taking care of customers' personal data. Those policies and guidelines are in accordance with the Personal Data Protection Act (PDPA) as follows:

- Personal data collected by HARN
- Objectives of personal data processing
- Disclosure of personal data
- Duration of personal data collection
- Rights of the owners of personal data
- Contact channels to HARN and personal data protection officers
- Review of policies on privacy

Customer Relationship Management Plan

HARN defined policy and action plan to strive is committed to strengthening customer satisfaction and confidence by delivering quality products based on their requirements along with honoring agreements and conditions made with customers on a fair, complete, prompt and factual basis, as well as foster a sustainable relationship between the customers and HARN through various programs. These programs included the regular customer visits, launched customer satisfaction survey continuously every year, set channel for receiving complaints related to products, services and solutions on HARN's website. In addition, service quality is monitored in order to improve complaints, improve service quality, Including, monitoring the progress in solving various problems and operational reports etc.

In 2022, the Quality System Management Department randomly inspects service quality, complaints, compliance with operational regulations twice a year, including sending surveys to customers to assess satisfaction with service quality, as well as notifying the said survey results to relevant agencies. The overall average satisfaction survey results in 2022 increased compared to 2021, representing 1.71% and higher of 2.89% compare target set of 90%, in order to build good relationships with sales and service departments to acknowledge suggestions and to improve the plan to increase customer satisfaction.

Customers' Satisfaction	2022	2021	2020
Product (quality, variety of products)	91.82	88.72	89.73
Sale persons (product knowledge, services, problem solving)	93.19	92.11	92.92
Other services (management, providing information, contact channels with HARN)	93.66	92.70	90.47
Overall average	92.89	91.18	91.04

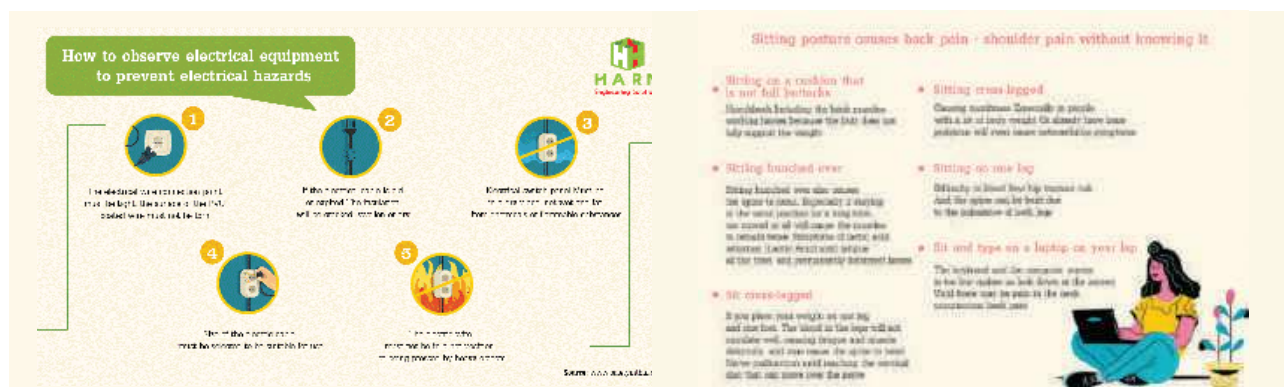
3.4 Environmental Sustainability Management (SMART Environment)

3.4.1 Environmental Policy and Practice

HARN 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. HARN has developed an environmental management system by establishing a policy on the environment, occupational health and safety at work to be a framework for operation as well as building a systematic environmental database to control and reduce impacts and maintain a good environment along with sustainable business growth

3.4.2 Environmental Performance

In 2022, had revised the training manual used on safety/work environment and environment. The training for 34 new employees. The test results after the training show 88% of success and campaign for all employees to know how to observe electrical equipment to realize protection against electrical hazards via communication channels in HARN such as email, Line Official and Digital signage.



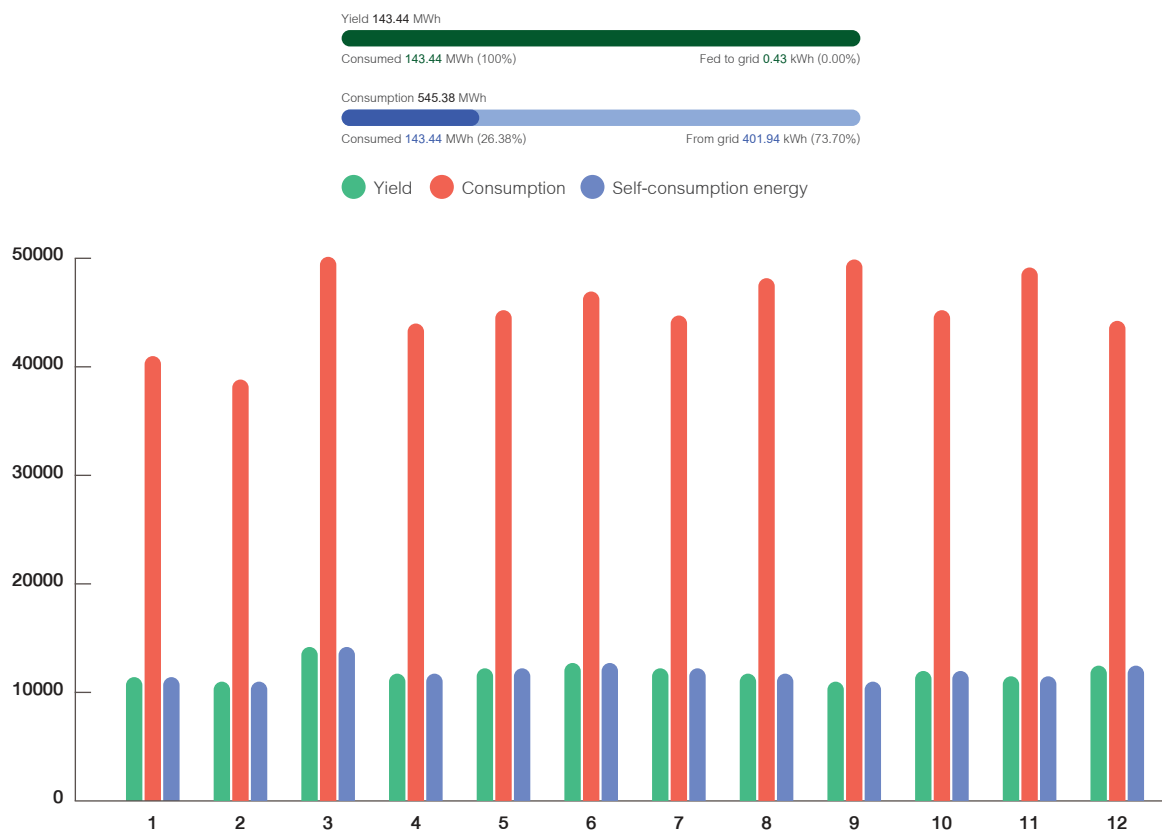
Climate Change Action

Energy Management

HARN adheres to the importance of efficient energy management. There is a system for data collection of energy consumption to analyze and plan on energy consumption control, while promoting indirect energy savings. The target to reduce energy consumption is 170 kWh per year or 30% of total energy use compared to the year 2021 with the installation of 330 solar panels (size of 0.127 megawatts) and the smart PoE Lighting system to control the lighting system from the lights inside the building by using internet lines instead of electric wires. The system automatically dims the light from the lamp when there is enough sunlight from outside. This can save electric energy and expenses, including the reduction of environmental impacts.

Also, HARN chose to learn and establish a building and energy management system by its internal team, together with Aiyaraham Co., Ltd. (Subsidiary) with Internet of Things (IoT) know-how, we aim for energy to be less than 120kWh per square meter per year, which is considered very low for a building in Thailand.

In 2022, HARN had electricity consumption in HARN's head office building of 401.943 kWh or 60.9 kWh/m², which was 50% lower than the design target. It was a building with very low energy per square meter. After the installation of solar panels, it was found that the amount of electricity generated in 2022 was 143,438 kWh or 26.3% of the total electricity consumption per year. Therefore, compared in 2021 (January-December), decrease of 15.07% thus, HARN not achieve its goal and still need to plan for efficient energy management.



The Amount of Solar Power Generation (Blue) and Total Electricity Consumed (Orange)

The difference is the electricity that must be purchased from MEA.

The data obtained from the Building Management System developed by HARN and Aiyaraharn Company Limited ("Subsidiary"), it found the proportion of energy consumption in the HARN office during the second half of 2022 is as follows:

System	Power Proportion (%)
Chiller	44.14
Cooling and Air-Conditioning	23.92
Information, communication and outlet	21.70
Light	7.95
Data Center	0.71
Elevator	1.58

It can be seen that chillers and AHU & A/C are the systems that consume energy accounting for 68.02% of the total energy consumption, so modification of the two systems is required to reduce energy consumption. HARN aims to optimize the maintenance these two systems for maximum efficiency.

For the lighting system, typical buildings consume 25% of the total energy consumption. It can be seen that HARN's office building has only 7.95% of the energy consumption because HARN uses a PoE lighting system that dims or turns off the lamps according to the intensity of the light and only when they are used.

What HARN has built in this office building will become a corporate culture of energy-saving consciousness, and no matter where employees are located, they will always have a sense of reducing energy loss.

Water Resources Management

Water resources are very important for consumption. Currently, climate change has started to have an impact on the amount of water available, especially in various business groups. Thus, it is necessary to increase water management efficiency.

HARN's business operations use water resources for consumption from tap water. It sets a target of 5% reduction in water consumption for head office buildings when compared to the base year of 2021 in a bid to raise the level of water management according to the principles of circular economy by using water economically. The wastewater is used for watering plants to reduce costs on water and lower the amount of wastewater. In 2022, HARN maintained 9,440 cubic meters of water consumption or an increase of 10.27 % when compared in 2021 (January-December). Thus, HARN not achieve its goal and still need to plan for efficient water resource management.

Waste and/or Pollution Reduction Management

HARN has managed its waste separation according to the type of waste as required by law. There is a management system for hazardous wastes and separation of waste in each type. This includes the establishment of an internal management system with proper collection and delivery for disposal by authorized individuals from the Department of Industrial Works, Ministry of Industry, which can be verified and traced back. The hazardous wastes, e.g. solvents and contaminated containers, are disposed of by legally authorized companies through landfills. Meanwhile, the non-hazardous and general wastes, such as plastic, paper, glass, and metal, are delivered to other service providers for proper separation and recycling.

The goal is to reduce the proportion of waste for disposal by 5% when compared to the base year of 2021, with measures and practices of 3R, i.e., Reduce, Reuse, and Recycle. In 2022, all activities were 100% complete, with the proportion of waste for disposal of 59.34 tones, or an decrease of 2.21 % When compared in 2021 (January-December). Thus, HARN could achieve its goal for efficient planning of a continual waste management project each year as follows:

		
Reduce	Reuse	Recycle
1. Use email to send document eg. Gmail/Outlook 2. Store data via Data Center 3. Use e-meeting 4. Change paper-based surveys to Google Form 5. Reduce giving out handouts of seminars to soft copy via email 6. Implement "One Quality Project" to reduce paper by adjusting the working method, develop using digital systems	Print on one side printed paper	Placement of separate bins eg. General waste, used paper, bottles & plastics and sell reusable waste from paper, bottles & plastics.

Greenhouse gas emission management from business operations

Currently, climate change is a very serious problem. Many countries worldwide have paid attention to reduce greenhouse gas emissions due to the environmental impacts. It is crucial to determine the direction for implementation in accordance with the framework of the United Nations Convention on Climate Change and the Paris Agreement. Thailand has committed to fully raising the level of problem solving with an announcement to become carbon neutral by 2050 and achieve net zero emission by 2065.

Therefore, HARN adheres to the direction of Thailand by setting its own goal of being carbon neutral by 2040 and emission Net Zero by 2050. It also assesses the risks and creates a plan to review the target value of greenhouse gas emission control, in line with the installation of a solar power generation system in the car park area, as well as the forestation and use of electric vehicles to reduce impacts on the environment and greenhouse gas emissions in the value chain with a tangible way, including the follow-up on the operating performance systematically.

In a bid to support the reduction of greenhouse gas emissions, HARN has established the Carbon Footprint Management Working Group in 2022 to review and set clear goals for a control of greenhouse gas emissions, in line with a project to install an additional 0.177 megawatts of solar panels in the parking building area to increase the capacity of power generation equal to the energy consumption rate at the head office. The project has been approved by the Board of Directors and will be installed in 2023. In the meantime, HARN also supports the Care the Wild Project to restore the forestation at Ban Aoy Community Forest, Village No. 11 and Ban Boon Rueng, Village No. 4, Ban Wiang Subdistrict, Rong Kwang District, Phrae Province, in an area of 1 rai (1,600 sqm), with the Association of Listed Companies on the Market for Alternative Investment (MAI) by setting a goal to reduce greenhouse gas emissions by 5% per year.

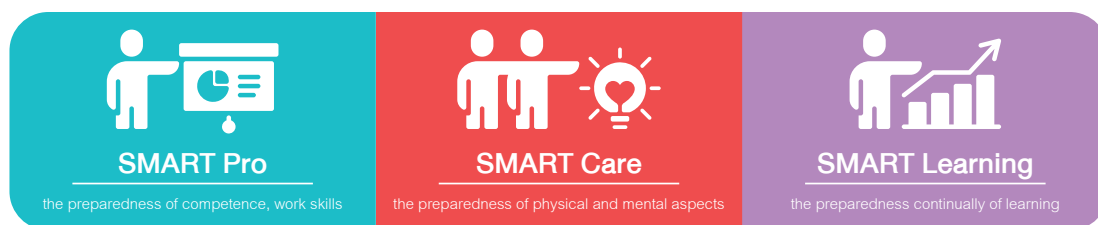
In 2022, HARN emitted direct and indirect greenhouse gas emissions equal to 1,060.41 tons of carbon dioxide equivalent (tCO₂e). The greenhouse gas emissions of HARN has been calculated by using data of 2022 as the base year (November 2021 - October 2022), which is currently in progress, in accordance with the principles and formulas as reference from the Greenhouse Gas Management Organization (Public Organization), or TGO. However, it has not yet been verified by experts from the TGO. In 2022, HARN complied with the standards and specified laws, with no fines or environmental penalties paid. With clear goal, HARN received the Green Building Award, DGNB Standard Gold Certificate, organized by the German-Thai Chamber of Commerce and DGNB GmbH.

3.5 Sustainability Management Social

3.5.1 Social Policy and Practice

Human Resource Sustainability (SMART People)

Since HARN conducts a trading business, not only the selection of quality products, but also the existing work systems and services which efficiently meet the changing of customers' demands due to economic conditions, technology or other factors are key to success. HARN realizes that employees are crucial to driving the organization towards success and sustainable growth. However, to achieve that goal, the employees need to be smart, good and happy. The significant HARN missions to drive success as intended are to strengthen and develop personnel through the sustainability cycle in accordance with the strategic direction SMART People in three areas: SMART PRO; SMART Care; and SMART Learning, through the human resources administration policy of HARN which designates to be determined to create a working atmosphere to be happy, enthusiastic, with initiative and



also the development to be well-rounded employees on the principles of accuracy, justice, positivity and professional responsibility.

There are 5 practical policy and guidelines as follow;

1. Human rights respect
2. Fair treatment of employees
3. Strengthen and develop employees' capability; support culture and values of HARN in line with the goals, strategies and direction of business expansion.
4. All executives are responsible for human resource management in accordance with the policy and management guidelines of HARN.

5. Enable information technology to develop human resources in various fields.

Human rights respect

HARN is committed to conducting business under the policy of human rights respect according the plan of 100% of business activities, has reviewed risk aspects on human rights covering HARN's business operations under were aspects that represented core operational risks: safety and occupational health, migrated labor, security, suppliers' workplace conditions, the standard of living of communities, and the rights of natives/employees to ensure to keep risks manageable. Also, the implementation of this plan is to be monitored every quarter, report to the Board for acknowledgment and comments. This year 2022 no complaints and not any violation of human rights in business process, are practical guidelines as follow;

- 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.
- 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
- 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.

Fair treatment of employee's

HARN is committed to conducting business under the policy of fair treatment of employee's according the plan of 100% of business activities, in 2022 did not violate the laws regarding labor, consumers, employment, trade competition, environment, the practice guidelines are as follows;

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

3.5.2 Society Performance

Manpower planning and employment

HARN has an employment policy which focuses on equity, no limitation or discrimination on gender, race, religion, and culture, based on qualifications, experience, and capacities as specified in the code of conduct with transparency and fairness to all candidates who are internal employees and external job applicants. In 2022, HARN had a total of 246 employees, with different age, gender, education level, and various job characteristics, while retaining the employee rate according to the manpower plan of 98.40% and the resignation rate of 13.33% according to its plan.

HARN maintains its duties in compliance with the law and adheres to the Persons with Disabilities Empowerment Act B.E. 2550 (2007) in providing support to people with disabilities for their sufficient income in life. In 2022, HARN has notified its intention to comply with the occupational promotion under Section 35 (allowing concessions) according to the Persons with Disabilities Empowerment Act for two disabled persons in the integrated farming project and the continuing grocery store project, with a

total value of 228,490 baht, through the Social Innovation Foundation.

Remunerations and Benefits for the Employees

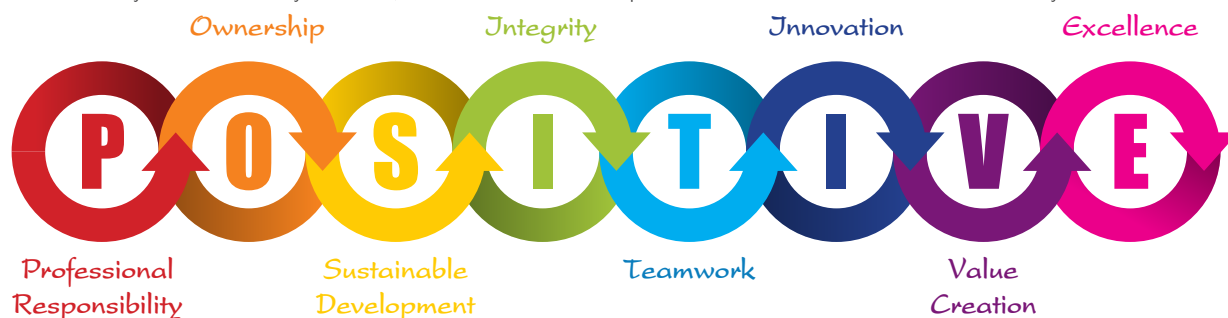
HARN has a policy of fair compensation as well as creating career stability and fair career advancement opportunities and provide various welfare benefits for employees as required by law according to the following guidelines;

- Established a welfare committee to control and monitor all levels of employees in the organization to allow employees to fully participate in policy-making through the communication channel designated by HARN.
- Participated in the wage surveys and HR Benchmark 2021/2022 to reconsider compensation and welfare which would help HARN in attracting and retaining skilled workers, as well as keeping the cost of HARN to be reasonable. Besides the salary, employees will fairly and appropriately receive welfare and other benefits in various forms. **More details appear in Part 2 “7.5 Information of the Employees”, page 131**

Employees Development

HARN there a policy to promote personnel development at all levels equally, improve their higher performance and prepare them for tough competition. Learning opportunities and training should be provided for them so they can absorb knowledge, develop skills and gain experience that contribute to the growth of HARN. Annual training in and outside HARN, including business trips aboard, are made available for staff so as to develop their skills. Moreover, HARN puts a great emphasis on following up, assessing, applying gained knowledge to the workplace, sharing it with the team and related sectors.

HARN defined its core values as POSITIVE, which is significant in molding the management and employees to team work behavior clearly reflects identity of smart, conscientious and responsible for HARN and the outside society alike.



HARN is determined to execute its human resource development plan as soon as its employees start working at HARN by providing training focused on knowledge and basic skills necessary for the workplace. The training is also focused on developing good attitudes with a growth mindset course so they can be productive and successful at work. Motivating them to develop their potential is also necessary for their work and personal lives.

In 2022, there were various courses for personnel development as follows:

1) Self-potential development

- **Proactive & Growth Mindset for Success**

There were 40 people in this training course of 6 hours per person per year. It was a course to encourage all employees to value their own potential development and be aware of the roles and responsibilities of working as professional personnel by setting challenging goals to achieve self-improvement, job development, and organizational development through proactive work concepts with happiness.

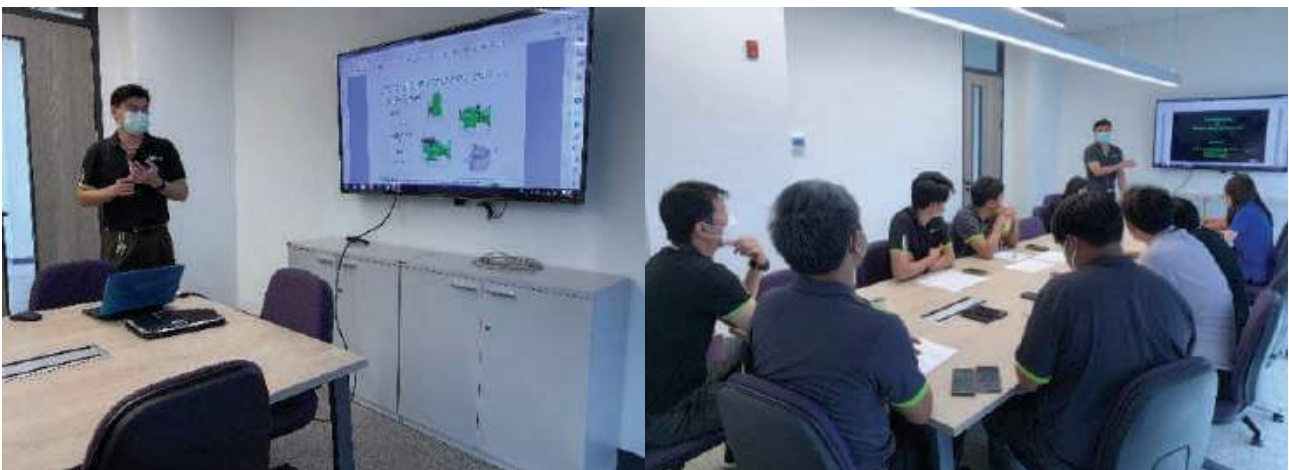


2) Sales and service

It is regarded as the central to the success of the business so training sales and service staff is necessary in order for them to gain knowledge, develop their skills, build a positive attitude, get motivated, develop a good personality, have a service mind, and boost their confidence in presenting HARN's products and services to meet the needs of customers. So, they can consult, give advice, solve problems professionally and impress customers with successful management fulfilling HARN's vision that says "We will be the leader in providing sustainable solutions", encourage its staff to have business trips and receive training focused on products, working systems and new technology abroad. Knowledge experience gained will be shared with the team and apply to products and services development in the future, as follows:

BITZER Screw Compressor Knowledge

There were 11 people in this training course of 6 hours per person per year to learn and understand the technology of reciprocating compressors of BITZER products, so they could provide advice and service recommendations to customers appropriately.



- **Professional Negotiation and Sales Closing Course for Sales and Service Personnel**

There were 47 people (2 groups) in this training course of 6 hours per person per year to learn the principles, techniques, and methods for systematic negotiations with good mindsets, so all services and salespersons could recognize the values or perspectives as customers, in line with understanding the customer's problems and concerns towards their problem analyses and resolutions to appropriately serve the needs of customers in the entire process.



- **GS1 Data Matrix Creation and Encode Text Setting Course for AX Machine**

There were 15 people in this training course of 3 hours per person per year to enhance the understanding of GS1 Data Matrix standardization and encode text setting for the AX machine, allowing operators to provide accurate advice and product recommendation to customers.



- **Effective and Accurate Product Receipt and Inspection**

There were 15 people (2 groups) in this training course of 6 hours per person per year to help all operators to have knowledge and understanding of their effective and accurate operations in the process of product receipt and inspection, while preventing problems and mistakes at work along with meticulous skill development and awareness on their responsibilities and the achievement of goals.



- **Working Principle and Operating System of Domino M-Series Digital Printer**

There were 22 people in this training course of 7.50 hours per person per year to learn and understand the working principle and operating system of such printer directly from the manufacturer, so they would be able to give advice and recommend the effective use of products to customers.



- **Knowledge of Gas Welding and Cutting in Production Process of Condensing Unit**

There were 9 people in this training course of 6 hours per person per year to have knowledge and understanding on gas welding and cutting in production with accuracy according to the standards and awareness of dangers and damages which may arise from improper operations.



- **Knowledge of Valve Products in Firefighting, Air Conditioning and Sanitation System**

There were 18 people in this training course of 18 hours per person per year to develop knowledge of valve products in firefighting from vendors and smart PICV valve experts, which would allow all staffs to guide their customers on the correct usage of products.



3) Legal compliance

HARN has reviewed and strictly operated in accordance with the laws or related regulations towards safety to all stakeholders and at work.

- **Operations in accordance with personal data protection laws**

There were 16 people in this training course of 7.30 hours per person per year to prepare the organizational operations in accordance with the laws and prevent any violations to personal data both intentionally and unintentionally. This course would also help all trainees to have knowledge and understanding of skills necessary to comply with personal data protection laws.



- **Safety in working with electricity for employees who work on electricity and provide assistance to those suffering from electrical hazards**

There were 49 people in this training course of 6 hours per person per year for employees working in relation to electricity and needing to have knowledge of electrical systems, so they could work safely according to the assigned duties as Harn's first priority.



4) Leadership Development Project

- Analytic and Systematic Thinking for Cross Functional Problem Solving & Decision Making

There were 38 people in this training course of 6 hours per person per year for executives to build an overview of all problems, including analytical tools for the root causes of problems and formulation of strategies, guidelines, and methods to solve problems appropriately to achieve the expected outcomes under limited resources. Thus, decision making should be another important element of thinking.



5) Development of Teaching Skills within Organization Project (Train The Trainer)

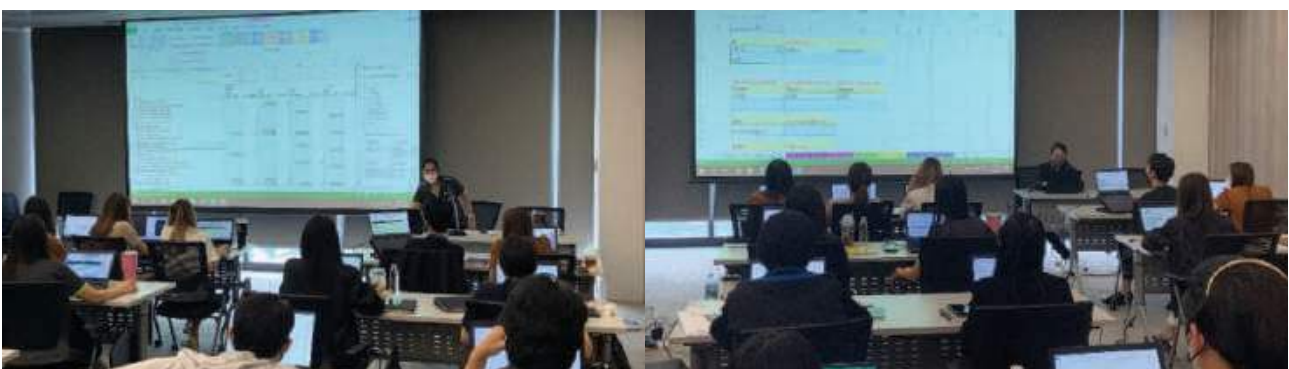
- Effective communication and coordination within the organization

There were 11 people in this training course of 6 hours per person per year to promote self-learning through the world of communication, while evaluating their own communication for the development of effective communication skills and coordination within the organization, as well as mutual understanding and fewer conflicts at work to achieve good friendships, reliability, and accomplishment as specified.



- Techniques for Using Excel for Professional Data Management

There were 24 people in this training course of 6 hours per person per year to enable all employees to have a good understanding of basic databases. The course would focus on teaching formulas, functions, and techniques for the fast handling of large amounts of data, along with samples of applications at work.



- **Knowledge of International Trade Agreements (INCOTERMS 2020)**

There were 15 people in this training courses of 6 hours per person per year to enhance knowledge and understanding of meaning and importance of various points and precautions on related trade agreement conditions to achieve proper applications at work.



In addition, HARN also promoted employee learning through online learning on the website of the organization in the project of **"HARN Academy"** in which employees are able to learn anytime and anywhere, supports various communication devices. The topics are related to the important policies of HARN, personal finance, including the review and test understanding on anticorruption, in order to provide the understanding to the correct practice of executives and employee, as well as the awareness of importance, roles and duties, which is a process of the effective prevention and anticorruption in the organization.



Summary of employee development workshops in 2022

Employee development	Unit	2022	2021	2020
The number of total staff	Person	246	238	244
The number of training hours	Hour	3,114	2,153	871
The number of training hours of each staff on average	Hour	12.66	9.05	3.57
Expenses on training domestic	Baht	246,959	125,752	346,650
Expenses on training abroad	Baht	-	-	-
Score of bonding experience	% Bonding experience	80.54%	81.49%	76.70%

Course	Description	Unit	2022	2021	2020
Basic Training Course	The fundamental knowledge of the business, its policies, its values, its cultures.	% Trained staff	100%	100%	95%
		Average of training hour	20.97	13.81	2.71
Training Course on Preparation for Greatest Strength	The fundamental knowledge necessary to be able to take their responsibilities, achieve their goals and develop an understanding towards the pros and cons of the tasks they are given.	% Trained staff	92%	93%	100%
		Average of training hour	13.86	6.56	4.70
Training Course on How to Work Effectively	Increase work potential, understanding of factors affecting you or work, and adapt to adapting to change.	% Trained staff	72%	45%	48%
		Average of training hour	7.32	3.82	3.36
Training Course on Effective Management	Management, learning, innovation development and new technology to be more competitive	% Trained staff	10%	2%	0%
		Average of training hour	0.62	0.44	0.00

Occupational Health, Safety and Working Environment

HARN defined policies that encourage employees to performance of duties safely, is concerned about all employees' safety in performance of duties, including contractor performs who the work 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 to supervise and report operation results regarding occupational health, safety and environment comprehensively and equitable. In 2022, 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.

In 2022, the COVID-19, HARN still provided notifications and reports on the infection situation closely, in the case of infected employees with COVID-19, will announcement be executed through the announcement of the operation procedure and report of the results to supervisors and other related agencies, reduction of crowds in the workplace or risks from public transportation. Employees were taking turns going into the office to work and those who work at home are able to work through the systems normally because of the support of technology; for example, working from home through the VPN system, online meeting, and health reports via Google form which can conclude health data and report to executives regularly.

In 2022, the operating performance on occupational health and safety of employees was as follows:

- Statistics of accidents/absenteeism/illness rates resulting from work in the year 2022

Types of Accident	Numbers of Accident (zero target)						
	Passed Away	Disability	Compensation of more than 3 days off	Compensation of less than 3 days off	No Day Off	Damage to Assets	SCU
Objects or structures destructive or fell off	0	0	0	0	0	0	0
Being exposed to chemicals	0	0	0	0	0	0	0
Vehicle Accident	0	0	0	0	0	7	7

- Seminars and basic fire drills are held

HARN provides Seminars and fire drills are held including the planning and assigning responsible persons so that the practice is carried out correctly and efficiently on Wednesday, June 29, 2022. Evaluation results illustrates fire drill and evacuation plan. Assessed by Department of Labor Protection and Welfare as 'Good'



- Annual medical check-up

To promote the treatment and prevention physical health of employees to be healthy and strong. HARN provides an Annual medical check-up was arranged for the year 2022, Including examination according to risk factors according to job characteristics by selecting hospitals that meet standards for health check-ups for employees on February 9, 2022, in which 238 employees undergoing medical examinations, 235 were actually examined, representing, representing 98.73%.



Labor Relations Management

HARN has policies and guidelines for treating employees fairly with respect to their rights and freedom to form groups. The communication channels are provided for opinions via LINE Official Account on matters which will benefit the public, with no causes of any troubles to employees or the organization.

HARN sets up the welfare committee as representatives of employees to share their opinions in various welfare arrangements which will be beneficial and suitable for employees and the organization.

In 2022 HARN policies is to encourage its staff to participate in various activities so they can have a bonding experience, develop a good attitude towards HARN, stay physically and mentally healthy, and have high employee morale, leading to a sustainable growth, as follows:

- Inheriting Songkran Tradition

An activity to promote good culture and strengthen the relationships among HARN's employees.



- Annual travel

An activity to travel for full relaxation from work all year round, while strengthening the relationships, love and bonds of all employees in the organization to achieve new inspirations at work.



- Annual Sports Competition (HARN GAMES)

An activity to promote relationships for employees to participate in sport skills and strengthen the unity among employees with physical health as well as acceptance and respect to the rules and results of sport competition to achieve good relationships through sports and exercise.



- New Year Party



Communication with employees

HARN 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, HARN has arranged communication channels with employees according to the importance of the matter to be communicated as follows:

- **The annual staff meeting**

On Friday, March 11, 2022 to allow Chief Executive Officer and Executives to share and emphasize vision, mission and corporate strategy in both short and long term for employees at all levels. in order to create an understanding of performance to achieve the same goals, and organizing ceremony rewarding the employees whose years of experience have passed the criteria for the purpose of raising morale for work performance and support to being an important power to organizational success.

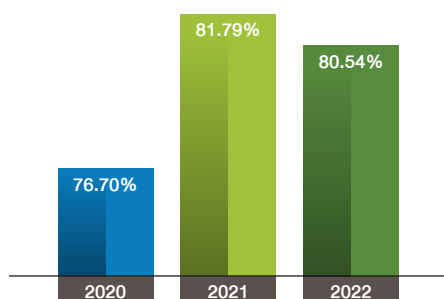


- **Assessment of employees' engagement and work happiness and satisfaction.**

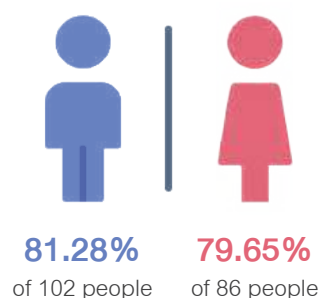
HARN believes that career security, good work environment, good health and happiness at work will contribute to enhancement of work efficiency. In 2565, 188 out of the total of 245 employees, representing 76.73%, participating in the questionnaire, Employee satisfactory result equal to 80.54%. Which is lower than the target set at 85% However, HARN has analyzed various recommendations and assigning relevant departments to make improvement plans.

Overview of Employee Engagement Survey Result

Employee Engagement Statistics Year 2020-2022



Commitment by gender Year 2022



- **Communication via LINE Official Account**

LINE Official Account: As a channel for speedy communication in addition to communication email and Internal network system (internet) and HARN website, while being another way for employees to communicate and provide suggestions or complaints on various matters for HARN to realize those problems and consider them in developing the working systems or to solve such problems to achieve the working atmosphere of involvement and happiness.



Human Resource Management and Development with Information Technology

To provide accurate and complete information on Human Resources, as well as to effectively apply information in many aspects and reduce errors from operations, in 2022 HARN has implemented the E-business Plus system for the payroll system, leave, overtime request, medical reimbursement, training, data collection and compensation of employees. On the system, employees are able to promptly make request anytime and anywhere which can convenience and quickly, help to reduce the burden of audit and documentation for human resources. Moreover, from the development of assessment through a system instead of paper, training or meeting registration, training evaluation and testing are able to operate through digital technology.

3.5.3 Community & Social Sustainability

In the course of business operation, HARN is committed business to fair with Guidelines for management according to moral, ethical administration, creating management creditability. HARN 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, HARN also promotes social responsibility in all stages of business chain, takes responsibility for its actions which may affect the community, society and 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, the following guidelines:

Social or Community Development

Dr. Jain Charnnarong, the Director of HARN, attention and importance to safety of community, society, environment and quality of life, has realized the environmental problems regarding PM 2.5 and begun to study the solutions to reduce forest fires and villagers' poverty which is called "Ban Kor Sandbox," Ban Kor (Kor village), Kor sub-district, Li district, Lamphun province is one of the villages which has suffered the most from forest fires in Thailand. Over the past 22 years, the area of Mae Ping National Park which surrounds Ban Kor has been exposed to forest fires up to 20 times which amounts to burning area between 110,000 -275,000 rai per year. by for the cooperation from the civic sector to work with villagers and government officials in solving forest fire problems and reducing the villagers' poverty through water and soil resource managing, reforestation, livestock and fishery, travel, and wisdom creation.

Even the new plants have been recovered after a few months of forest fires, the microorganisms which cannot be seen with the naked eye were also destroyed, especially fungi. The tree roots of the Dipterocarpus Family in the Deciduous Dipterocarp Forest are colonized by fungi. Such must have fungi provide water and nutrients for plants, and in exchange, the plants will photosynthesize and provide sucrose and glucose to the fungi. The symbiosis relationships bring which will help the abundant trees in the Deciduous Dipterocarp Forest, even in dry areas lacking minerals in the soil. But when the forest fires often occur, microorganisms and fungi are destroyed, the Deciduous Dipterocarp Forest will dwarf lack the abundant. Moreover, the fires prevent the soil from holding water, which is why Ban Kor had such a long dry season such that other plants could not be grown, except field corn.

To reduce forest fires in the Mae Ping area by raising the quality of life, in 2021 the club encouraged villagers to have the right to make a living in the park area under Section 64. The villagers had a resolution to help the Mae Ping National Park with forest fire prevention, conservation, rehabilitation, and learning to achieve sustainability when they receive the right. The Groundwater Department also initiated a large groundwater supply project to solve the problem of drought caused by the royal initiative to help the people to have water sources for building a tap water supply system in the village in order to solve the water shortage problem, along with using the budget from the Groundwater Fund to develop groundwater for large-scale agriculture of 500 rai, as well as digging over 33 artesian wells in the area under Section 64 to have sufficient water for cultivation for another 500 rai. The addition of groundwater will help the villagers change their methods from monoculture in the rainy season to mixed crops throughout the year to gain more income and stability and to reduce forest burning according to the objectives.

In addition, in 2022, HARN supported the Young Forest Fire Detective Challenge Project, in cooperation with the Office of Policy Administration of the Prime Minister, the Anandamahidol Foundation Scholarship Awardee Association, and Chulalongkorn University, in creating a **"Tam Fire"** application to display the heat points in a time series, which shows the size and direction of the fire front of wildfires day by day. We will see the behavior of fire from birth until it goes out. When the heat points in a time series are displayed on a map showing things covering the land, it makes us know the motives for incineration to provide long-term protection.

This **"Tam Fire"** application is open to the public to access and use to analyze forest fires in the area free of charge. From November 13, 2021 to February 20, 2023 it was visited by 93,172 people.

From June 29 to December 31, 2022, an ad hoc academic working group for making recommendations on forest fire management and open burning to support the problem-solving of PM2.5 dust, consisting of Thai and foreign scholars, including representatives from the Geo-Informatics and Space Technology Development Agency (Public Organization) or GISTDA established by the Prime Minister's Policy Administrative Office (Public Organization) with the approval of the Prime Minister, used the **"Tam Fire"** application to analyze the occurrence of forest fires by bringing the heat point data to arrange in a daily time series and link it to the map to analyze the direction of movement and time of each fire in an area with land cover data indicating that it is a forest area. As a result, the working group was able to identify the location and extent of fire in the country's top 4 largest recurring forest fire conservation groups, namely:

- (1) Mae Ping-Omkoi-Mae Tuen Area, amounting to 581,872 rai,
- (2) Pai River Basin "Pai River Basin, Left Bank - Mae Surin Waterfall, amounting to 311,883 rai,
- (3) Salawin - Mae Sariang, amounting to 558,486 rai, and
- (4) Srinakarin Dam, amounting to 166,689 rai

This data set also helped the working group examine the origin and movement of the fire line and lead to the initial assumption of individual bushfire incidents caused by human behavior that vary according to the socio-economic context of each community.

After being informed by the Policy Administration Office, the Prime Minister then ordered the Office of the Permanent Secretary of the Ministry of Natural Resources and Environment on April 12, 2022 to send this report to various related ministries as information for consideration of the above measures, while creating information in the form of Big Data for further use.

4. Management's Discussion and Analysis (MD&A)

In reading Management's Discussion and Analysis (MD&A), investors are advised to study the supporting documents including the consolidated financial statements, financial information, overall performance, together with note to financial statements and this document.

4.1 Operating Results and Financial Position Analysis of HARN and Subsidiaries

In 2022, the global economy began to show signs of recovery to pre-COVID-19 levels, demonstrating the resilience of economies in bouncing back from the negative impacts experienced during the outbreak. This was also evident in the Thai economy, which showcased its ability to recover from the negative impacts experienced globally in the past period. This was facilitated by various factors, including the rebound of private consumption, the return of tourists after the country reopened in May, and the government's measures to ease the burden of the cost of living. Private sector enterprises resumed their operations as usual, enabling HARN to gradually deliver products that were postponed from 2021 and resume sales activities like trade shows and customer visits. However, HARN continues to maintain a strict credit evaluation policy for customers to minimize the risk of bad debt. In 2022, HARN has revenue recognition from its sales and services of Baht 1,219.66 million, which is an increase of Baht 193.68 million or equivalent to 18.88%, when compared to that of 2021, in which Harn's sales from revenue and services was Baht 1,025.98 million. Other income in 2022 was Baht 22.63 million, which is an increase of Baht 2.48 million or equivalent to 12.31% from mutual fund investment, earned interests, office building and warehouse rental income and dividend income. Sales and services cost an increase of Baht 159.55 million or equivalent to 22.36%. The rise in costs for sales and services has outpaced the growth in revenue from sales and services, which can be attributed to several factors, such as inflation, increased costs of imported goods and logistics, a weakened baht in the previous year, and political and geographical conflicts between nations. Distribution and administrative expenses in 2022 an increase of 5.20% and 7.03% respectively. Based on the expenses for travel, exhibition events, and an increased provision for credit loss in accordance with the credit-loss model based on the age of the debtor, HARN has gross profit margin of 28.40%, which is a 2.04% decrease from the previous year. The net profit of HARN increases to Baht 88.78 million, which is an increase of Baht 16.51 million, or 22.84%. The net profit margin is 7.15% compared to 6.90% in 2021.

In the financial results for 2022, HARN has proposed a dividend payment of Baht 0.13 per share to be approved at the annual ordinary shareholders' meeting. The proposed dividend payment rate per net profit of the consolidated financial statement is 86.67% compared to the dividend payment rates of 76.47% and 83.33% from the 2020 and 2021 financial years, respectively. However, it is important to note that the approval of the dividend payment for the 2022 financial year is still uncertain and will depend on the outcome of the shareholders' meeting.

As of the end of 2022, HARN's total assets amounted to Baht 1,783.10 million, reflecting an increase of Baht 97.38 million, or 5.78%, compared to the previous year. The liquidity ratios for 2021 and 2022 were 3.89 and 3.35, respectively, indicating that the company has maintained a good level of liquidity. Additionally, the debt-to-equity ratios for shareholders during the same period were 0.28 and 0.32, respectively, which suggests that HARN has a stable financial position with low reliance on debt financing. Furthermore, HARN does not rely on borrowing from financial institutions. In addition, HARN has invested in government bonds and other circulating financial assets to improve its asset-management efficiency. The company also adheres to financial reporting standards and exercises caution and prudence in its decision-making process. For example, it estimates potential credit losses, stock for obsolescence, and slow moving inventory turnover to ensure that asset valuations are appropriate and up to date. HARN hires independent assessors to determine the value of land, buildings, and equipment and prepares suitable financial forecasts to review the impairment of assets that acquired through purchasing or transferring business operations, such as customer relationships and goodwill.

Overall Performance of HARN and Subsidiaries

Revenues from Sales and Services

Revenue	For the year ended December 31							
	2022		2021		Increase/ (Decrease)		2020	
	MB.	%	MB.	%	MB.	%	MB.	%
Sales and Services Revenues								
1. Fire Protection Products and Projects	559.74	45.06	423.94	40.53	135.80	32.03	534.18	45.68
2. Sanitary and Air-conditioning Products	55.70	4.49	47.85	4.57	7.85	16.41	63.82	5.46
3. Refrigeration Products	230.34	18.54	197.35	18.86	32.99	16.72	202.83	17.34
4. Digital Printing Products	366.65	29.51	351.90	33.64	14.75	4.19	349.07	29.85
5. Internet of things Products (Aiyaraharn)	7.23	0.58	4.94	0.47	2.29	46.36	2.43	0.21
Total Sales and Services Revenues	1,219.66	98.18	1,025.98	98.07	193.68	18.88	1,152.33	98.54
Other Income ¹⁾	22.63	1.82	20.15	1.93	2.48	12.31	17.10	1.46
Total Revenues	1,242.29	100.00	1,046.13	100.00	196.16	18.75	1,169.43	100.00

Note : ¹⁾ 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.

HARN has two subsidiary companies: Harn Vietnam Company Limited, which deals in the sales and servicing of digital printing systems in Vietnam (HARN owns 100% of the shares), and Aiyaraharn Company Limited, which is involved in the sales of products and services related to IoT systems in Thailand (HARN owns 65% of the shares).

In 2022, The revenue from sales and services consists of the revenue from Fire Protection Products and Projects at 45.06%, Sanitary and Air-conditioning Products at 4.49%, Refrigeration Products at 18.54%, Digital Printing Products at 29.51%, Internet of Things Products at 0.58%, and other income of 1.82% with the total revenue 2022 of Baht 1,242.29 million, when compared to previous year an increase of Baht 196.16 million or equivalent to 18.75%, Due to the temporary suspension of construction projects as a result of the COVID-19 situation and the gradual delivery of the backlog from the previous year, the revenue of fire-suppression products and projects in 2022 saw an increase of Baht 135.80 million or equivalent to 32.03% when compared to 2021.

In 2022, HARN did not have any single customer that contributed more than 10% of the total revenue from sales and services. However, the company relies on large customers who account for more than 10% of revenue in two business units : 1. The refrigeration products have two major customers, which account for 28.20% of its revenue, and 2. The IoT (Aiyaraharn) system products have three major customers, which account for 76.63% of its revenue.

Cost of Sales and Service

Cost	For the year ended December 31							
	2022		2021		Increase/ (Decrease)		2020 (Restated)	
	MB.	%	MB.	%	MB.	%	MB.	%
Cost of Sales and Services								
1. Fire Protection Products and Projects	422.01	75.39	311.39	73.45	110.62	35.52	397.37	74.39
2. Sanitary and Air-conditioning Products	40.19	72.15	33.74	70.51	6.45	19.12	43.87	68.74
3. Refrigeration Products	172.54	74.91	143.17	72.55	29.37	20.51	138.12	68.10
4. Digital Printing Products	233.14	63.59	222.04	63.10	11.10	5.00	218.40	62.57
5. Internet of things Products (Aiyaraharn)	5.38	74.37	3.37	68.22	2.01	59.64	2.07	85.19
Total Cost of Sales and Services	873.26	71.60	713.71	69.56	159.55	22.36	799.83	69.41
Gross Profit	346.40	28.40	312.27	30.44	34.13	10.93	352.49	30.59

The significant costs of sales and services are the costs of products, import cost, transportation cost and including the salary of in charge engineers along with installation team and the contractor's fee for equipment installation, in 2022, had cost of sales and services total Baht 873.26 million, increase of Baht 159.55 million or equivalent to 22.36%, and the gross profit margin of 2022, was 28.40%, decreased by 2.04% compared to the previous year. The lower gross profit rate for the year 2022 was a result of higher import and logistics costs, which were influenced by political conflicts and the volatile global economy. This is an important issue that consistently drives up the cost of goods in the global market.

In 2022, HARN relied on two major foreign manufacturers/owners of leading brand products, who accounted for more than 10% of the company's total purchases of goods and services. These two manufacturers/owners represented 29.14% of the company's total purchase value.

Distribution Cost & Administrative Expenses

Expenses	For the year ended December 31							
	2022		2021		Increase/ (Decrease)		2020 (Restated)	
	MB.	%	MB.	%	MB.	%	MB.	%
Distribution Cost & Administrative Expenses								
Distribution Cost	113.16	9.11	107.57	10.28	5.59	5.20	108.69	9.29
Administrative Expenses	141.82	11.42	132.50	12.67	9.32	7.03	139.10	11.89
Total distribution Cost & Administrative Expenses	254.98	20.52	240.07	22.95	14.91	6.21	247.79	21.19
Total Revenues	1,242.29	100.00	1,046.13	100.00	196.16	18.75	1,169.43	100.00

- Distribution Cost**

HARN's Distribution Cost in 2022 was at Baht 113.16 million, with the rate of 9.11%, of total revenue respectively. Distribution cost consisted of salary and welfare of sale officers, commission and sale promotion and depreciation of the demo, etc. Distribution cost to total revenue in 2021 has increased of Baht 5.59 million, accounting for 5.20%. The sales activity expenses that were previously halted due to the COVID-19 situation included cancelled exhibitions and incurred costs for both domestic and international travel, among other things.

- Administrative Expenses**

HARN's administrative expense for the year 2022 was at Baht 141.82 million accounting for 11.42%, of total revenues. Administrative expenses consisted of salary and employee welfare for supporting teams, executives and board of directors, amortization of the right of use for buildings and warehouses, utilities costs, 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, and allowance expected credit loss. These administrative expenses are according to the terms of the financial report standards, which are non-cash item accounting expense. The ratio of administrative expense to the total revenue in 2022, increased from 2021 was at Baht 9.32 million, accounting for 7.03%. Part of the reason is allowance for expected credit loss increased from customers according to the age of the debtor (Credit Loss Model)

Net Profit

HARN's total net profit for the year 2022 of Baht 88.78 million, an in increased of Baht 16.51 million, or equivalent to 22.85%. Main of the reason from the revenue sales and services increase of 18.88% and net profit margin of 2022 was at 7.15%, an increase of 0.25% from the previous year, when compared to 2021.

On July 8, 2020, HARN co-invested and registered a company, named "Aiyaraharn Co., Ltd." and HARN and its joint investor hold 65% and 35% of the total issued shares of such company. The objective of HARN is to improve the system of IoT Products and Solutions through the implementation plan which focuses on the services of SMART Building solution and initiates the business from the current customer base of the companies in the condominium, high-rise buildings and cold storage group in order to expand the business for more sustainable growth.

On July 30, 2019, HARN invested in establishing a subsidiary in Vietnam under the Harn Vietnam Co., Ltd. to support HARN's domestic customers who moved their production base to Vietnam. And increasing the acquisition of new customers abroad. However, the subsidiaries operations are still in the early stages of acquiring customers and the operations still rely on the assistance of HARN in the form of working capital.

In the criteria for preparing the consolidated financial statements, there were the eliminations of intercompany transactions, inventory's profit, intercompany receivable and intercompany payable, as well as investments and shareholders' equity of Subsidiaries Company.

Other comprehensive income (OCI)

HARN's total comprehensive income for the year 2022 in the amount of Baht 88.84 million, It increased by Baht 15.33 million, which is 20.85% when compared to the year 2021, which items of comprehensive income are: Exchange rate differences from the translation of financial statements and a profit from the revaluation of employee benefits.

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA)

EBIT & EBITDA	For the year ended December 31							
	2022		2021		Increase/ (Decrease)		2020 (Restated)	
	MB.	%	MB.	%	MB.	%	MB.	%
Earnings Before Interest and Taxes (EBIT)	114.05	9.18	92.35	8.83	21.70	23.50	121.80	10.42
Depreciation and Amortization - cost basis	31.26	2.52	29.93	2.86	1.33	4.44	16.34	1.40
Depreciation and Amortization - fair value appraisal	-	-	0.24	0.02	(0.24)	(100.00)	0.71	0.06
Customer Relation Amortization	13.85	1.11	13.85	1.32	-	-	17.95	1.53
Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA)	159.16	12.81	136.37	13.04	22.79	16.71	156.80	13.41
Total Revenue	1,242.29	100.00	1,046.13	100.00	196.16	18.75	1,169.43	100.00

HARN obtained the Earnings before Interest, Tax, Depreciation and Amortization (EBITDA) in 2022 in the amount of Baht 159.16 million, increase 16.71% when compared 2021 accounting for 12.81% to the total revenue. In 2022, monetary profit increased due to the exceeding revenue from sales and services, while distribution cost and administrative expenses to a more than proportion. In 2022, HARN expected to see an increase in the provision for slow-moving or obsolete inventory, as well as an increase in the provision for credit losses due to some customers experiencing liquidity and/or delayed debt repayment issues beyond the credit term. However, this was in accordance with the best forecasting in consideration of possible risk which was based on data on previous repayment and independent expert estimates. (More details are shown in the topic of account receivable and inventory). Although EBITDA increased in the current year, the EBITDA margin ratio decreased by 0.23% compared to 2021.

The Company's Asset Management Capability HARN and Subsidiaries

Financial Position Analysis as of December 31, 2022 and 2021

HARN had the total assets as of December 31, 2022 of Baht 1,783.10 million, increased by Baht 97.38 million, accounting for 5.78% with the major assets as percentage of total assets comprised of cash and other current financial assets in a proportion of 16.80%, trade account, other receivables and other current contract asset of 15.15%, inventories 24.18%, investments property accounted for 8.60% and the goodwill is 18.77% while the customer relationship is considered another intangible asset, accounting for 0.71%, both goodwill and relationships with customers had been tested for impairment in accordance with financial reporting standards annually.

As of December 31, 2021 major assets as percentage of total assets comprised of cash and other current financial assets in a proportion of 16.76%, trade account, other receivables and other current contract asset of 15.76%, inventories 19.48%, investments property accounted for 9.13% and the goodwill is 19.85% while the customer relationship is considered another intangible asset, accounting for 1.57%.

Trade Receivable

Trade receivable	As of December 31						
	2022		2021		Increase/ (Decrease)	2020	
	MB.	Turn Over (days)	MB.	Turn Over (days)	%	MB.	Turn Over (days)
Trade Receivable by Segments							
1. Fire Protection & Sanitary Products and Projects	155.03	87.12	138.76	106.54	11.73	136.64	92.26
2. Refrigeration Products	32.54	61.44	45.00	74.48	(27.69)	35.53	87.01
3. Digital Printing Products	53.73	52.28	51.29	50.52	4.76	46.12	56.45
4. Internet of things Products (Aiyaraharn)	-	n/a	-	n/a	-	-	n/a
Total Trade Receivable	241.30	71.28	235.05	80.65	2.66	218.29	80.29

Trade and other current receivables	As of December 31						
	2022		2021		Increase/ (Decrease)	2020	
	MB.	%	MB.	%	%	MB.	%
Trade and other current receivables							
Trade receivable	241.30	93.90	235.05	92.02	2.66	218.29	86.97
Other current receivables	21.33	8.30	26.45	10.35	(19.36)	36.05	14.36
Current contract assets	8.31	3.23	6.58	2.58	26.29	8.16	3.26
less Allowance for Doubtful Accounts	(13.96)	(5.43)	(12.64)	(4.95)	10.44	(11.51)	(4.59)
Trade Receivable and Other Receivables - Net	256.98	100.00	255.44	100.00	0.60	250.99	100.00

HARN's account receivables can be divided into 4 products groups which are 1) Fire protection, sanitary and air conditioning systems 2) Refrigeration system 3) Digital printing system and 4) Internet of things system and has lease receivables due within one year were classified to trade and other current receivables in the financial statements.

At the end of 2022, the net trade and other revolving debt amounted to Baht 256.98 million, which increased by 0.60% from the previous year. The accounts receivable turnover for 2022 (excluding other debts and provision for expected credit losses to occur) was 71.28 days, a decrease of 9.37 days from the previous year. This was achieved through close management and monitoring of debt collections.

HARN had a policy to provide an allowance for expected credit loss for the estimated losses that may arise from the inability to collect from receivables. TFRS 9: Financial instruments prescribes the businesses to recognize the expected credit loss by considering the past and present debt repayment history, as well as the future economic situation forecasting that may affect customer debt collection, and hire outside experts to calculate the expected rate of debt collection, and also estimate the allowance for expected credit loss of HARN. For the year 2022, HARN recorded the allowance for expected credit loss at the rates of 5.43%, when compared to previous year at the rates of 4.95% of trade account and other receivables, net since some customers have been affected by the economic situation and lack of financial liquidity, so they are unable to pay their debts on time. The following is the information on the debt collection of the customer by the value of the collection, term credit and average collection period in three main business units of HARN (excluding information of subsidiaries companies)

Customer groups sorted by collection	2022			2021			Average collection Inc./ (Dec.)
	Proportion of the Collection Amount (%)	Average Credit Term (days)	Average Collection (days)	Proportion of the Collection Amount (%)	Average Credit Term (days)	Average Collection (days)	
1. Fire Protection, Sanitary and Air-Condition Products							
Top 20 customers	42.37	59.22	93.89	41.12	59.86	93.55	0.34
Top 50 customers	60.63	56.73	89.96	61.18	58.18	89.14	0.82
Top 100 customers	75.86	47.19	85.91	75.95	55.40	86.95	(1.04)
Total	100.00	48.60	75.65	100.00	48.60	77.11	(1.46)
2. Refrigeration Products							
Top 20 customers	70.22	47.08	71.54	72.49	60.04	87.38	(15.84)
Top 50 customers	86.87	46.04	68.91	88.17	56.52	81.92	(13.01)
Top 100 customers	95.51	44.62	66.80	95.67	54.29	78.75	(11.95)
Total	100.00	43.41	65.17	100.00	53.02	77.05	(11.88)
3. Digital Printing Products							
Top 20 customers	39.62	36.52	53.44	36.84	37.38	64.68	(11.24)
Top 50 customers	58.03	36.92	52.32	57.05	35.64	58.62	(6.30)
Top 100 customers	72.46	35.88	50.60	73.06	34.48	56.41	(5.81)
Total	100.00	33.61	48.65	100.00	32.35	52.98	(4.33)
including the company							
Top 20 customers	30.03	55.70	81.44	27.38	60.28	90.29	(8.85)
Top 50 customers	45.22	52.29	79.86	43.53	54.21	85.19	(5.33)
Top 100 customers	59.42	50.07	77.51	58.22	52.48	80.64	(3.13)
Total	100.00	42.60	65.88	100.00	43.95	68.94	(3.06)

The information on the collection period shown above, it can be seen that the average Collection are higher than the average of the original credit of all three business units; and in all groups of receivables. However, the average collection period of customers in each product has improved when compared to 2021. The average receivable collection period of fire protection sanitation and air conditioning products was improved 1.46 days, refrigeration system products was improved 11.88 days, the digital printing system product was improved 4.33 days and the overall figure was improved 3.06 days. Indicates that HARN is able to better manage debt collection for goods. However, HARN has reviewed the credit limit, term credit and followed up on debt repayment regularly in order to reduce credit risks to be appropriate and competitive.

Finished Goods

Finished Goods	As of December 31						
	2022		2021		Increase/ (Decrease)	2020 (Restated)	
	MB.	Turn Over (days)	MB.	Turn Over (days)	%	MB.	Turn Over (days)
1. Fire Protection & Sanitary Products and Projects	230.94	155.45	162.76	156.03	41.89	132.30	111.55
2. Refrigeration Products	92.95	168.87	66.71	163.44	39.33	61.51	185.14
3. Digital Printing Products	62.41	95.01	58.97	92.27	5.83	53.29	103.14
4. Internet of things Products (Aiyaraham)	0.27	16.11	0.20	11.10	35.00	-	-
Total Finished Goods	386.57	141.11	288.64	137.00	33.93	247.10	121.61

Inventories	As of December 31						
	2022		2021		Increase/ (Decrease)	2020	
	MB.	%	MB.	%	%	MB.	%
Inventories							
Finished Goods	386.57	89.67	288.64	87.92	33.93	247.10	95.83
Goods in Transit	84.23	19.54	73.65	22.43	14.37	40.82	15.83
Less Allowance for obsolescence and slow moving stocks	(39.71)	(9.21)	(33.99)	(10.35)	16.83	(30.07)	(11.66)
Inventories - Net	431.09	100.00	328.30	100.00	31.31	257.85	100.00

As of December 31, 2022, HARN had inventories divided into 4 products groups which are 1) Fire protection, sanitary and air conditioning systems 2) Refrigeration system 3) Digital printing system and 4) Internet of things system with the inventory turnover (excluding goods in transit), in 2022 was 141.11 days, an increase of 4.11 days from the previous year. There is lower inventory turnover. This is because some customers postpone their products delivery and some products have not yet been completed and placed additional orders before some manufacturers/brand owners increased their product prices due to production-cost factors, and prepared sufficient inventory for sales and service fulfillment of orders received from customers.

HARN has a policy to allowance for obsoleted goods or slow rotation items by setting two criteria when considering allowance for obsoleted goods or slow rotation, are 1) goods of two or more years old, 2) annual turnover rate less than 20% of the items of units of inventories for two consecutive years, HARN believes that the condition for the allowance for obsoleted goods or slow rotation will be enough conservatism to maintain the inventory value state no higher value than the Net Realizable Value according to the Thai Financial Reporting Standards, allowance for obsoleted goods or slow rotation is considered low, for the year 2022. The amount increased by Baht 39.71 million and was recognized as a cost of goods sold for the year, amounting to Baht 5.72 million, or 16.83%. HARN will review its policy to manage inventory more efficiently in order to reduce the company's impact and burden on working capital, cash flow, and warehouse management.

Investment property

Property type	Net book value (million baht) as of December 31			
	2022	2021	Increase/ (Decrease)	2020
Land	135.29	135.29	-	135.29
Factory Buildings	17.38	17.86	(0.48)	18.35
Building Improvement	0.61	0.66	(0.05)	0.75
Tools and equipment	0.07	0.13	(0.06)	0.20
Total investment property - net	153.35	153.94	(0.59)	154.59

As at December 31, 2022 investment properties net amount Baht 153.35 million decrease Baht 0.59 million from amortization depreciation consist of one undeveloped plot of land with an area of 5-0-90 rai and cost price of Baht 114.95 million, and land with warehouse size of 6-2-00 rai and cost price of Baht 117.00 million. The utility space of the warehouse building consisted of three stalls of two-story reinforced concrete building with utility space of 5,690 square meters, as well as the Permit for factory operation (Ror Ngor. 4). In 2020, HARN changed its objective in holding part of the land and building from being leased to being used as HARN's warehouses by cancelling one warehouse lease contract with an outsider and another warehouse lease contract with a related individual. HARN started using warehouses in the area of HARN since May 2020, HARN transferred investment property with an accounting value of Baht 74.13 million to land, building and equipment.

Two parcels of land, buildings and construction were assessed from two independent appraisers by the market price criteria in the valuation of land and depreciated replacement criteria in the valuation of construction. The fair value amounted to Baht 238.40 million, consisting of investment property in the value of Baht 159.51 million and land and building with a value of Baht 78.89 million. According to the report dated December 22, 2020 and December 23, 2020.

HARN has income from rental of investment properties for the year ended December 2022 and 2021 in the amount of Baht 3.83 million, and Baht 2.75 million respectively and operating expenses in the amount of Baht 0.88 million and Baht 1.40 million respectively. From a warehouse tenant, the lease agreement started on July 1, 2021 and will expire on June 30, 2024. HARN has been using the full space according to the current warehouse usage plan.

Property, Plant and Equipment

Property type	Net book value (million baht) as of December 31			
	2022	2021	Increase/ (Decrease)	2020
Land	37.36	37.36	-	37.36
Buildings and structures	32.63	33.54	(0.91)	34.44
Tools and equipment	3.90	4.40	(0.50)	4.74
Furniture and office equipment	22.30	26.14	(3.84)	11.51
Vehicle	6.54	8.55	(2.01)	10.43
Assets for rent and demonstration	21.21	25.17	(3.96)	8.47
Assets under construction	0.62	0.62	-	22.63
Total Property, Plant and Equipment	124.56	135.78	(11.22)	129.58
Less impairment allowance	-	-	-	(0.05)
Property, Plant and Equipment - net	124.56	135.78	(11.22)	129.53

As of December 31, 2022, HARN has property, plant and equipment - net of Baht 124.56 million, increased from additional purchases of assets and decreased from amortization and depreciation during the year. HARN has remaining payment obligations according to the sale contract of equipment and office building access security system and sales contract of decoration and installation, with the value of Baht 3.03 million.

Right-of-Use Assets

Property type	Net book value (million baht) as of December 31			
	2022	2021	Increase/ (Decrease)	2020
Buildings	83.24	93.49	(10.25)	104.44
Office equipment	-	0.76	(0.76)	0.53
Total Right-of-Use Assets, net	83.24	94.25	(11.01)	104.97

As of December 31, 2022, HARN has net right-of-use assets in the value of Baht 83.24 million, which is a decrease from amortization during the year with the value of Baht 11.01 million. Assets right-of-use consisted of lease contract of the headquarters building, with a lease period of 3 years, in which HARN can renew the lease contract for another 7 years according to the terms indicated in the contract and after which there may be negotiations to further extend the contract, warehouse lease contract warehouse No. 509, with lease period of 3 years, after which there may be negotiations to further extend the contract and lease contract of photocopier office equipment, lease period of 4 years. HARN will not recognize right-of-use assets for a lease contract that has a contract period of less than 12 months and does not have the right of purchasing or lease contract in which reference assets have low value. All of which are according to the financial reporting standard no.16 regarding lease contract.

Regarding changes of accounting standards concerning the said lease contract, there has been a change from recording the paid lease in each installment as expenses to a recognition of right-of-use assets and liability according to the lease contract, in which right-of-use assets was gradually disposed of as amortization and financial cost recognized throughout the lease period. The said changes cause the return on asset ratio to decrease, debt to equity ratio to increase and profit before financial cost, income tax, depreciation and amortization (EBITDA) increase.

To make the most of the rented space in its office building, HARN has decided to lease out some of its excess office space. As a result, HARN has earned rental income of Baht 2.36 million and Baht 1.38 million for the years 2022 and 2021 respectively, from the leased office space.

Goodwill and customers relationship

Property type	Net book value (million baht) as of December 31			
	2022	2021	Increase/ (Decrease)	2020
Goodwill	334.67	334.67	-	334.67
Customer Relationship	104.31	104.31	-	104.31
<u>Less</u> Accumulated Amortization	(91.68)	(77.83)	(13.85)	(63.98)
Customers Relationship - Net	12.63	26.48	(13.85)	40.33
Total Goodwill and Customer Relationship	347.30	361.15	(13.85)	375.00

Goodwill is an intangible asset to HARN. It arrives from entire business transfer from Chillmatch Co., Ltd and QIIS Co., Ltd. It is done by issuing shares of Baht 675.36 million. The swap ratio is equal 0.67. This is to exchange for net identified assets of both companies at fair prices of Baht 340.69 million. This leads to intangible assets being valued at Baht 334.67 million. Under the financial reporting standards, Goodwill must be reviewed every year for impairments. During the year 2022, the management team of HARN prepared a financial forecast for the business units of the refrigeration and digital printing systems to test the value proposition. The evaluation of the value in use was calculated using the Discounted Cash Flow (DCF) method based on the present value of future free cash flow, estimated for the next 5 years (from January 1, 2023 to December 31, 2027), discounted by the weighted average cost of capital (WACC) rate of 4.53%. The terminal growth rate was adjusted to 0%. The present value was calculated by discounting the cash flow using a discount rate that reflects the risk specific to each asset unit, with the management believing that there will be no decline in the value proposition. In other words, the present value of the net cash flow of each asset unit that generates more cash flow than the identified intangible and fixed assets of the business unit was calculated.

Customer relationship are intangible assets, estimated from the business' values of Chillmatch Co., Ltd and QIIS Co., Ltd by the certified appraiser from the list of the Securities and Exchange Commission. As reported on October 3, 2016, HARN issued policy to write off customer related intangibles with straight-line method for 7 years and consider impairment when there is an indication, HARN has regularly record total sales and sales portion, and compare total sales of each cash generating unit, which is used as information for consideration of customer relation impairment according to the financial reporting standard. As for 2022, the summary of the testing finds that there has been no additional impairment of customer relations. HARN will continue to collect sales data of each for the display of customer relation value to be appropriate and correct according to the financial reporting standards.

Trade and Other Current Payables

Trade and Other Current Payables	As of December 31						
	2022		2021		Increase/ (Decrease)	2020 (Restated)	
	MB.	Turn Over (days)	MB.	Turn Over (days)	%	MB.	Turn Over (days)
Trade Payables	168.73	52.63	115.25	48.04	46.40	93.63	47.77
Other Payables							
• Accrued Expenses	43.24	n/a	42.27	n/a	2.29	42.08	n/a
• Others	58.54	n/a	46.43	n/a	26.08	31.95	n/a
Total Trade and Other Current Payables	270.51	52.63	203.95	48.04	32.64	167.66	47.77

The payment period for debts in 2022 was 52.63 days, which was longer than in 2021, when the payment period was 48.04 days. This had a positive impact on managing working capital and cash-flow cycles. As a result, the trade payables and other current payables increased by Baht 66.56 million, which is a 32.64% increase. Some of this increase was due to increasing the inventory levels before adjusting the prices with the product manufacturers/owners to meet the higher demand from customers and advance payments from customers.

Cash Conversion Cycle

Description	For the year ended December 31			
	2022	2021	Increase/ (Decrease)	2020 (Restated)
Average collection period (days)	71.28	80.65	(9.37)	80.29
Average sales period (days)	141.11	137.00	4.11	121.61
Less Average repayment period (days)	(52.63)	(48.04)	(4.59)	(47.77)
Cash Conversion Cycle (days)	159.76	169.61	(9.85)	154.13

HARN had the cash conversion cycle in 2022 in the amount of 159.76 days, circulatory was 9.85 days faster than the previous year from the increase in efficiency of debt collection management from receivable improved. The product sale period has increased from the purchase more products in order to support the product delivery according to Backing Order and reduce the impact on the cost of goods sold from the adjustment of the selling price of goods higher from the manufacturer / brand owner. However, HARN has a policy of maintaining a relationship with foreign partners by whom HARN was appointed as a distributor of world-famous products, if HARN loses its distribution of significant branded products, it may cause the long-term revenue of HARN. To maintain the good relationship, it should be initiated from the maintenance of financial credit and still able to bargain prices of products and services. The cost of the product was the most important cost of the trading company which would increase the competitiveness and maintain the profitability of HARN sustainably.

Types of credit limits and interest rates

Types of credit	Facilities (Million Baht)		Interest rates (% per annum)	
	2022	2021	2022	2021
Overdraft	9.00	10.00	MOR, MOR-0.50	MOR, MOR-0.50
Letter of Credit / Trust Receipt	120.00	150.00	MLR-1, MMR	MLR-1, MMR
Letter of Guarantee	74.00	74.00	1.25 - 2%	1.25 - 2%
Forward Contract	410.00	560.00	-	-
Total	613.00	794.00		
Forward Contract				
(Million USD)	7.00	7.00		

In 2022, HARN's liquidity of 3.35 times, although lower when compared to 2021 at the level of 3.89 times. HARN is still has good efficient in managing its liquidity and working capital. HARN obtains capital structure that is not of loan from banks nor financial institutions. Therefore, there is not payable interest and debt to equity ratio is relatively low. HARN has credit facilities to support the expansion of its businesses and/or to invest in engineering business in the future.

Foreign Exchange Risks

Currency	2022		2021	
	Proportion of Import according to Currency (%)	Proportion of Foreign Exchange Forward Contract to Avoid Risk (%)	Proportion of Import according to Currency (%)	Proportion of Foreign Exchange Forward Contract to Avoid Risk (%)
United States Dollar	52.52	96.59	43.94	85.99
Euro	20.26	98.91	21.38	92.41
Pound Sterling	26.39	101.43	33.71	90.34
Yen	0.42	76.27	0.74	53.41
Singapore Dollars	0.02	90.91	0.09	-
Other	0.39	-	0.14	-
	100.00		100.00	

* Information in the above tables is from the separated financial statement of HARN

Currency	As of December 31, 2022			As of December 31, 2021		
	Trade account payables	Risk hedging		Trade account payables	Risk hedging	
		Foreign Exchange Forward Contract (Balance)	% Proportion		Foreign Exchange Forward Contract (Balance)	% Proportion
United States Dollar	2,361,477	1,837,067	77.79	968,687	245,880	25.38
Euro	440,054	304,454	69.19	428,228	303,736	70.93
Pound Sterling	552,651	421,911	76.34	594,410	233,355	39.26
Yen	1,428,500	-	-	-	-	-

*Information in the above tables is from the separated financial statement of HARN

Foreign exchange gains and losses

unit : Million Baht

Description	2022	2021	Increase/(Decrease)	2020
Unrealized gain (loss) on exchange rate	0.13	1.47	(1.34)	0.33
Realized gain (loss) on exchange rate	(0.02)	2.14	(2.16)	1.61
Total gain (loss) on exchange rate	0.11	3.61	(3.50)	1.94

HARN 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 reporting to decrease currency volatility risk. On average, while most of the sales of products are domestic products in Thai baht currency. It is, sometimes, impractical to adjust the product price in accordance with the increased cost of the product immediately. Therefore, HARN may be affected by the fluctuation of exchange rates which will affect the cost of products and the gross profit of HARN. However, HARN has an agreement for some customers to settle prices in USD, EUR and GBP on HARN's foreign currency deposit accounts. It is considered that HARN protects against exchange rate risks.

As of December 31, 2022 and 2021, HARN had protected against the risks in currency exchanges of USD, EUR and GBP for its trade payables in foreign currencies, including the purchase orders which cannot be cancelled (Firmed Commitment) and HARN issued sales orders to customers by agreeing to the terms of payment mostly in Thai baht. HARN has no policy to speculate in currency fluctuations since it is not a core business and does not have enough expertise in forecasting future movements in exchange rates, but it only wants to reduce the exchange rate risk that will affect the cash inflow and outflow in the future to be in a controlled level. As a result of the aforementioned impacts, HARN recognized foreign exchange gain in the year 2022 and 2021 amount of Baht 0.11 million and Baht 3.61 million respectively.

Moreover, as of the end of 2022 and 2021, HARN had a USD 0.43 million deposits and USD 1.06 million deposits respectively from a local institution in order to protect the foreign exchange risk of product orders from abroad as well.

unit : Million Baht

Description	For the year ended December 31			
	2022	2021	Increase/ (Decrease)	2020
Net Cash Flow from Operating Activities	91.98	68.25	23.73	184.44
Net Cash Flow from (Used in) Investing Activities	(62.25)	(45.69)	(16.56)	100.09
Net Cash Flow from (Used in) Financing Activities	(69.81)	(86.76)	16.95	(105.25)
Effect of translation adjustment on foreign currency financial statements	0.11	0.96	(0.85)	(0.31)
Cash and Cash Equivalent inc (dec) - Net	(39.97)	(63.24)	23.27	178.97
Cash and Cash Equivalent - B/F	242.83	306.07	(63.24)	127.10
Cash and Cash Equivalent - C/F	202.86	242.83	(39.97)	306.07

Analyzing the Cash Flows Statement for the year ended December 31, 2022

HARN had net cash flows from the business operation in 2022 of Baht 91.98 million, a decrease Baht 23.73 million when compared to 2021, mainly due to the increase in net profit Baht 16.62 million, trade accounts receivable current receivables decreased by Baht 10.48 million and inventories increased by Baht 109.12 million. While the trade accounts payable and other accounts payable increased by only Baht 69.10 million,

The cash flow used in the investment activity for 2022 in the value of Baht 62.25 million is from the purchase of investment unit of real estate fund in the amount of Baht 58.56 million and intangible assets of Baht 7.22 million, receive dividend from investment equal to Baht 2.53 million.

The cash flows used for financing came from the dividend declaration at the rate of Baht 0.10 per share, representing Baht 58.45 million, and debt payment according to the lease contract in the amount of Baht 11.36 million.

Analyzing the Cash Flows Statement for the year ended December 31, 2021

HARN had net cash flows from the business operation in 2021 of Baht 68.25 million, decrease Baht 116.18 million when compared to 2020, mainly due to decreased in net profit Baht 25.66 million, trade accounts receivable current receivables decreased by Baht 4.83 million and inventories increased by Baht 78.31 million, while the trade accounts payable and other accounts payable increased by only Baht 34.06 million.

The cash flows that had been used from the investing activities in 2021 of Baht 45.69 million, The cash flow from purchasing mutual funds of Baht 29.79 million and cash flow used in buying equipment and intangible assets of Baht 16.25 million.

The cash flows used for financing came from the dividend declaration at the rate of Baht 0.13 per share, representing Baht 75.98 million, and debt payment according to the lease contract in the amount of Baht 11.28 million.

Capital Structure from the Financial Statement as of December 31, 2022

HARN had the total liabilities on the December 31, 2022 of Baht 434.48 million, an increase of 67.29 million baht from the previous year, accounted for 18.33%. The increase mainly from trade and other payables. Due to the increase in inventory level as mentioned above. Components of the liabilities were account payables and other payables, income tax and deferred tax liabilities, employment benefits and lease liabilities etc., and other current liabilities without interest-bearing liabilities.

With HARN's capital structure that does not need to rely on any bank loans this results in HARN having no interest expense, high liquidity and low debt to equity ratio, making HARN able to payout its dividends to shareholders consistently. From the operating results of 2020 - 2021, has the dividends were paid at Baht 0.13, and Baht 0.10 per share, the dividend payout ratio per net profit equal to 76.47 % and 83.33 % respectively, however the annual dividend for the operating results

For 2022 at Baht 0.13 per share, the dividend payout ratio per net profit according to consolidated financial statements equal to 86.67% is not confirmed until the approved by the Annual General Meeting of Shareholders.

Important Financial ratios

Financial Ratio		2022	2021	Increase/ (Decrease)	2020
Debt to equity (D/E ratio)	times	0.32	0.28	0.04	0.26
Return on asset (ROA) ¹⁾	%	6.58	5.52	1.06	7.72
Return on Equity (ROE) ²⁾	%	6.66	5.49	1.17	7.65

Note : ¹⁾ Use EBIT in calculation

²⁾ Use net profit in calculation

HARN has low debt to equity ratio. In 2021 - 2022 were 0.28 and 0.32 respectively. The returns on asset (ROA) for the years ending 2021 - 2022 were 5.52% and 6.58% respectively and the return on equity for the year 2021 - 2022 were 5.49% and 6.66% respectively.

4.2 Factors That May Impact Future Operations

4.2.1 Factors on Environmental and Social Trends and Impacts

HARN frames and assesses material issues in Environmental, Social and Governance Dimension (ESG) that may impact the organization's performance and stakeholders. The process is informed by analysis of internal and external factors, impact analysis of its business on stakeholders throughout the value chain of all business units and divisions, Stakeholder Survey result, standards, regulations, guidelines, along with global trends, directions and risks. These materiality inputs are then incorporated in strategy formulation and risk assessment. In 2022, climate change remains one of the key materiality issues. Especially when Thailand aims to achieve net-zero greenhouse gas emissions by 2065 as a moral obligation under the United Nations Framework Convention on Climate Change at the 27th Conference of the Parties (COP 27) in the Arab Republic of Egypt, it is well aware that managing climate change is a crucial issue that presents both opportunities and challenges. To formulate strategic direction and risk management whilst seeking new business opportunities according to the direction of Thailand.

HARN has been determined to drive sustainability operations in line with strategic direction SMART ESG in dimension environment, on innovation development Bio Circular Green and, development commitment towards carbon neutrality and sustainable business conduct. Within year 2040, HARN target of emission Carbon Neutrality and within year 2050 target of emission Net Zero.

4.2.2 Financial Support to Subsidiaries

As of March 12, 2020, HARN has signed a loan agreement with Harn Vietnam Co., Ltd. (a subsidiaries in Vietnam, HARN holds 100% of share) in the amount of 200,000 US Dollars, with an interest rate of 6.15% per year, repayment deadline within one year, and later, on March 11, 2021 which was the expiration date of the agreement, HARN extended the said loan agreement with the subsidiaries for another 5 years, with the expiration of the agreement to be on March 11, 2026 and with the interest rate of 5.85% per year. Furthermore, HARN has allowed its subsidiary, Aiyaraharn Company Limited (in which HARN holds a 65% stake), to utilize bank guarantee letters and a credit limit from HARN as collateral for business purposes, up to a maximum limit of Baht 5 million.

4.2.3 Policy and Term of Trade Credit

HARN has credit management criteria in order to achieve appropriate risk management of HARN. Management policy concerning new customers is set starting from the customer selection process, credit analysis, debt collection and constant revision of loan provided to former customers.

4.3 Important Financial Information

Presented financial position and performance consist of financial performance for the year ended December 31, 2022 and 2021 audited by certified public accountant, Dharmniti Auditing Co., Ltd.

Year	Name	License No.	Auditing Company
2017 - 2022	Mr.Thanawut Piboonsawat	6699	Dharmniti Auditing Co., Ltd.

Cumulative Effects of Changes in Accounting Policies

In 2022, there was no significant change in accounting policy on the financial statements

Audit Report Summary

Financial statements for 2017 until 2022 were audited by Mr. Thanawut Pibulsawad, a licensed auditor with registration number 6699 of Dharmniti Auditing Co., Ltd., who is an approved auditor by the Securities and Exchange Commission. The said auditor expressed the view that consolidated financial statement and separate financial statement of HARN have shown financial status, performance and cash flow on the same day of the end of the year to be correct and appropriate in important substance according to the financial report standards. In addition, Key Audit Matters relating to revenue recognition from sales and services have indicated that in 2022, HARN has earned revenues from 5 product groups which are fire extinguishing system products and projects, sanitary and air conditioning system products, refrigeration system products, digital printing system products and IT solution for building system products. Each product group has different sale terms and conditions and price setting, including income from services according to the contract of fire extinguishing system installation project. Based on estimation of compliance with obligations according to the contract, this has effect on the income in which the Company's group recognized throughout a certain period. The Company has to recognize income according to the progress made in compliance with the obligations that must be completed, in which the auditor has responded to the risk by having formed an understanding and testing of the operation procedure and internal control relating to income recognition, revision of the design and compliance with the internal control regarding the said matter, auditing of the contents of terms and conditions of sales and services contract that occurred during the year and during the date near the end of accounting period, examination of credit notes issued by HARN after the end of the year, comparative analysis of statements and testing of details related to sales and services revenues.

Furthermore, HARN has audited impairment of goodwill from purchase and transfer of entire business of Chillmatch Co., Ltd. and a subsidiaries company, under the Entire Business Transfer criteria. Testing of the impairment is significant to the auditing because the said value is a significant amount to the financial statement. Testing procedures of the impairment by the executives are complicated and require judgment in establishing assumptions especially in the estimation of cash inflow and outflow in the future that the Company expect to receive from continuous operation of asset unit that creates cash and the use of appropriate discount rate. The said assumptions can change according to the economic situations and market conditions in the future. HARN has completely disclosed information regarding the accounting policy and important assumptions in the note of the financial statement. Auditor has responded to the risk by considering the reasonability of the assumptions and the procedures in which the executives used in the calculation of the estimation of future expected cash flow, auditing of supporting evidences, which demonstrate the best estimation of the executives, especially regarding the prediction of the revenue growth, gross profit and profit from operations of work section, the use of appropriate discount rate to discount the future cash flow, testing of the calculation of the expected received value, including giving importance to the sufficiency of disclosing information relating to assumptions, which would affect the most sensitive testing result of the impairment, and have the most significant impact on the determination of the recovery amount of the goodwill.

4.3.1 Statement of Financial Position

Statement of financial position	Consolidated financial statements As At December 31					
	2022		2021		2020 (Restated)	
	MB.	%	MB.	%	MB.	%
ASSETS						
CURRENT ASSETS						
Cash and cash equivalents	202.86	11.38	242.83	14.41	306.07	18.46
Trade and other current receivables	256.98	14.41	255.44	15.15	250.99	15.14
Current contract assets	13.15	0.74	10.22	0.61	12.80	0.77
Inventories	431.09	24.18	328.30	19.48	257.85	15.55
Other current financial assets	96.72	5.42	39.61	2.35	6.96	0.42
Other current assets	0.73	0.04	1.30	0.08	0.40	0.02
TOTAL CURRENT ASSETS	1,001.53	56.17	877.70	52.07	835.07	50.36
NON-CURRENT ASSETS						
Trade and other non-current receivables	16.98	0.95	9.18	0.54	11.25	0.68
Investment property	153.35	8.60	153.94	9.13	154.59	9.32
Property, plant and equipment	124.56	6.99	135.78	8.05	129.53	7.81
Right-of-use assets	83.24	4.67	94.25	5.59	104.97	6.33
Goodwill	334.67	18.77	334.67	19.85	334.67	20.18
Customer relationship	12.62	0.71	26.48	1.57	40.33	2.43
Intangible assets	11.82	0.66	15.99	0.95	18.02	1.09
Deferred tax assets	15.18	0.85	9.43	0.56	4.59	0.28
Other non-current assets	29.15	1.63	28.30	1.68	25.19	1.52
TOTAL NON-CURRENT ASSETS	781.57	43.83	808.02	47.93	823.14	49.64
TOTAL ASSETS	1,783.10	100.00	1,685.72	100.00	1,658.20	100.00
LIABILITIES AND SHAREHOLDERS' EQUITY						
CURRENT LIABILITIES						
Trade and other current payables	270.51	15.17	203.95	12.10	167.66	10.11
Current portion of lease liabilities	9.23	0.52	9.06	0.54	8.92	0.54
Short-term loan from related party	0.50	0.03	0.50	0.03	-	-
Corporate income tax payable	13.41	0.75	8.70	0.52	11.10	0.67
Other current provisions	2.31	0.13	2.10	0.12	1.75	0.11
Other current liabilities	2.68	0.15	1.41	0.08	1.64	0.10
TOTAL CURRENT LIABILITIES	298.64	16.75	225.72	13.39	191.07	11.52
NON-CURRENT LIABILITIES						
Lease liabilities	78.35	4.39	87.38	5.18	96.05	5.79
Deferred tax liabilities	-	-	0.05	0.00	-	-
Non-current provisions for employee benefit	30.76	1.73	27.97	1.66	27.77	1.67
Other non-current liabilities	26.73	1.50	26.07	1.55	24.94	1.50
TOTAL NON-CURRENT LIABILITIES	135.84	7.62	141.47	8.39	148.76	8.97
TOTAL LIABILITIES	434.48	24.37	367.19	21.78	339.83	20.49
SHAREHOLDERS' EQUITY						
Authorized share capital	292.25	16.39	292.25	17.34	292.25	17.62
Issued and paid-up share capital	292.25	16.39	292.25	17.34	292.25	17.62
Share premium on ordinary shares	776.42	43.54	776.42	46.06	776.42	46.82
Surplus on share-based payment transaction	6.03	0.34	6.40	0.38	3.73	0.22
Retained earnings						
Appropriated - legal reserve	29.23	1.64	29.22	1.73	29.22	1.76
Unappropriated	244.04	13.69	213.71	12.68	216.60	13.06
Other components of shareholders' equity	0.02	0.00	(0.04)	(0.00)	(0.45)	(0.03)
TOTAL EQUITY ATTRIBUTABLE TO OWNERS OF THE PARENT	1,347.99	75.60	1,317.97	78.18	1,317.77	79.47
Non-controlling interest	0.63	0.04	0.57	0.03	0.61	0.04
TOTAL SHAREHOLDERS'EQUITY	1,348.62	75.63	1,318.54	78.22	1,318.38	79.51
TOTAL LIABILITIES AND SHAREHOLDERS'EQUITY	1,783.10	100.00	1,685.72	100.00	1,658.20	100.00

4.3.2 Statement of Comprehensive Income

Statement of comprehensive income	Consolidated financial statements For the year ended December 31					
	2022		2021		2020 (Restated)	
	MB.	%	MB.	%	MB.	%
Revenues from sales and rendering of services	1,219.66	100.00	1,025.98	100.00	1,152.32	100.00
Cost of sales and rendering of services	(873.26)	(71.60)	(713.71)	(69.56)	(799.83)	(69.41)
Gross Profit	346.40	28.40	312.27	30.44	352.49	30.59
Other income	22.63	1.86	20.15	1.96	17.10	1.48
Distribution cost	(113.16)	(9.28)	(107.57)	(10.48)	(108.68)	(9.43)
Administrative cost	(141.82)	(11.63)	(132.50)	(12.91)	(139.11)	(12.07)
Profit from operating activities	114.05	9.35	92.35	9.00	121.80	10.57
Finance cost	(2.30)	(0.19)	(2.31)	(0.23)	(0.09)	(0.01)
Profit before tax expenses	111.75	9.16	90.04	8.78	121.71	10.56
Tax expense	(22.90)	(1.88)	(17.81)	(1.74)	(23.82)	(2.07)
Profit for the year	88.85	7.28	72.23	7.04	97.89	8.50
Profit attributable to owners of the parent	88.78	7.28	72.27	7.04	97.98	8.50
Other comprehensive income						
Components of other comprehensive income that will be reclassified to profit or loss :						
Exchange differences on translating financial statement	0.06	-	0.42	0.04	(0.40)	(0.03)
Components of other comprehensive income that will not be reclassified to profit or loss:						
Gains (losses) on re-measurements of defined benefit plans, net of tax	-	-	0.83	0.08	-	-
Total comprehensive income for the year	88.91	7.29	73.48	7.16	97.49	8.46
Total comprehensive income attributable to owners of the parent	88.84	7.28	73.52	7.17	97.58	8.47
Basic earnings per share - profit attributable to owners of the parent	0.15		0.12		0.17	
Weighted average number of ordinary shares (shares)	584,500,000		584,500,000		584,500,000	

4.3.3 Statement of Cash Flows

Statement of cash flows	Consolidated financial statements For the year ended December 31		
	2022	2021	2020 (Restated)
	MB.	MB.	MB.
Cash flows from operating activities			
Profit for the year	88.85	72.23	97.89
Adjustment to reconcile profit for the year to net cash provided by (used in) operating activities :			
Bad Debt and Expected Credit Losses	1.42	2.81	4.25
Depreciation and amortization	31.26	30.17	17.05
Amortization of customer relationship	13.85	13.85	17.95
Loss on devaluation of inventories	5.75	3.92	5.67
(Gain) loss on disposals of equipment and right-of-use assets	0.08	0.26	1.25
Unrealized (gain) loss on exchange rate	(0.14)	(1.46)	(0.33)
(Gain) loss on disposals of investment	-	-	(3.38)
Unrealized (gain) loss on revaluation of other current financial assets	1.50	(2.86)	4.43
Loss on impairment of other non-current financial assets	-	-	0.24
Loss on impairment of equipments (reversal)	-	(0.05)	0.05
Interest income	(0.22)	(0.18)	(0.96)
Dividend income	(2.53)	-	-
Employee's benefit expenses	2.80	1.91	2.65
Employee Joint Investment Program expenses	4.56	7.22	6.60
Finance cost	2.29	2.31	0.09
Tax expense	22.90	17.81	23.82
Profit from operating before changes in operating assets and liabilities	172.37	147.95	177.28
(Increase) decrease in operating assets			
Trade and other current receivables	(10.44)	(4.83)	67.97
Current contract assets	2.58	(3.25)	
Inventories	(109.12)	(78.31)	20.74
Other current assets	0.65	(0.91)	0.33
Other non-current assets	(0.61)	(3.12)	(1.52)

Statement of cash flows	Consolidated financial statements For the year ended December 31		
	2022	2021	2020 (Restated)
	MB.	MB.	MB.
Increase (decrease) in operating liabilities			
Trade and other current payables	69.10	34.06	(35.57)
Other current provisions	0.21	0.35	0.29
Other current liabilities	1.27	(0.23)	0.53
Non-current provisions for employee benefit	-	(0.66)	(0.40)
Other non-current liabilities	0.66	1.13	1.57
Cash generated from operating	121.14	98.01	227.97
Employee joint investment program expenses paid	(4.92)	(4.56)	(2.87)
Income tax paid	(24.24)	(25.20)	(40.66)
Net cash provided by operating activities	91.98	68.25	184.44
cash flow from investing activities			
Cash receipts from redemption of other current financial assets	-	-	116.88
cash payments for purchases of other current financial assets	(58.57)	(29.79)	-
Cash payments for investment in subsidiaries	-	-	-
Cash payments for purchases of equipment	(6.70)	(14.10)	(16.81)
Cash receipts from disposal of equipment	0.90	0.17	0.24
Cash payments for purchases of investment property	(0.06)	-	-
Cash payments for purchases of intangible assets	(0.52)	(2.15)	(0.76)
Interest received	0.17	0.18	0.54
Dividend received	2.53	-	-
Net cash provided by (used in) investing activities	(62.25)	(45.69)	100.09
Cash flows from financing activities			
Cash payments for lease liabilities	(11.36)	(11.28)	(0.74)
Cash receipt for short-term loans from related parties	0.60	0.50	-
Cash receipts from investments in subsidiary of non-controlling interest	-	-	0.70
Cash payments for short-term loans from related parties	(0.60)	-	-
Dividend paid	(58.45)	(75.98)	(105.21)
Net cash used in financing activities	(69.81)	(86.76)	(105.25)
Net increase (decrease) in cash and cash equivalents	(40.08)	(64.20)	179.28
Cash and cash equivalents at beginning of year	242.83	306.07	127.10
Effect of translation adjustment on foreign currency financial statements	0.11	0.96	(0.31)
Cash and cash equivalents at end of year	202.86	242.83	306.07

4.3.4 Financial Ratios

Key financial informations	Unit	Consolidated financial statements		
		2022	2021	2020 ⁴⁾ (Restated)
		MB.	MB.	MB.
FINANCIAL POSITION				
Total Assets	MB.	1,783.10	1,685.72	1,658.20
Total Liabilities	MB.	434.48	367.19	339.83
Equity Attributable to Parent Company	MB.	1,347.99	1,317.97	1,317.77
OPERATING RESULTS				
Sales and Services Revenues	MB.	1,219.66	1,025.98	1,152.33
Total Revenues	MB.	1,242.29	1,046.13	1,169.43
Costs of Sales and Services	MB.	873.26	713.71	799.83
Gross Profit	MB.	346.40	312.27	352.49
Net Profit : Shareholders of the parent company	MB.	88.78	72.27	97.98
Total Comprehensive Income : Shareholders of the parent company	MB.	88.84	73.52	97.58
FINANCIAL RATIOS				
Return on Equity ¹⁾	%	6.66	5.49	7.65
Return on Assets ²⁾	%	6.58	5.52	7.72
Gross Profit Margin	%	28.40	30.44	30.59
Net Profit Margin ¹⁾	%	7.15	6.90	8.37
Debt to Equity Ratio	Times	0.32	0.28	0.26
Total Assets Turnover Ratio	Times	0.72	0.63	0.72
PER SHARE DATA				
Par Value	Baht	0.50	0.50	0.50
Book Value	Baht	2.31	2.25	2.25
Dividend ³⁾	Baht	0.13	0.10	0.13
Basic Earning	Baht	0.15	0.12	0.17

Remark : ¹⁾ Net profit/ (Loss) used in calculation

²⁾ Earnings before interest and finance costs used in calculation

³⁾ Not confirmed until the approved by the 2023 Annual General Meeting of Shareholders

⁴⁾ Financial data Y2020 was adjusted EJIP to comply with TFRS 2 Share Based Payment

5. General Information and Other Important Information

5.1 General Information

Company Name Harn Engineering Solutions Public Company Limited	Abbreviation HARN	Stock Exchange mai	Registered Number 0107557000217
Industry Sector Service	First Trade Date November 13, 2014	Par Value 0.50 Baht	

Type of Business

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 system, provide development IOT Products and Solutions, including the provision of consulting, designing services in projects and provision of engineering solutions complete

Authorized Capital 292,250,000 Baht	Paid-up Capital 292,250,000 Baht	Fully Paid-Up Common Shares 584,500,000 Share	Voting Right Ratio 1 : 1
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Head Office

559 Soi Soonvijai 4, Rama 9 Road, Bangkapi, Huaykwang, Bangkok 10310

☎ +66(2) 318-9744 📠 +66(2) 318-9744 ext. 4000 🌐 www.harn.co.th

Subsidiary

Harn Vietnam Co.,Ltd. 68 Nguyen Hue, Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam.

Aiyara Harn Co., Ltd. 559 Soi Soonvijai 4, Rama 9 Road, Bangkapi, Huaykwang, Bangkok 10310

Warehouse

The main warehouse 888/14-16 Moo.21, Bang Phli Yai, Bang Phli, Samut Prakan 10540 ☎ +66(2) 105-3295

The 2nd warehouse 509 Soi Soonvijai 4, Rama 9 Road, Bangkapi, Huaykwang, Bangkok 10310 ☎ +66(2) 318-9744

Company Secretary

Miss Wasukan Boonmee ☎ +66(2) 318-9744 ext. 4011 📧 wasukan.b@harn.co.th

Investor Relations

Mr. Wirat Sukchai ☎ +66(2) 318-9744 📧 wirat.s@harn.co.th

The person taking the highest responsibility in finance and accounting

Mr. Wisit Wachiralappaatoom ☎ +66(2) 318-9744 📧 wisit.w@harn.co.th

The person supervising accounting

Miss Ananya Proyngoen ☎ +66(2) 318-9744 📧 ananya.p@harn.co.th

References

Securities Registrar The Stock Exchange of Thailand Building

93 Ratchadaphisek Road, Dindaeng, Dindaeng, Bangkok 10400 Thailand

☎ +66(2) 009-9999 📠 +66(2) 009-9991 🌐 http://www.set.or.th/tsd

Auditor

Dharmniti Auditing Co., Ltd.

178 Dharmniti Building 6-7th Floor, Soi Permsap (Pracha Chuen 20), Pracha Chuen Road, Bangsue, Bangkok, 10800

☎ +66(2) 596-0500 📠 +66(2) 596-0560

5.2 Other Important Information

- None -

5.3 Legal Disputes

As of December 31, 2022, HARN and Subsidiaries has a legal case for a total claimed amount of Baht 11.01 million which is currently being considered by the Civil Court. The management of HARN believes that the outcome of this case will not have significant effect to HARN. However, the management estimated provision for such litigation in an amount sufficient to cover the expected damages.

Section 2 Corporate Governance

6. Corporate Governance Policy

6.1 Overview on Corporate Governance Policy and Guidelines

HARN has a determination to be an engineering leader in Fire Protection System and Safety, Refrigeration System, and Digital Printing System including provide development IoT Products and Solutions. To create good business profits, HARN 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 implement a Corporate Governance Policy on its business ethics of directors, top executives, management and employees in compliance with good Corporate Governance practices as its guidelines for the organization been practicing since 2013 through website, www.harn.co.th, which was review regularly to improve the standard of operations to comply with Securities and Exchange Commission (SEC) and Stock Exchange of Thailand (SET) to Good Corporate Governance Principles (CG) for listed companies.

HARN has integrated Corporate Governance in its vision, mission, and core values as part of its sustainable growth strategy, to drive the forward, overcome all challenges, apply technology and innovation to all sectors of operations, elevate the well being of the Thai people based on the Corporate Governance (CG).

In 2022, the Corporate Governance Policies and Principles that had been reviewed and approve by the Board on March 23, 2022 and were announced within the organization and disclosed on HARN's website on March 25, 2022, as a good practices to all director, executives, and employees to acknowledge and adhere in the course of their work.

Corporate Governance of HARN



- R** **Responsibility**
Have a sense of responsibility for performing duties with sufficient determination, competence and efficiency.
- E** **Equitable Treatment**
Treatment all groups of stakeholders equitable. with fairness
- A** **Accountability**
Take accountability for your own decisions and actions. and those of others who are in their responsibility to be able to clarify and explain that decision.
- C** **Creation of Long Term Value**
Have a vision to creation value to the organization in the long term.
- T** **Transparency**
There is transparency in operations that can be verified. and disclose information transparently to relevant parties

Corporate Governance Policy Principles

To illustrate the commitment that adheres to as an operating framework application of such policy and code of conduct to their jobs. The Board's policy on Corporate Governance is as follows:

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) with understanding to conduct business, and confidence, thus resulting in a corporate culture, as well as to executing their duties under applicable laws, regulations, and requirements strictly.
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 including reporting regularly to ensure that all directors, executives and employees is aware and emphasizes include follows the anti-corruption policies strictly.

6. Compliance with the corporate governance policy of 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.

HARN has published the latest version of “Corporate Governance Policies and Principles and Code of Conduct” on its intranet and website in Thai and English for the reference for Thai and foreign investors and interested parties together with stakeholders.

6.1.1 Policy and Guidelines for the Board

The Board of Director shall comprise the person who has knowledge, expertise, and experience considered beneficial to HARN. They shall devote their time to their duties and endeavor to perform them well to oversee HARN operations, including the appointment of board-committees, Accountant's auditor, internal auditor and company secretary, to manage meetings and compliance with laws and regulations. The policy and guidelines for the Board are as follows:

1) Composition, Qualifications and Appointment of the Board

The Board, led by the Chairman of the Board, are aware of the diversity with diverse skills, experience and expertise in specialized of gender, age, education background, experience according Board Skill Matrix of the Board, consider from Thai Institutes of Directors or other organizations that presents relevant information or other sources see fit by HARN. Which it as an important factor in increasing the efficiency the work, therefore, the Board must be knowledgeable, expert, and experienced that would benefit HARN, be a leader, have vision, able to monitor and system promote business operations to law and ethics with corporate governance. Control management to ensure the effectiveness and efficiency of operations, achieving of HARN's targets and adding value for shareholders, the government, the public and other stakeholders.

The Nomination and Remuneration Committee (NRC) selects and proposes to the Board for consideration of the names persons of qualified in accordance with relevant regulations including complying with the law related to the requirements relating to independent directors and suitable for business operations To be a company director or independent director to the Shareholders' approval in the AGM. **More details appear in Section 2 “7.2.1 Composition of the Board”, Section 2 “7.2.2 The Current Board of Directors” page 121-122**

2) Independence of the Board

The board shall consider, express opinions on, and vote for activities under their authority. If a decision is made under pressure from work, family, or any conflict of interest, it may be made in bias to benefit the directors in question, their family, or other contacts. The independence of the Board must be emphasized in order to protect the shareholders and HARN's benefit. Therefore, any director who is not entirely independent shall not make decisions.

Independent Directors shall be independent from major shareholders and executives. They shall also have adequate access to financial-related and business information in order to provide a free opinion to protect the best interest of minor shareholders, acting with care and honesty. In addition, being an Independent Director set a policy for independent directors to hold office continuously for no more than 9 years from the date of appointment or from the date HARN is listed on the stock exchange without exception.

3) Role, Responsibilities, and Authority of the Board

The board shall act professionally on behalf of the shareholders with high responsibility and accountability in order to steer HARN in the right directions, define framework of strategies according to vision and mission, to ensure that business is operated under code of conduct, make decisions on important matters with care and loyalty, and monitor to the communication of short and long-term strategies into practice at the operational level. Also, protect the benefits of all stakeholders. Therefore, the Board must perform their duties independently from management, for overseeing management's operations and results, managing risks and determining remuneration. **More details appear in Section 2 "7.2.3.Roles, Duties and Responsibilities of the Board", page 123-124**

4) Role and Duties of the Chairman

1. The chairman is independent from the management and not the position of Chief Executive Officer, and has not been involved in routine management with clear segregation of roles between the Chairman and the executives, to balance the power in the administration.

2. Calls for the Board meeting according to the articles of association or in case of emergency by delivered to Directors at least 5 business days in advance of the Board meeting date. 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.

3. Ensures the efficiency of each meeting by allocating enough time for the executives to present information, encouraging and allowing directors' queries and expression of free views, controlling the issues under discussion, and summarizing the meeting's resolutions. The Chairman shall also promote constructive relations among directors as well as between the Board and the executives.

4. Encouraging the Board's conformance to authorities, responsibilities, law and corporate governance principles, code of conduct. The Chairman shall also advocate directors' efforts for promoting a corporate culture of ethics, and good corporate governance, including identifying themselves, refraining from voting, and leaving the meeting in case of having conflicts of interest in any agenda.

5. Control and oversee the Board and Board-Committee to perform on duty efficiency and achieve the stated objectives.

6. Having power deciding cast vote, in case the votes of both parties are equal.

5) Establishment of Board-Committees

The appointment of Director as Member of the Board-Committees, the Nomination and Remuneration Committee considers qualified Director as a Member of the Board-Committee to fill vacancies. This must be done in accordance with the Board-Committees' Charters. The names of selected Directors are to be proposed to the Board for consideration and approval.

To ensure thorough and efficient examination of key operation, the Board has established the following 4 board-committees, namely the Audit Committee, Nominating and Remuneration Committee, Executives Committee, and Risk Management Committee.

More details appear in Section 2 "7.3 Information on Board-Committees", page. 124-128

6) Remuneration of Directors and the Chief Executive Officer

HARN has established remuneration policies of the Board considering in accordance with the number of directors, performance, business size, duties and responsibilities and performance which the remuneration will be at an appropriate level to organizations with equal size in the same industry including enough to motivate and retain directors with HARN. The Nomination and Remuneration Committee acts as a person to determine and make recommendation the Remuneration to the Board for consideration and approval before presenting the AGM for approval. In 2022, the Remuneration of the Board and Board-Committee has been approved by the 2022 Annual General Meeting of Shareholders. **More details appear in Section 2 "8.1.2 (Remuneration of individual Board)", page 145-146**

Established of Remuneration Paid to Chief Executive Officer, must operated by the Nomination and Remuneration Committee. Consider according to the remuneration policies for Chief Executive Officer. Which are (1) Compensation structure (2) Performance Evaluation Criteria, 2 types of namely, Key Performance Indicator (KPI) and Appraisal Indicator (API) according to the annual corporate strategy goals. The Nomination and Remuneration Committee acts as a person to determine and make recommendation to the Board, for approval. However, in 2022, the Board has approved the remuneration the Chief Executive Officer. **More details appear in Section 2 “7.4.2 Top Executive’s Remuneration Policy”, page 130-131**

7) Evaluation of the Performance of the Board

HARN conducts the Board’s performance assessment annually, under good corporate governance practice. HARN’s Board Assessment divided into 4 parts, namely: (1) Whole Director Self Assessment, (2) Individual Director Self Assessment, (3) Whole Board-Committees Self Assessment, (4) Individual Board-Committees Self Assessment. According with good practices of the Stock Exchange of Thailand, to be used as a framework for reviewing the Board’s qualifications structure, meetings and role and duties, including consider, review and analyze its performance for further improvement. **More details appear in Section 2 “8.1.1 6) Board and Board-Committees Self-assessment”, page 140-142**

8) Directors’ Development

HARN requires an orientation for newly appointed directors every time. New directors will receive a handbook, documents and useful information. Furthermore, the business visit on introduction to business operations, are provided in order to create knowledge and good understanding of operations in various operations’ knowledge needed and beneficial, including policies and practices of good corporate governance, including policies and practices of good corporate governance

Also the directors are also required to enhance their knowledge, capability and skills in terms of business operation, good corporate governance and other courses that are beneficial to their operations. Accordingly, by support and encourage their training with Institute of Directors Association (IOD) as well as other institutions in all relevant courses continuously every year. **More details appear in Section 2 “8.1.1 5) Director Development, page 139-140 and 8) Orientation of New Director”, page 143**

9) Board Meetings

Board meetings are scheduled in advance each year, and inform director of the schedule, so can allocate time and attend the meeting. The Company Secretary is responsible for preparing and meeting invitations are delivered to Directors for consideration at least 5 business days prior to the meeting and sets a policy that requires no less than one-two (1/2) of the current Board members in attendance to make a quorum, includes that while the Board will vote at every Board meeting, there must be no less than two-thirds of the current Board members in attendance and vote counts to make a quorum. **More details appear in Section 2 “8.1.2 (Board meetings)”, page 143-145**

10) Company Secretary

The board appoints a Company Secretary, to take responsibilities in providing advices to the Board regarding the applicable laws, regulations and good corporate governance principles for HARN which the Board must know and practice, responsible for arranging board meetings and the shareholder’s meetings to ensure that they are organized in a transparent way and in compliance with applicable laws and regulations, including a monitor and coordinate to ensure that the Board and shareholders’ resolutions are fully complied, including to keep HARN’s important documents as required by the laws. **More details appear in Section 2 7.6 (Company Secretary), page 133**

11) Succession Plan

The Board must ensure that HARN has an appropriate nomination process for key management positions at all levels. The Top Executives will be selected through a nomination process that will consider both internal and external, however HARN has taken steps to develop its executives to lay down a succession plan for personnel when the time comes for assuming higher positions that become vacant, namely: the Chief Executive Officer, Chief Marketing Officer, Chief Financial Officer and Chief Operating Officer. **More details appear in Section 2 7.4 (Succession Plan), page 129-130**

12) Serving as Directors in Other Companies of Directors and Executives

The Board set a policy to limit the number of listed company in the Stock Exchange of Thailand. That each Director able to take which does not exceed 3 companies no exception, which stricter than the criteria for does not exceed 5 companies, to ensure that the Board dedicate sufficient time for the operation.

The Board also established a policy to prohibit the Chief Executive Officer and executives from taking a directorship position at other companies outside the Group. In case the Chief Executive Officer and executives of HARN have to hold such directorship position in other companies, a prior written approval from HARN's Board of Directors is required to prevent potential conflicts of interest. This must not conflict with laws and rules related to the operation of HARN as well.

The Board, Chief Executive Officer and Executive are unable to become a partner or a director in a competing enterprise or business related to HARN's that may cause conflicts of interest. Details are in accordance with the policy and guidelines of the Board of Directors disclosed in the corporate governance and code of conduct policy and principles with a full version On HARN's website: <https://www.harn.co.th/corporate-governance/corporate-governance-policy/>

However, in 2022, HARN there is no Director to take of office of listed company the SET for more than 3 companies, and no Executives to taking a directorship position at other companies outside the group. **More details appear in attachment 1, page 233-238**

13) Governance of Subsidiaries

HARN determine policies to govern subsidiaries by setting way of conduct guidelines, internal control, disclosure of financial performance, transactions with connected persons, acquisition or disposition of property, other important, capital increase, capital reduction, and dissolution of subsidiaries, so that their work procedures in conformity according to the law and relevant regulations as a governance tool for companies in which HARN holds shares. All are required to practice and drive toward the same standard across HARN through HARN's representative(s) assigned as directors. This way, HARN commands unity in action, leading to synergy, enhanced capability and strength in competition to in turn lead to joint growth in a transparent and sustainable way.

Below is the scope of executives, which consists of governance principles:

(1) 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, to use for financial statement of HARN according to the standards and timeline.

(2) Rules, Regulations and Policy, including directives which form part of the governance designed to drive linkages between HARN's policy governance and its successful implementation driven toward a uniform standard throughout by HARN's representatives assigned to serve in these subsidiaries as directors.

(3) Steering for management by defining objectives and goals, strategies, and policies, and allocating key resources for objective and goal achievement, including monitoring, assessing, and ensuring performance reporting. Must report implementation updates to the Board.

6.1.2 Policy and Guidelines Related to Shareholders and Stakeholders

1) Shareholders' Rights

HARN values the protection and respect of shareholders' rights, both as major shareholders minority shareholders or institutional investors thus provides opportunities for shareholders to exercise their fundamental rights as abide by law, such as to attend the shareholders' meeting, to express opinions, and to make decision on important issues, including approval of significant transactions having impact on business direction. HARN schedules an Annual General Meeting (AGM) within 4 months of the annual closing date of its accounting books. For urgent matters that affect or involve shareholders' interests or involve conditions, regulations, or laws that require shareholders' approval, however, it can call an extraordinary meeting of the shareholders (EGM).

However, HARN prepare to the shareholders an invitation notice indicating the venue, date, time, agenda items, supporting information thoroughly and sufficient for the rights of the shareholders, as well as the opinion of the Board on each agenda item indicated in the invitation notice and key supporting information for decision-making.

Shareholder's Meeting

In 2022, the Board of meeting no. 1/2022 on February 25, 2022, decided to call AGM on Monday, April 25, 2022 at 14.00 hrs. HALL 31-32 floor 3rd, Harn Engineering Solutions Public Company, 559 Soi Soonvijai, Rama 9, Bangkapi Sub-District, Huaykwang District, Bangkok 10310. Its decision, meeting date, and meeting agenda were disclosed in detail ahead of time by announcing on SET's website to notify shareholders.

In the AGM, HARN was organized in accordance with the AGM Checklist, prepared by the Thai Investors Association (TIA), Thai Listed Companies Association (TLCA), and Securities and Exchange Commission (SEC). In 2022, HARN received a full score of 100 points for the 5th consecutive year, reflecting its continual commitment in organizing its AGMs with highest Corporate Governance standards. Such practices include:

- Disclosed in detail ahead of 35 days before the meeting date on March 21, 2022 by announcing on SET's website. To notify shareholders before sending meeting notices. HARN assigned Thailand Securities Depository Co., Ltd. (TSD), its securities registrar, to mail the notices together with accompanying documents, supplementary information for decision-making, opinions of the Board, the annual report 2021 (QR Code), meeting documents, and proxy forms for shareholders of 24 days before the meeting date. The meeting notices were sent on March 31, 2022.
- The invitation was announced newspaper, 3 days before the meeting, each for 3 consecutive days during April 15, 18 and 19, 2022 to allow shareholders enough time to prepare themselves for the meeting.
- Allowed the shareholders to provide their opinions, suggestions, and questions until April 18, 2022, 7 days before the meeting date, as well as posted on HARN's website.

On the Meeting Date

The 2022 AGM define began at 14.00 hrs, with registration beginning at 12:00 hrs. At the meeting's opening, a total of 140 shareholders registered, of whom 35 were shareholders and 105 were proxy holders, holding a total of 409,647,849 shares, or 70.0852 of the total, which exceeded one-third of all HARN's subscribed shares of 584,500,000.

On the meeting, the Chairman of the Board assigned The Company Secretary as that would conduct the meeting, introduced the directors, executives, the external auditor, and the legal advisers (if any) who served as a neutral party. Then elaborated on the voting and ballot counting for individual agenda items under HARN's Articles of Association as well as voting procedures, chance attendees to comment or provide recommendations and ask questions for each item. This year, for good public hygiene, provided paper question form another channel for shareholders instead of using microphones, which the Chairman and executives will answer all questions clearly and precisely, treating all questions with due respect. In addition, invited volunteers from the shareholders present at the meeting to witness the vote counting. For the election of directors, individual votes were required

The meeting ensured that the meeting proceeded by the order of the agenda and did not add any item without notifying shareholders in advance. At the 2022 AGM, the order of the agenda was not changed, and there was no request to consider any other matter.

All 9 HARN directors attended the meeting. The Chairman of the Board, the Chairman of the Board-Committees, Chief Executive Officer, and Chief Financial Officer together provided supporting information on stage. Chief Marketing Officer, Chief Operating Officer, Director of Various Departments and the external auditors from Dharmniti Auditing Co., Ltd were attended at the front rows to provide information for relevant questions. Also, Miss Piyanuch Srimuang as shareholder, a volunteer from the shareholder, was a witness in the vote counting.

Practical Guidelines for Reporting Conflicts of Interest

As specified in the Corporate Governance Policy and Principles, all directors, top executives according to the announcement of the Securities and Exchange Commission (SEC), must prepare reports on conflicts of interest, consisting of annual reporting forms and interim reporting format in case of changes. At each shareholders' meeting, any director with vested interests or involvement on any agenda must not attend and abstain from voting on each applicable agenda item.

Disclosure of Shareholders' Meeting Outcomes

For the 2022 AGM, HARN submitted a summary of AGM resolutions to SET and SEC on the evening of the meeting date on April 25, 2022. After that, 11 days after the meeting date on May 6, 2022 it also submitted the minutes of the AGM, by each agenda clearly separated, the number of directors in attendance, questions raised by shareholders and answers from directors, together with the voting tallies of each agenda item to SET and SEC, including disclose through website www.harn.co.th. Which complies with the regulations of the Stock Exchange of Thailand within 14 days of the meeting.

2) Equitable Treatment of Shareholders

HARN treats all shareholders fairly despite their different shareholding proportions. Shareholders' fundamental rights are conserved restriction and regardless of their gender, age, race, nationality, religion, belief, social status, physical impairment, or political inclination. Include Directors with vested interests on any agenda item must excuse themselves from the meeting on that item. In addition, HARN information on the shareholders meeting was announced ahead of the meeting in Thai and English.

HARN values the protection and rights promotes of shareholders to fundamental rights, in which the provides opportunities for shareholders to propose agenda items for the AGM and to propose and nominate Director Candidates in advance of the AGM on SET's electronic system and www.harn.co.th, from October 1 to December 31, 2021. For the 2022 AGM, none of the shareholders has proposed an agenda nor nominated any candidate to the Board, which disclosed in the AGM invitation notice and the company secretary reported to the Board meeting for acknowledgment.

HARN did it best to facilitate the meeting for all shareholders, though the AGM was convened under the COVID-19 pandemic, where the safety and health of attendees was crucial under social distancing measures, as follow; did it best to facilitate all shareholders

- The meeting venue was arranged can easily and conveniently travel to by private cars and public, also provide shuttle service, park in front of 7-Eleven, Rama 9 Road, Soi 13 from 11.00 am. Until the meeting closed.
- Provide screening for body temperature at outside area of meeting room, and seating with a suitable social distancing requirements to reduce the risk of COVID-19 infections.
- On the meeting day, Registration opened 2 hours use barcode system facilitated registration and voting. And extended until the period before the last meeting agenda without losing their rights.
- Provided staff officers to welcome and take care of them, photocopying services and verified documents.
- Provided sufficient drink water to the shareholders at outside area of meeting room
- Provided stamp tax in case the shareholders delegate a person to attend the meeting on their behalf
- Disclose HARN information around the meeting area and provided staff officers to welcome and answer questions of them
- Prepare quality assessment of the AGM through QR Code to use the data to develop the future meetings with transparency and beneficial to the shareholders.

To maintain the rights of those who could not attend the 2022 AGM in person, they could appoint proxies or delegate their votes to any independent director any one in attendance on proxy form B. which sent along with the invitation notice and discloses on its website defined for voting on behalf of shareholders, has specified these independent directors' namely; Dr. Thakol Nunthirapakorn, Mr. Prasert Deejongkit. Shareholders may make further inquiries about this by phone or HARN's website and company secretary e-mail company secretaries.

3) Roles Toward Stakeholders

HARN accounts for all stakeholders' rights and interests by establishing guidelines for addressing the needs of each group in and outside the corporation, as well as its own responsibility for society and the environment. Stakeholders fall into 7 groups with a different mission targeted for each group in response to their different needs:

Employee

More details appear in Section 2 "7.5 Information of the Employees", page 131-133

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. Also, to ensures has plans to develop information technology in organizational level that correlate to the needs of business continually, considering covering all dimensions in terms of increase business opportunities and development plans. Administer risks information technology along with cyber security to achieve objectives and main goals of the business.

In addition, in the year 2022, review the policy and and development plan of information technology in Digital Transformation 2022-2024 both hardware and software. Also, a goal of 100% achievement is set each year for all activities to increase competitiveness by using digital technology in accordance with the business operation strategy and response to cyber threats. The budget planning of Bath 11.55 million has already been approved by the Board of Directors.

The operating performance against cyber threats has been analyzed and resolved on cyber security flaws of the organization, with protection from external attacks through applications, use of the Virtual Private Network (VPN) system, external email authentication, restriction of access to harzadous sites, prevention against virus infection, backup data to avoid data damages in case of an emergency, and drills of emergency situation plans to deal with such events. Meanwhile, important resources are allocated as appropriate for the performance of operations.

Hardware Road map – 2022

1. Hardware Good Performance	Supply and modernize the deteriorated computer equipment and notebooks.	99.67%
2. License Software	Purchase and procure licensed software valid for the organization, while suspending illegal personal devices within the organization.	
3. Network and Security Good Performance	Open a VPN license for employees and optimize sufficient internet speed for overall use in the organization, including an effective protection against viruses and cyber threats from outside.	
4. Network Anywhere	Server on Cloud management, Employees use Wifi within the organization to support Digital Transformation	

Software Road map – 2022

Digital Tranformation Project	• Manage the working processes in a digital form and improve the ERP system, including various programs to stably and accurately operate according to the process, with verifiability. • Develop processes, reduce costs, increase revenue, change the method of operations, upgrade business efficiency, and create a modern corporate image.	100%
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Customer

HARN divides its market into domestic and overseas, listens to customer needs and expectations to analyze them through assorted channels, including customer visits, seminars, opinion surveys and customers information via online channels which also provide information on state of other technology, future needs of customers for the design of products and services that match the needs and expectations of current and future customers.

Constantly, HARN developed added a new communication channel via LINE Official to ease contact to facilitate. In addition, seminars and communication were held online as well as communication with customers to provide useful information, knowledge, and forge good relations during the virus spread Covid-19.

HARN developed to foster relations with customers suiting each life-cycle of customers, designed to lead to repurchase and “word of mouth” to others, which form the ultimate goal. There is a customer satisfaction annual assessment system, featuring constant query development to allow survey outcomes to reflect current operations while extending future businesses more clearly. Customers' satisfaction and dissatisfaction have been regularly compiled and analyzed so that may know trouble indicators and promptly resolve problems, thus preventing losses of customers or competitors' intervention. Result of the customer satisfaction survey for the year 2022 has an overall average of 92.89 % **Details appear in Section 1 “3.3 (Customer Relationship Management Plan)”, page 66-67**

Trade Partners and/or Creditors

HARN places great importance on treating business partners as partners who grow together with equality. On the principle of fair competition Transparency and respect for each other and establish good relationships cooperation with all partners. By established procurement procedures and strictly complies with them, has a selection process that requires business partners to meet certain qualifications. Criteria for assessing business partners' capability have also been clearly set to ensure equality and transparency.

HARN professionally and disciplinary operates its businesses in accordance with agreements made with creditors. It strictly honors agreed conditions and guarantee terms while making full and interests and honestly submitting accurate financial status report to creditors on time. Should there be any failure to comply with the payment terms and conditions, HARN will inform creditors in advance and hold a discussion to solve the problem to prevent any possible damages.

To encourage trade partners and/or creditors conduct guidelines may be more in line with the sustainable business covering environmental issues, HARN has reviewed its policies and guidelines on promoting enhance the potential of partners and/or creditors subject to risk management processes and requirements according compliance its anti-corruption measures handbook. The factors for the drive are as follows:

- (1) Send executives and employees to business training overseas to achieve a goal in “a leader of engineering solutions sustainably”. In 2022, HARN still uses via VDO Conference system in communicate with trade partners and/or creditors both domestic and abroad on the continuation of learning and development under the Circumstance of COVID-19.
- (2) Promotes innovation as core value and publish to the public and a part of social responsibility through the Knowledge Sharing Project, with multi-channel communicate.
- (3) Appoint Innovation Committees to promote innovative culture in the corporate to lead to new development and innovation for sustainability business consisting of optimizing with Digital Transformation, perspective design thinking and development of products and services, research, process improvement and cooperation with partners.

Competitors

Business Competitors HARN complied with the rules of fair competition under the international rules of free competition Framework refrained from dishonesty or improperly seeking confidential information on business competitors. Also, refrained from defaming business competitors through slander and not defaming competitors using slander that may lead to reduction or limitation of trade competition, additionally, refrained from involving in any activities that may lead to set the limitation or reduction of business competition.

However, HARN not any advantage by seeking competitors' confidential information through dishonest or improper means, and do not defaming competitors using slander that lead to reduction or limitation of trade competition, including no disputes with trade competition occurred.

Investor

HARN remains committed to being an organization that contributes to the economic growth sustainable and improving the quality of life. Moreover, creating innovation and implementing technology in all sectors. Consider account the three aspects are Environmental, Social and Governance to be assure for the investor that HARN will be a company that operating returns business to sustainable growth.

HARN organizes various activities to provide information to shareholders, analysts, media and investors through online channels. **Details satisfaction for 2 appear in Section 7.6.2 Head of Investor Relations and contact page 135**

Public sector

HARN supports the changes of government policies which adhere to economic development in line with social, community, and environmental development to ensure that HARN's business operations comply with laws, rules, regulations, announcements, and government orders that bind to such business ooperations. HARN tracks such changes of government policies and new legislations for the timely management and compliance with the laws among employees and operators at all levels.

Community, Society and Environment

HARN define Occupational and Environment Policies and Rule to bolster quality of lives for the community, the society, and the environment. This considered as factors to ethically and transparently drive HARN's businesses. For Corporate Social Responsibility, HARN is determined to reduce risk and negative impact due to its operation. HARN also fosters good relationship. Therefore, implemented its social responsibility under frameworks for society, community and environment, it also focuses to reduce impacts of climate change and conserve the eco-system. **More details appear in Section 1 "3.4 Environmental Sustainability Management", page 68**

Disclosure of Information and Transparency

Disclosure of information is a key index of operating transparency, a crucial factor for confidence among investors and stakeholders. HARN values accurate, precise disclosure of assorted information and creates numerous channels of disclosure so that all stakeholders can gain easy access to information. It promotes awareness among directors, executives and employees of the importance of information disclosure and transparent operations, and creates appropriate avenues for complaints while providing fair treatment to whistleblowers and those complained against as follows:

Financial and Non-financial Reports

(1) Disseminated its information of HARN to shareholders, investors through the channel and media of the Stock Exchange of Thailand and on the website of HARN. Its information is also compiled in the Annual Disclosure Statement / the Annual Report (Form 56-1 One Report)

(2) Disclose information to investors and stakeholders on key matters that affects the price of HARN and decision making of investors and stakeholders, shall be accurate, complete, timely, reliable, transparent.

(3) Disclose financial information will be considered thoroughly with the stated aspects at minimum:

- The result of the assessment is sufficient for internal control.
- Independent Auditor's Report, internal control recommendations and other recommendations (if any).
- Comments of the Audit Committees.
- Relevant to main objectives, goals, strategies and policies of HARN.

(4) Disclose on Corporate Governance Policies and Principles, code of conduct, risk management policy, sustainability management policy, environment-occupational-health and safety policy, report results of implementation in compliance with such policies including also non-compliance cases together with reasons (if any) and climate change action report in the Annual Disclosure Statement / the Annual Report (Form 56-1 One Report) and on its website HARN.

(5) 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 HARN's financial status and operating performance in each quarter.

(6) Discloses in the annual audit fee and other service fees for the auditor. Which has been approved by the annual general meeting of shareholders.

(7) Discloses information on the roles and duties of the Board and Board-Committees, number of meetings 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, in the Annual Disclosure Statement / the Annual Report (Form 56-1 One Report).

(8) Discloses remuneration policy of directors and top executives of HARN, that reflects their duties and responsibilities, including types or nature of the remuneration, also remuneration for any directorship on the director of subsidiaries (if any) in Annual Report of HARN, in the Annual Disclosure Statement / the Annual Report (Form 56-1 One Report).

(9) Disclosure of the information concern one of the director in particular, that director should be aware of and able to reveal identity to ensure complete and proper compliance.

4) The Use of Inside Information

HARN has defined policy and guidelines in according Corporate Governance Policies to ensure director, executives and employees on best practices on the use of inside information and guarding of confidential information, in its good Corporate Governance Policies and Principles. Employees HARN they must guard inside information or confidential information not yet publicly available and must not share with other parties inside information learned during the course of their duties or use it to seek profit in a fraudulent way, or to cause damage to HARN's interests.

In addition, HARN has a policy for the Board and Executives Including employees who are in a position to access to inside information to refrain from insider trading of HARN stocks within 30 days prior to the disclosure of quarterly and yearly financial statements to the public and until the period of 24 hours since disclosure to the public. Other than that, trading it normally, and requiring all directors and the first 4 top-ranking executives, including their spouses and children under the legal age, if trading HARN stock must report such trading to the Company Secretary at least 1 day in advance. And must report any changes in their HARN share ownership to report electronic the SEC under Article 59 of the Securities and Exchange Act B.E. 2535 (1992) and its amendments within three days of the date of trading, disposal, or receipt of such shares. HARN defines a policy of disclosing or reporting the trading, disposal, or receipt of such shares, changes in share ownership of the directors and the first 4 top-ranking executives to the quarterly Board meeting, contained in advance as a regular agenda item.

The company secretary will notify and a campaign against the use of insider information via e-mail to those involved to know them of the trading prohibition period and forbidding them to disclose such information to external parties or unrelated parties on a regular basis, so as to prevent insider trading. Including providing organizes E-Learning in HARN Academy system about the prevention of the use of inside information and prevention of conflicts of interest to educate directors, executives and all employees, with so test online every year.

5) Conflicts of Interest

HARN requires information disclosure to prevent conflicts of interest and illegal, improper activities. Under the Board's policy, business decisions made aligning our practices with good governance principles. The Board of Directors has established policies and guidelines for conflicts of interest with under Corporate Governance, and Code of Conduct for the directors, executives and employees follow on the principle that any decision It must be done for the best interest of HARN only and it is the duty of directors, executives and employees at all levels to avoid financial involvement and/or relationships with other third parties. This will result in HARN losing interest or creating a conflict of loyalty or interest or hindering its effective operations. Those Director, Executives and Employee person with interests or related businesses which may require HARN's review and decisions must report their relationships and connection with potential conflicts of interest. Including is to disallow such connected directors and related executives from participating in the decision making and having no authority to approve for and involvement in such transactions.

(1) HARN has required all directors and the first 4 top-ranking executives and to disclose potential conflicts of interest when taking office for the first time. They also have to report any changes on their conflicts of interest regularly within February for every year. These include the disclosure of any suspected items of conflict of HARN's interests or any approvals. In such cases, there should be no principles, conditions, or special issues contrary to normal terms. Thus, this is considered as HARN's internal control process. In the meantime, the Audit Committee is required to oversee and resolve such conflicts of interest. HARN's secretary is to compile to check and manage conflicts of interest.

(2) HARN has required all directors and the first 4 top-ranking executives and to disclose the report of vested interest when taking office for the first time. They also have to report any changes on their conflicts of interest regularly within February for every year. The report can be used as basic information in supervising the interests of everyone, which should be delivered to HARN's secretary for collection, audit, and supervision on conflicts of interest. In 2022, there were no transactions with conflicts of interests among the directors and the first 4 top-ranking executives, as well as related individuals.

In addition, there is the E-Learning in HARN Academy system as learning media to prevent using insider information and avoiding conflicts of interest, while educating all directors, executives, and employees in line with online testing of their knowledge and understanding every year.

(3) Define at every board meeting, the Chairman reminds directors to conform to the policy on conflicts of interest on all agenda items, which requires those with vested interests to declare themselves to the meeting to abstain from voting or giving any views and minute recorder.

(4) The Audit Committee reviews related transactions and those with potential conflicts of interest that could undermine HARN's businesses to ensure conformance to the law and SET's criteria. All of which must be reported to the board for approval.

6) Right of Shareholders

HARN has defined guidelines on the rights of shareholders and equitable and fair treatment, the good corporate governance policy has been established and participation support guidelines, communication with shareholders, shareholders' rights and equitable treatment of shareholders for directors, executives, and employees to comply with under Corporate Governance, and Code of Conduct.

7) Anti-Corruption

HARN is committed to running its businesses with integrity, transparency, fairness and adherence to the CG code, and resisting all forms of fraud and corruption, direct or indirect. Relevant implementations and development as follows:

(1) In 2017, HARN enlisted in the declaration of intention to join Thailand Private Sector Collective Action Coalition against Corruption (CAC), an endeavor of the Thai Institute of Directors (IOD) and won approval, with effect from November 5, 2018. Before expiration of the three-year membership term, HARN applied for CAC recertification and on September 30, 2021, won approval the renewal of CAC membership for second term.

(2) Since 2018, HARN has begun enforcing Anti-Corruption Policies as part in Anti-Corruption Measures Handbook. The policies, revised in 2021, to be contain essential principles and guidelines embracing resistance to fraud, by defining as part of the way of Corporate Governance and Code of Conduct so that may observe the same standards and management approaches.

(3) HARN's Anti-Corruption Policy forbids HARN's director, executives and employees to carry out or participate in corrupt practices as well as all forms of bribery offer or acceptance direct and indirect. They must seriously observe the Anti-Corruption Policy, which covers various processes, including donation to charities, human resources administration, supply procurement, and internal control.

(4) Communication, training, and task highlights:

- Communicates its Anti-Corruption Policy and guidelines to its subsidiaries, associates, and other HARN-controlled companies, business partners, and stakeholders as well as the public through assorted channels including letters, e-mails, website, HARN intranet, signage and LINE Official so that all stakeholders may acknowledge and conform to guidelines.
- Communicates with its Director, Executives Employees and provides training to ensure their understanding of fraud anti-corruption measures, and disciplinary actions for non compliance. The training includes an orientation session, and HARN Academy E-learning etc.

(5) Oversight and monitoring of performance:

- The Board ensures that HARN commands an efficient system for anti-corruption to ensure that executives recognize and values anti-corruption and cultivates it as a corporate culture.
- The Audit Committee supervises internal control, financial reporting, and other procedures concerning anti-corruption measures, steers conformance to anti-corruption measures, and reviews applicable measures and internal control to ensure that the measures are adequate and effective. The reviews risk assessment and provides recommendations to the Board on suggested practices to mitigate such risks.
- The Audit Committee annually defines and reviews the Anti-Corruption Policy, provides recommendations and guidelines, monitors, and assesses performance, and steers and advocates risk management practices concerning anti-corruption and process-level corruption by assessing fraud and corruption risk and review anti-corruption measures for adequacy and suitability.
- Top Executives establish risk assessment for business processes that may lead to corrupt practices, review the suitability of processes and measures, and personify proper behavior as well as communicating it to all employees and related parties.
- Developed Risk & Control Self-Assessment for all units to apply as guidelines for assessing corruption risks in their respective business processes and for defining suitable internal control processes.
- The Quality Management Division inspect and monitors the use operational on process the Anti-Corruption measures and monthly report on compliance outcomes to the Chief Operating Officer, Chief Financial Officer and the management meeting.
- Internal Audit reviews items of potential the likelihood of corruption, and corporate efficiency for managing risks arising from corporate corruption and those at the operating level. Also reports to the Audit Committee and top executives when encountering items or actions that could undermine performance outcomes, including corruption.

Details of the information on Policy Anti-Corruption are shown in <https://www.harn.co.th/corporate-governance/corporate-governance-policy/>

8) Disciplinary Measures for Non-Compliance with Policies and Guidelines

Measures, scope, and tools for whistleblower protection

- HARN's human resources administration process echoes its commitment to anti-corruption measures. Although refusal to take part in corruption may deprive HARN of business opportunities, its policy is not to demote, punish, or harm those that do so.
- HARN's employees should not ignore actions in potential conflicts with anti-corruption measures. HARN has established channels for whistleblowing and protection of whistleblowers or those that need advice about conformance to anti-corruption measures.

- HARN has established whistleblowing on corruption, Code of Conduct and non-compliance with laws and corporate regulations to define applicable criteria and guidelines that are suitable and uniform throughout the corporation. Protective measures and fair treatment are in place for whistleblowers or those that provide information, to overcome corruption seriously, strictly, and more efficiently.

Punishment

- HARN has established a suitable and fair process for punishing violators of anti-corruption measures. Any violation of this policy, direct or indirect, calls for disciplinary review under HARN's regulations, consisting of fact-finding, investigation, punishment, and appeal. They could also lead to punishment by law. Employees must therefore master and strictly conform to the Anti-Corruption Policy in every step of their work.

6.2 Code of Conduct

HARN has its written policies and guidelines for Code of Conduct, based on international standards. The compiles the format, scope of standard behaviors and actions that the directors, executives and employees must comply with during the course of business and in their duties with ethics, integrity, fairness and equality. The maintain HARN's image as an organization of sustainable growth.

Furthermore, supervisors are responsible for the monitoring and promotion of Code of Conduct compliance among their subordinates. Violators of the code are subject to disciplinary action.

The essential aspects of the code of conduct are included below:

- | | |
|--|--|
| 1. Compliance with relevant laws and regulations | 8. Respect universal human rights |
| 2. Conduct | 9. Compliance with applicable laws, rules, regulations and regulations and respect for culture customs and traditions of each locality |
| 3. Perform duties with responsibility, honesty, diligence and discipline | 10. Confidentiality and use of inside information |
| 4. Confidentiality of company confidential information | 11. Marketing communications |
| 5. Maintaining company assets | 12. Intellectual Property |
| 6. Exercise of social and political rights | 13. Use of information and communication technology |
| 7. Treat stakeholders fairly | 14. Anti-Corruption |

The Board reviewing of Code of Conduct in the Board Meeting no. 2/2022 on March 23, 2022. Details of the complete information on Corporate Governance and Code of Conduct of HARN are shown in <https://www.harn.co.th/corporate-governance/corporate-governance-policy/>

6.3 Milestone Development on the CG Policy, Guidelines and System During the Year

6.3.1 Review CG Policy, Guidelines and System

The Borad regularly reviewed its policies, principles, and practices in relevant to corporate governance. In 2022, Reviewed good corporate governance policies, princiles, and guidelines based on the criteria of the SEC and SET, as well as corporate governance assessment have been developed from various institutions over the years. HARN reviewed and update guidelines Corporate Governance and Anti-Corruption the following:

1. Amended the Corporate Governance Policies and Principles, improving to in line with Corporate Governance Principles of the Office of the Securities and Exchange Commission (SEC), and the Personal Data Protection Act B.E. 2562
2. Amended the Audit Committee Charter and Risk Management Committee Charter, the Board of Directors and the Nomination and Remuneration Committee to ensure responsibilities is appropriate and in line with operations according the organizational structure, executive authority and Corporate Governance Principles of the Office of the Securities and Exchange Commission (SEC), Emphasizing on the responsibilities of Audit Committee and Risk Management Committee, in support and develop efficient risk management culture to ensure in line with the Anti-Corruption Measures Handbook current.
3. Amended the Anti-Corruption Measures Handbook, in line with the self-assessment form for anti-corruption develop, revised 4.0 for applied for CAC recertification membership no.1
4. Reviewed the Code of Conduct to be up-to-date, in accordance comprehensive and sufficient operational guidelines.

6.3.2 Other Implementation under CG Code

A survey on corporate governance conducted by the Thai Institute of Directors (IOD) under the Corporate Governance Report of Thai Listed Companies for 2022 has ranked HARN as “Excellent” or 5 stars with an average score overall of 96 points, is a higher score than 2021 as and higher than the average score of all listed companies.

In 2022, the Board reviewed Corporate Governance Policies and Principles, complied with CG Code year 2017 principles and adapt to HARN's business context, but did not cover the criteria under the CG Scorecard in 5 items:

1. Voting to elect directors by cumulative voting

HARN's articles of associations require that directors be elected by majority votes and that each shareholder shall have the number of votes as the shares held. In addition, HARN has defined methods to protect the rights of shareholders, including the rights of minor shareholders to propose meeting agenda and nominate directors.

2. Sustainability Report

At present, 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 report on in policies of Corporate Governance and Driving Business for Sustainability in the Form 56-1 One Report.

3. Independent directors should consist not less than half of the total Board.

At present, the proportion of independent directors is 4 persons from 8 person. The proportion of independent directors is 50% which the products that HARN distributes are various and need to have knowledge in products, markets, competitive conditions and customers' needs.

4. Consider appointing the Corporate Governance Committee

Delegating the Chief Operating Officer to oversee and present to the Board of Directors for acknowledgment of the implementation at least once a year. In 2022, reviewing of Corporate Governance in the Board Meeting no. 2/2022 on March 23, 2022. However, not any violation of good corporate governance, code of conduct and compliance with relevant laws, rules and regulations, has safety and legal management standards.

5. Consider appointing the Corporate Sustainable Committee

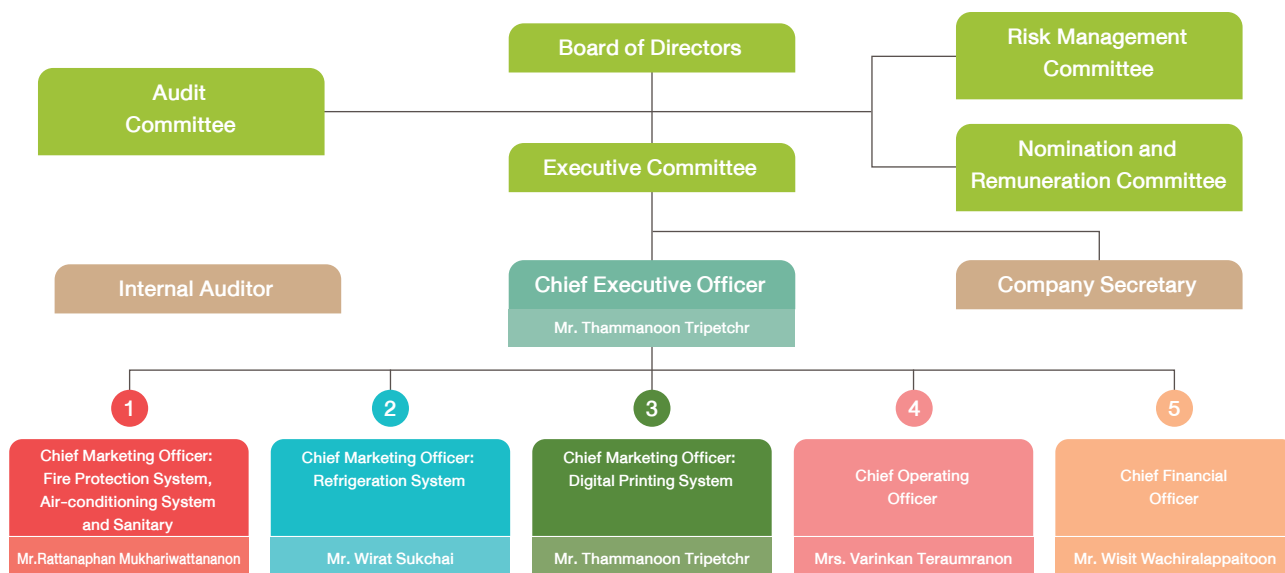
The Executive Committee is assigned to oversee and present to the Board of Directors for acknowledgment of operations at least once a year. In the Board of Directors's meeting no. 2/2022 on March 23, 2022. HARN set strategic plans and goals for sustainable business operations, with balance in the environment, society, and governance towards the goals of becoming carbon neutrality by the year 2040 and emission Net Zero by the year 2050.

7. Governance Structure and Key Information of the Board, Board-Committees, Executives, Employees and Others

7.1 Governance Structure

Harn Engineering Solutions Public Company Limited's management structure or "HANR" as of December 31, 2022, comprises of the Board of Directors and 4 Board-Committees supporting matters: the Audit Committee, Nominating and Remuneration Committee, Executive Committee, and 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 Chief Executive Officer is the top executive of HARN.

Organization Chart of Harn Engineering Solutions Public Company Limited



Organization Chart of Harn Engineering Solutions Public Company Limited

www.harn.co.th

Note: Management no. 1 - 5 is Company executives according to the Notification of the Securities and Exchange

7.2 Board of Directors

7.2.1 Composition of the Board

Under of HARN articles of association, the Board consists of:

- Least 5 directors.
- At least half of the directors must reside in the Kingdom.
- Must consists of Independent Directors of at least one (1)-third (3) of all Directors and the number must be at least 3 directors.
- The Independent Directors must as Audit Committee the number must be at least 3 directors.
- Non-Executive Director must of at least 1 director in knowledge engineering in main business and at lest 1 director must in knowledge of accounting.
- Must consists of Executive not more half of all Directors

According to the certification of the Ministry of Commerce at December 31, 2022, the HARN Board consisted:

- 6 non-executive directors at 75% of the entire Board
- 4 independent directors at 50% of the entire Board, which exceeds the legal limit
- 2 female directors at 25% of the entire Boar
- 2 executive director at 25% of the entire Board
- Board Expertise at December 31, 2022

Core Business 3 directors ratio 38%	Strategy, Marketing and Competition 4 directors ratio 50%	Accounting and Finance 4 directors ratio 50%	Technology and IT 3 directors ratio 38%
Legal related to business 1 directors ratio 13%	Risk Management 2 directors ratio 25%	Human Resources 3 directors ratio 38%	Responsibility and Sustainable Development 6 directors ratio 75%

7.2.2 The Current Board of Directors

The Board of Directors as of December 31, 2022, consisted of:

No.	Name	Position	Appointed Date
1.	Dr. Thakol Nunthirapakorn	Independent Director (Non-Executive) Chairman of the Board Chairman of the Audit Committee	September 5, 2012 ^{/1} June 1, 2015 September 5, 2012
2.	Mr. Prasert Deejongkit ^{/2}	Independent Director (Non-Executive) Member of the Audit Committee Chairman of the Nomination and Remuneration Committee	April 23, 2021 April 23, 2021 May 15, 2022
3.	Dr. Teerachai Pornsinsirak ^{/3}	Independent Director (Non-Executive) Chairman of the Risk Management Committee	April 25, 2022 May 15, 2022
4.	Mrs. Valeeratn Chuerboonchai ^{/4}	Independent Director (Non-Executive) Member of the Audit Committee Member of the Nomination and Remuneration Committee	May 15, 2022 May 15, 2022 May 15, 2022
5.	Mr. Wirat Sukchai	Director (Executive) Chairman of the Executive Committee Member of the Risk Management Committee Chief Maketing Officer	September 5, 2012 ^{/1} March 1, 2018 May 15, 2022 March 1, 2022

No.	Name	Position	Appointed Date
6.	Mr. Thammanoon Tripetchr ^{/5}	Director (Executive)	November 1, 2016
		Member of the Risk Management Committee	November 11, 2016
		Member of the Executive Committee	December 1, 2016
		Chief Executive Officer	March 1, 2022
7.	Dr. Jain Charnnarong ^{/6}	Director (Non-Executive)	April 28, 2017
		Member of the Executive Committee	March 1, 2017
		Member of the Nomination and Remuneration Committee	May 15, 2022
8.	Mrs. Sirima Iamsakulrat	Director (Non-Executive)	September 5, 2012 ^{/1}

Note: ^{/1} HARN was listed on the Stock Exchange of Thailand in 2014, causing the directors to continuously hold positions

^{/2} Mr. Prasert Deejongkit was appointed as Chairman of the Nomination and Remuneration Committee with effect from May 15, 2022 replacing Miss Voranuch Supaibulpipat, who retired by rotation at the 2022 AGM

^{/3} Dr. Teerachai Pomsinsirak was appointed as Independent Director with effect from April 25, 2022, replacing Miss Voranuch Supaibulpipat, who retired by rotation at the 2022 AGM, and was appointed as Chairman of the Risk Management Committee with effect from May 15, 2022, replacing Mr. Wirat Sukchai

^{/4} Mrs. Valeeratn Chuerboonchai was appointed as Independent Director and member of the nomination and remuneration committee replacing Mr. Parkphum Wongpaitoon, and was appointed as Member of the Audit Committee replacing Miss Voranuch Supaibulpipat, with effect from May 15, 2022 who retired by rotation at the 2022 AGM

^{/5} Mr. Thammanoon Tripetchr was appointed as Chief Executive Officer with effect from March 1, 2022 replacing Mr. Wirat Sukchai

^{/6} Dr. Jain Charnnarong was appointed as member of the nomination and remuneration committee with effect from March 15, 2022 replacing Mrs. Sirima Iamsakulrat

With Miss. Wasukan Boonmee is the Company Secretary.

All independent Director and Audit Committee 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).

Authorized Director to Sign and Bind for HARN

According to HARN's Articles of Association, The Board Two (2) authorized directors shall sign to represent HARN, which the Shareholder's Meeting or the Board Meeting has the power to determine the list of authorized directors sign to represent HARN.

Through the Board of Directors Meeting No. 1/2021 on February 25, 2021, the Board has approved directors having authority to sign on behalf of HARN, namely Mr. Wirat Sukchai, Mr. Thammanoon Tripetchr, Mrs. Sirima Iamsakulrat and Mr. Jain Charnnarong any 2 of the 4 representative directors jointly sign.

Appointment and Dismissal of Directors

1. The Board consists of least 5 directors are appointed at shareholders' meeting. In addition, the Board must consist of a minimum of 3 Independent Directors of all Directors and as Audit Committee, which at least half of the directors must reside in the Kingdom and the directors' executive not more half of the directors, by non-Executive Director must of at least 1 director in knowledge in main business and accounting. All directors must have qualifications as specified by law and the Articles of Association. However, as of December 31, 2022, the Board had 4 independent directors, 2 female directors, and all of them resided in Thailand. 2 directors are experts in main business, namely Dr. Jain Charnnarong and Mrs. Sirima Iamsakulrat, and 4 directors are experts in accounting, namely Dr. Thakol Nunthirapakorn, Mr. Prasert Deejongkit, Mrs. Sirima Iamsakulrat and Mrs. Valeeratn Chuerboonchai.

2. The shareholders' meetings are to appoint qualified directors whom the Nomination and Remuneration Committee has elected and proposed to the Board.

3. At the General Meeting of Shareholders, one (1) in third (3) of the directors - or if the number is not a multiple of three, then the number nearest to one-third - will retire from directorship. The directors retiring in the first and second year after the after was listed are company registration to be drawn by lots. For subsequent years, those with the longest terms are to retire.

Committees that retire from the position, may be elected as a committee once again with unlimited rights. However, the Board Stipulates a policy that Independent Directors may be in position not for more than 9 consecutive years, counting from the day of the appointment and counting from the day of HARN Listed on the stock exchange.

4. Any director who wishes to resign from directorship must tender his or her resignation to HARN. Such resignation will take effect from the date the resignation letter reaches HARN.

5. In case a director's seat is vacated for reasons other than term completion, the Board may elect a qualified person and without the prohibitions stipulated by HARN's Articles of Association to fill the vacancy at the next Board meeting unless the remaining term of the vacated director is less than two months. The acting director must secure at least three (3)-quarters (4) of the votes of the remaining directors. The personal can remain in position remain in the position of director for the remaining term of the predecessor.

6. For voting to remove any director from the directorship before the completion of his or her term, at least two (2) in third (3) of the vote of eligible shareholders present at the meeting is required as well as at least half of the total number of shares represented by the eligible shareholders present at the meeting.

Qualifications of Directors

1. Must not be over 80 years of age, which they may be re-elected for another year on year, taking into knowledge necessary for business. However, must be approved by the Board of Director meeting.

2. The Board must be duly qualified, without the prohibitions stated in the Public Limited Company Act and the securities and exchange law, Including not having characteristics indicating lack of suitability as specified in the notification of the Securities and Exchange Commission, must whose name be listed as directors of a company issuing securities according to the Notification of the Capital Market Supervisory.

3. Independent directors must command independence as required by SET's Notification on the qualifications and scope of work of the Audit Committee.

4. Must never been sentenced to imprisonment, except for violations of the law by negligence or a petty offence and never have been expelled, dismissed, or removed from a position because of malfeasance.

5. Must not be a political official, except for holding a directorial position under a provision of law and not hold any position in a political party or be an official of political party.

6. Have knowledge and experience be beneficial to the business, honesty, integrity, and ethics and perform duties for the fullest.

7. Representing of shareholders as a whole not representing any group.

8. Hold any position a maximum of 3 directorships in SET-listed companies, without exception.

9. Prohibited conducting business or become a partnership or being director, executive, authorized in other juristic with same business, which the benefit of oneself or another person, unless the Board meeting to the resolution of appoint.

7.2.3 Roles, Duties and Responsibilities of the Board

The Board of Directors has a main role in determine policies and overall of the corporate, strategic planning, governance, audit, evaluate business performance of executives according to plans as well as to operate the business under the law, rules, shareholders' resolution with ethical management to reach goals at maximum benefits to HARN and shareholders, by clearly separate roles and responsibilities of the Board and the Executives, in line with the Corporate Governance Policy and Code of Conduct as follows:

Roles, Duties of the Board

1. Define HARN's vision, policies, code of conduct, strategies, directions, annual budget, management structure and major plans and consider potential risks so as to ensure that management can effectively drive plans into practice. HARN is running its businesses with transparency responsibility to stakeholders, society and environment.
 2. Assess the performance of the Chief Executive Officer (CEO) and decide suitable remuneration, to induce short-term and long term motivation.
 3. Oversee an accounting systems, financial reporting and auditing, as well as the efficient and effective internal control and internal audit systems. Define comprehensive risk management, have a mechanism for complaints and providing protection for complainants' guidelines, as well as ensure an efficient risk management system or process and follow up every quarterly.
 4. Oversee and supervise issues regarding related-party transactions and manage potential conflicts of interest and reports to the Board on a regular.
 5. Oversee that appropriate are reviewed and communicated Corporate Governance Policies and Principles and Code of Conduct at least once a year.
 6. Oversee to have a Policies and Anti-corruption Measures to comply with the requirements of the law related, including communicate to the Board, management, employees and related third parties, and promote it as a culture.
 7. Monitor and supervise the performance of the management with the specified policies, plans and budget in an efficient manner, and ensure that HARN's business management is in line with the corporate governance policy.
 8. Approval for long-term investment, loans or other as appropriate.
 9. Approve employee development and executive succession plan, and oversee procedures there is an effective.
 10. Approve and/or give opinion on related transactions, acquisition or disposition of assets, investment and any other of HARN and subsidiaries with the laws, notifications, requirements, rules and regulations, unless it is prescribed by law to seek approval from the shareholders' meeting.
 11. Authorized to appoint the Chief Executive Officer and Board-Committees who has been nominated under the nomination process and procedures under relevant laws and regulations, including assign duties and responsibilities.
- In case the Board's assignment of the Chief Executive Officer, Managing Director or any other person to perform duty on behalf, must the scope of power and duties of the authorized person clearly specified and shall be clearly recorded minutes as a resolution of the Board meeting,
- However, the authority and duties stated above must no any conflict of interest with HARN or subsidiary, unless the approval of such transactions is in line with the policy and criteria duly approved by the Board
12. Appoint the Company Secretary who has appropriate experience and qualifications in the roles and responsibilities specified in the Securities and Exchange Act.

7.3 Information on Board-Committees

The Board appointed of the 4 Board-Committees supporting matters: the Audit Committee, Nominating and Remuneration Committee, Executive Committee, and Risk Management Committee which clearly defining duties and responsibilities, to consider specific issues, scrutinize and propose the Board for consideration.

1) The Audit Committee

Each quarter the Audit Committee, together with the Chief Financial Officer which as audit committee secretary and the external auditor (Dharmniti Auditing Co., Ltd.), reviews financial reports. The Board is accountable for HARN's and consolidated subsidiary financial statements as well as other financial information presented in the annual report. The financial reports are

prepared under generally accepted accounting principles and are audited and certified by Mr. Thanawut Piboonsawat, C.P.A. No. 6699, of Dharmniti Auditing Co., Ltd. Material information, financial and non-financial, is accurately, completely and consistently disclosed.

The Board approved the appointment of the Audit Committee on September 5, 2012, which appointed from independent director of HARN's with the qualifications specified by SEC laws and SET must consist of at least 3 directors and at least 1 of whom must be adequately qualified and experienced in reviewing the credibility of financial statements. As of December 31, 2022, it consisted of three independent directors as follows:

Name		Position
1. Dr. Thakol	Nunthirapakorn	Chairman of the Audit Committee
2. Mr. Prasert	Deejongkit	Member of the Audit Committee
3. Mrs. Valeeratn	Chuerboonchai ^{/1}	Member of the Audit Committee

Note: ^{/1} Mrs. Valeeratn Chuerboonchai was appointed as an Audit Committee with effect from May 15, 2022, replacing Miss Voranuch Supaibulpipat, who retired by rotation at the 2022 AGM

All audit committee is the members who have adequate competence and experience in reviewing the reliability of the financial statements, which Mr. Wisit Wachiralarpaitoon, Chief Financial Officer as secretary.

Duties and Responsibilities of the Audit Committee

1. Review financial reporting to ensure its accuracy and adequacy.
2. Review the efficiency and effectiveness of internal control, risk management and internal audit processes and consider on the appointment, transfer and dismissal of the internal audit and review annual audit plan, fees and personnel.
3. Review compliance with laws, SET requirements, SEC and law relevant to HARN's businesses.
4. Review for compliance with the self-assessment and documents to anti-corruption measures.
5. Review and opinions on transactions to cause fraud that may affect operations, to comply with anti-corruption measures to the Board's for acknowledgment.
6. Oversee complaints, whistleblowing and investigate fact, report to the Board's for punishment or solve the problem according to the anti-corruption policy
7. Consider select, nominate and dismissal of an independent of the external auditor of HARN's and offer the fees, as well as review financial reporting process to ensure accuracy and credibility, including a meeting with the external auditor in the absence of management at least once a year.
8. Review connected transactions or transactions of potential conflicts of interest under SET's laws and requirements.
9. Disclose a report on its annual performance and the fees of the auditor in the annual report of HARN.
10. Perform other tasks as required by the law or as assigned by the Board within the committee's scope of duties and responsibilities.
11. Prepare a charter that is compatible with scope of work and responsibilities. The charter must be approved by the Board and revised at least once a year.
12. Report internal audit performance to the Board for acknowledgment.

In 2022, the committee held 4 meetings and duly reported its findings to the Board. In addition, it participated in quarterly audits along with the external auditor and the Chief Financial Officer. Disclosed its annual performance in the Report of the Audit Committee.

2) Nomination and Remuneration Committee

The Board approved the appointment of the Nomination and Remuneration Committee on December 17, 2018, by appointing 3 directors, which are fully qualified in accordance charter.

As of December 31, 2022, it consisted of 2 Independent Director and 1 Non-Executive Director: as follow;

Name		Position
1. Mr. Prasert	Deejongkit ^{/1}	Chairman of the Nomination and Remuneration Committee (Independent Director)
2. Mrs. Valeeratn	Chuerboonchai ^{/2}	Member of the Nomination and Remuneration Committee (Independent Director)
3. Dr. Jain	Charnnarong ^{/3}	Member of the Nomination and Remuneration Committee

Note : ^{/1} Mr. Prasert Deejongkit was appointed as Chairman of the Nomination and Remuneration Committee with effect from May 15, 2022 replacing Miss Voranuch Supaibulpipat, who retired by rotation at the 2022 AGM

^{/2} Mrs. Valeeratn Chuerboonchai was appointed as member of the nomination and remuneration committee with effect from May 15, 2022 replacing Mr. Parkphum Wongpaitoon, who retired by rotation at the 2022 AGM

^{/3} Dr. Jain Charnnarong was appointed as member of the nomination and remuneration committee with effect from May 15, 2022 replacing Mrs. Sirima Iamsakulrat

Which Mrs. Varinkan Teraumranon, Chief Operating Officer as secretary.

Duties and Responsibilities of the Nomination and Remuneration Committee

Nomination

1. Review qualification of the Board and Board-Committees consideration due regard for the composition: knowledge, expertise, experience, talents are independent according to the established criteria.
2. Consider qualification of Chief Executive Officer as suitable for HARN's business management, compatible with business strategies, due regard for the composition: education, experience, knowledge, expertise and and into consideration important business environment.
3. Select, set process and criteria for nominating directors in accordance with the structure set in 1 and 2 in compliance with HARN's Board Skill Matrix to ensure transparency.
4. Propose directors for Board-Committees duties with due regard for the committees' compositions, qualifications, expertise, and competencies, including Chief Executive Officer. Then propose the Board to consider when their vacancy.
5. Oversee the orientation and provide documents useful for the performance of duties to the newly appointed directors.
6. Prepare and review with HARN's top executive succession plans to enable continued business.
7. Opportunity for minority shareholders to propose names of persons to be nominated as directors.
8. Review a charter at least once a year, assess its own performance outcomes and report the findings to the Board for acknowledgment, disclose its own performance in the annual report, perform other tasks as assigned by the Board.

Remuneration

1. Define policy and define the criteria for remuneration to be appropriate with the duties and responsibilities and propose fair, sensible remuneration at monetary and other benefits for the Board and Board-Committees' for the Board's and the shareholders' approval
2. Define criteria for assessing performance outcomes and remuneration for the Chief Executive Officer to the Board's for approval.
3. Review the Nomination and Remuneration Committees charter at least once a year.

4. Assess its own performance outcomes and report the findings to the Board for acknowledgment, disclose its own performance in the annual report, perform other tasks as assigned by the Board.

In 2022, the committee held 3 meetings, with all committee members at the time in attendance, the Nominating and Remuneration Committee disclosed its annual performance in the Report of the Nominating and Remuneration Committee.

3) Executive Committee

The Board approved the appointment of the Executive Committee, appoint among directors and/or top executives, who are competent in business management and prepare policy, business plan, budget, management structure, and check and follow up performance to the policy by the Board.

As of December 31, 2022, it consisted of 6 the Board and top Executive, as 1 Non-Executive Director, 2 Executive Director and 3 Top Executive: as follow;

Name		Position
1. Mr. Wirat	Sukchai	Chairman of the Executive Committee
2. Mr. Thammanoon	Tripetchr	Member of the Executive Committee
3. Dr. Jain	Charnnarong	Member of the Executive Committee
4. Mr. Rattanaphan	Mukhariwattananon	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

Duties and Responsibilities of the Executive Committee

The Executive Committee scrutinize and prepare policy, business plan, budget, management structure, and various management, to be in with the economic conditions, propose the Board for approve: as follow;

1. Propose policies, strategies, targets, operation plan, annual budget, establishment of a new business/dissolution/merger/transfer of business, joint venture (with participation in management), prepare financial plan, organizational structure, as well as consider and scrutinize the proposals of the executive, to the Board's for approval.
2. Oversee the HARN's business and follow up operation to comply with the policies, targets and budget tasks as assigned by the Board and regularly report the performance to the Board in meeting.
3. Approve significant investment in budget tasks as assigned by the Board.
4. Approve off-budget investment an amount not more Baht 10 million, to the Board's for approval.
5. Approve loans, acquisition of credit lines of HARN an amount not more Baht 10 million and total amount not more Baht 30 million, in case of must the HARN's assets are used as collateral, to the Board's for approval.
6. Propose payment an interim dividend or annual dividend for the Board's and the shareholders' approval.
7. Assign the power of attorney or delegate specific tasks to other persons, provided that the action complies with the document on the power of attorney or rules, regulations, or directives of the Board or HARN, or both.

The authority and duties of the Executive Committee stated above are invalid for any conflict of interest with HARN in any form resulting from the Executive Committee exercise of the authority. In 2022, no action taken is beyond the scope of such.

8. Perform other tasks as assigned by the Board.

In 2022, the Executive Committee held 12 meetings, with all committee members at the time in attendance, and the disclosed its annual performance in the Report of the Executive Committee.

4) Risk Management Committee

The Board approved the appointment of the Risk Management Committee on November 11, 2016, by appointing directors and top executive, prepare risk management policy of business and oversee process, to appropriately reduce the impact of variable factor on the HARN's.

As of December 31, 2022, it consisted of 11 the Independent Director, Chief Executive Officer, Chief Marketing Officer, Chief Financial Officer, Chief Operating Officer and Director each Department: as follow;

Name		Position
1. Dr. Teerachai	Pornsinsirak	Chairman of the Risk Management Committee (Independent Director)
2. Mr. Wirat	Sukchai	Member of the Risk Management Committee
3. Mr. Thammanoon	Tripetchr	Member of the Risk Management Committee
4. Mr. Rattanaphan	Mukhariwattananon	Member of the Risk Management Committee
5. Mr. Wisit	Wachiralappaitoon	Member of the Risk Management Committee
6. Mr. Suchat	Suwatnodom	Member of the Risk Management Committee
7. Mr. Kittiphong	Kittimethawenun	Member of the Risk Management Committee
8. Mr. Vachiravit	Akaraseranee	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. Mrs. Varinkan	Teraumranon	Member of the Risk Management Committee and Secretary

Duties and Responsibilities of the Risk Management Committee

1. Define and review the risk management policy and guidelines of HARN, in both operational risks and the risk anti-corruption policy, to the Board's for acknowledgment.
2. Define risk management strategies in line with the risk management policy to assess, monitor and control to be at appropriate.
3. Oversee the implementation of the risk management policy tasks as assigned by the Board.
4. Define risk measurement criteria and acceptable risk limit.
5. Define measures to manage risks in alignment with the prevailing circumstances.
6. Review adequacy of the risk management system and compliance in line with the defined policy.
7. Report to the Board on a quarterly, implement and risk status, as well as changes and improvement actions in line with the defined policy and strategy.
8. Oversee a risk management working group as necessary.
9. Support working group in respect of personnel, budget and other resources required, in line with the defined scope.
10. Support risk management, as well as promote the development internal risk management culture.
11. Review and report risk management outcomes to the Board at least once year and disclosed in annual report. For factors or events with potential significant impacts on HARN or stakeholders, the Board must be notified immediately.

In 2022, the Risk Management Committee held 4 meetings, with all committee members at the time in attendance, and the disclosed its annual performance in the Report of the Risk Management Committee.

7.4 Information of the Top Executives

7.4.1 Top Executives Team Members

As of December 31, 2022, there are 5 Top Executives members: as follow; (HARN's organizational chart reported under 7.1 Governance Structure), **profile details in Attachment 1, page 237-238**

This regard, the top executives of HARN is the persons who are defined under the Securities and Exchange Act., who have the top position at the management level from the four lists following by the Chief Executive Officer level.

Name	Position
1. Mr. Thammanoon Tripetchr ^{/1/2}	Chief Executive Officer
	And Chief Maketing Officer: Digital Printing System
2. Mr. Wirat Sukchai ^{/1}	Chief Maketing Officer: Refrigeration System
3. Mr. Rattanaphan Mukhariwattananon ^{/1/3}	Chief Maketing Officer: Fire Protection System, Air-conditioning system and sanitary
4. Mr. Wisit Wachiralappaitoon	Chief Financial Officer
5. Mrs. Varinkan Teraumranon	Chief Operating Officer

Note: ^{/1} March 1, 2022, The Managing Director Change the position name to Chief Marketing Officer

^{/2} March 1, 2022, Mr. Thammanoon Tripetchr was appointed to the Chief Executive Officer, replacing Mr. Wirat Sukchai

^{/3} March 1, 2022, Mr. Rattanaphan Mukhariwattananon was appointed to the Chief Maketing Officer

Roles, Duties of the Chief Executive Officer

The Chief Executive Officer is authorized and responsible for managing the Board-assigned and HARN's overall business, which must be strictly and prudently managed with integrity under the Board-approved plans or budget in the best interests of HARN and its shareholders: as follow;

1. Leader in define short and long-term business strategies, policies and plans.
2. Oversee the overall operating results to strategic and policy.
3. Support the Board and Board-Committees to corporate governance act as targeted.
4. Oversee employee development projects in line with growth of HARN, as well as maintain corporate image.
5. Monitor, inspect, control and reporting performance outcomes on plan to the Board every quarterly.
6. Ensuring implementation of the Board-approved policies, plans, and budget.
7. Hiring, appointing, removing, transferring, promote, suspend from work, dismissing, punishing, set the salary or others compensation, increase salary or wages and bonuses on rules.
8. Issue, amend, add, improve or revoke orders, rules, memorandum and work regulations procedure to ensure compliance with the policy and maintain work discipline within the HARN.
9. Perform other tasks as assigned by the Board.
10. Assign the power of attorney or delegate specific tasks to other persons, provided that the action complies with the document on the power of attorney or rules, regulations, or directives of the Board or HARN, or both.

Succession Plan

The Board appoint the Nomination and Remuneration Committee to act a succession policy of top executive and to nominate persons with appropriate knowledge, capability, experience, visionary, leadership, ability to communicate to be clearly and point, communicate and create participation in the same direction to fill the positions of HARN Executives. They must be legitimately qualified with no prohibited characteristics. In addition, recruitment, employee training and development plan must be prepared in advance before top executives retire or resign. At least 2 years.

HARN has been grooming top executive to become qualified candidates to replace the top executive due to retire in the next 3 - 5 years. There are processes in order to set up a Succession Plan to develop a for potential leaders to assume higher positions that become vacant, namely: Chief Executive Officer, Chief Marketing Officer, Chief Financial Officer and Chief Operating Officer. Report progress to the Board at least once a year.

In 2022, HARN has selection group members of potential executives, including a of 5 group's top executives, 5 group's directors department, included manager groups level in advance when the position becomes vacant. This year, 2 group's members of top executives, Mr. Thammanoon Tripetch was appointed to Chief Executive Officer and Mr. Rattanaphan Mookhariwattananont was appointed to Chief Marketing Officer.

7.4.2 Top Executive's Remuneration Policy

Top Executive's Remuneration

The remuneration of the Chief Executive Officer complies with the policies and guidelines set by the Nomination and Remuneration Committee and the Board. For the remuneration of top executives, it complies with the policies and guidelines set by the Chief Executive Officer that is linked to HARN's performance by defining key performance indicators and setting KPI goals about annual objective-based performance and results of short-term and long-term strategic objectives. In terms of finance, society, and the environment, through HARN's 4 groups of sustainability cycle, namely SMART Business, SMART technology, SMART People, SMART ESG (Environment, Social, Governance), according to the Balanced Scorecard, these indicators cover the following items: performance, sales growth, market shares, marketing expansion into foreign markets, employee satisfaction, continuous development of work systems, and business management processes toward excellence, increased competitiveness, and long-term business operations to lead to sustainable success under transparency. Relevant risks are also evaluated, including its vision, goal, and strategy, as well as its shareholders continued added-value generation.

In addition, we aim to keep compensation competitive in the relevant business sectors in order to ensure that HARN can attract and retain skilled employees to work and continue production for HARN.

Top executives remuneration as expenses represents the benefits paid to HARN and its subsidiaries are Chief Executive, Officer Chief Marketing Officer, Chief Operating Officer, Chief Financial Office include remuneration in both monetary include in benefits according other forms to the reguls of HARN as well as the director of each department, consists; Salary, Bonuses, EJIP and Other benefit (provident fund, life and health insurance, scholarships) etc., Except incentives based on performance. This regard, HARN's Top Executives means a person designated under the Securities and Exchange Act (SEC). Is the first four executive positions after the Chief Executive Officer. The remuneration paid to executives: as follows;

Total Remuneration Paid to CEO and Top Executives in 2021 - 2022

In 2022, HARN payment of remuneration for Mr. Thammanoon Tripetchr Chief Executive Officer, including Top Executives of HARN, designated under SEC, namely the first four executive positions after Chief Executive Officer, and Top Executives of subsidiaries as follows:

Unit: Million Baht

Remuneration	2022		2021	
	Person	Amount	Person	Amount
Salary, Bonuses and Other such as social security contributions and Employee Share Accrual Program (EJIP)	7	19.89	7	17.90
Provident fund contributions	7	0.69	7	0.61
Totoal		20.58		18.51

Note: Remuneration Top Executives to consolidated financial statement of HARN

Additional information on the Top Executive:

Records have shown no violation of the law within the past 10 years regarding:

- 1) Being sentenced for criminal charges except for violations of traffic laws, petty charges, or similar charges.
- 2) Being sentenced to bankruptcy or having assets controlled.
- 3) Serving as an executive or an authority in a company or partnership sentenced to bankruptcy or whose assets are controlled.

7.5 Information of the Employees

Total Employees

HARN has policy which focuses on equity, no limitation or discrimination on gender, race, religion, and culture, stresses the development of human resources management systems compatible with technological advancement. It not only promotes both competence among its employees, but also encourage them to actively take part in public service on its development into a sustainable corporate to elevate competitiveness and respond to internal changes of a corporation.

As of December 31, 2022, total 246 employees of HARN and Subsidiaries, (Excluding CEO and Top Executives designated under SEC), divided into 145 male, 96 female, which 241 employees of HARN, and 2 employees Subsidiaries Harn Vietnam Co., Ltd., 3 employees Subsidiaries Aiyaraharn Co., Ltd., as follow;

Department	Employees (persons)		
	2022	2021	2020
Project Sales	31	28	35
Fire Protection, Air Conditioning & Sanitary System Sales	31	28	29
Project Sales (Petrochemical)	5	3	4
Refrigeration System Sales	14	15	16
Engineering Support	9	9	7
Digital Printing System Sales	24	27	26
Service	32	33	33
Special Product Sales	13	14	15
Operating	45	44	42
Financial	37	36	37
Subsidiaries	5	7	9
Total	246	244	253

Performance evaluation

HARN promoted the participation of supervisors and workers to define the goals and Key Performance Indicators (KPIs) altogether which led to the cooperation and good relationship between supervisors and their subordinates. To be successful, it was arranged to conduct the performance appraisal a 2 year, dividing the results into 3 parts as follows;

1. KPI = Key Performance Indicator (Evaluate according to the task performance score supporting the main objectives of HARN)
2. API = Appraisal Indicator (Evaluate the work behavior consistent with the ability according to HARN's position, culture and values)
3. ATI = Attendance Indicator (Evaluate according to work discipline)

The assessment results will be used for consideration of the annual return and communicated to employees in order to find a mutual solution for improvement between supervisors and employees. In 2021, the assessment was completed at 100% for all.

In 2022, all employees received 100% evaluation

Remuneration for Employees of HARN (Excluding CEO and Top Executives designated under SEC) in 2021 – 2022

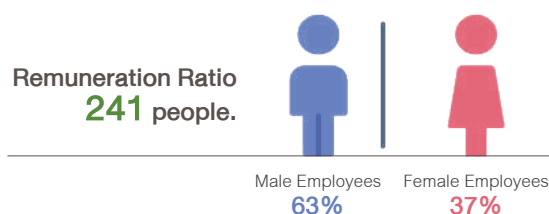
Unit: Million Baht

Remuneration	2022		2021	
	Person	Amount	Person	Amount
Salary, Bonuses and Other such as social security contributions and EJIP	241	149.72	237	146.43
Provident fund contributions	241	3.89	237	3.84
total		153.61		150.27

Note: Remuneration Employee referral from separated financial statement of HARN

HARN has the fair remuneration policies of employees can be competitive in the market, including creating stability in the career opportunity for fair career in line with the strategic direction both the short and long-term. Drive performance to meet planned objectives, which will receive remuneration in both monetary and and other benefits according to the regels of HARN and with the law.

In 2022, HARN paid monetary remuneration consists; Salary, Bonuses, overtime, commission, incentives and EJIP. The total amount paid to employees is about Baht 134.64 million, and the remuneration ratio of male and female employees is 37%



Provident Fund

In 2022, HARN has 238 employees and executives have joined the Fund from its total 238 employees are eligible to participate or as 100%, contributed to the fund Baht 4,566,559 and managed by an authorized UOB Asset Management (Thailand) Co., Ltd. which disclosed related information in compliance with the Investment Governance Code 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.

Moreover, HARN also allows the employees to select or change their investment policy as considered proper for them with acceptable risk level, choice can be made no more than 4 times a year. Including changing in the contribution rate, to encourage employees to have financial planning after retirement.

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HARN has instituted employee welfare and remuneration programs apart from salary, bonus, overtime, commission, incentives, EJIP and provident fund contributions for management and all employees. This is to keep up with economic conditions, the cost of living, and other standards peer companies' as well as HARN's performance.

1. Annual staff health check, Group life and health insurance is taken out to insure the employees, with coverage amount varied to job position and level of risk associated with nature of job performance.
2. The Employee Joint Investment Program (EJIP). The period of May 1, 2020 to April 30, 2025, with a total duration of 5 years for employees and director on the voluntary basis and own HARN, which will be regarded as savings for the employees' long-term financial security.
3. Physical and mental care, such as medical expenses for illness and dental care, staff visit baskets, allowance for the funeral/cremation of a death in the employee's family, including vaccination at a special price.
4. Support of learning and development, such as trainings, seminars both inside and outside the organization, as well as trainings abroad or scholarships for both bachelor and master's degrees, including language skills.

Moreover, HARN also promotes and support employees to have good compensation and welfare in various things, such as uniforms to facilitate and ensure safety according to the nature of work or allowances for travel, fuel, telephone bills and financial assistance according to economic conditions, etc.

Labor Disputes

As of December 31, 2022, HARN and Subsidiaries has a legal case for a total claimed amount of Baht 11.01 million which is currently being considered by the Civil Court. The management of HARN believes that the outcome of this case will not have significant effect to HARN. However, the management estimated provision for such litigation in an amount sufficient to cover the expected damages.

7.6 Other Informations

7.6.1 Persons Assigned

Company Secretary

To comply with the CG principles of listed companies under the category of directors' responsibility and the terms of the Securities and Exchange Act B.E. 2535 (1992) (and the amendments), the Board appointed a Company Secretary to provide the Board with legal advice and remind them of assorted regulations that they need to know and comply with, hold meetings, supervise assorted Board activities to enable them to perform efficiently and effectively, prepare and maintain key documents, including directors' registration, Board meeting notices and minutes, annual reports; issue shareholders' meeting notices and minutes; and keep reports on vested interests reported by directors or management.

The Board meeting held 4/2021 resolved to appoint of Miss Wasukan Boonmee as Company Secretary since August 11, 2021.

HARN has set qualifications of Company Secretary as regards age, education, communication skills, interpersonal skills, capability in coordinating with internal and external parties etc. In the case 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), **profile details in Attachment 1, page 239**

In 2022, HARN has announced information under material events within the timeframe specified by the authorities. This is to keep the securities trading in order, liquid, fair, and all investors are equally informed. Not punished by regulatory corporate and there is no wrongdoing or violation of laws, regulations of the SEC and SET. Also, The Board not be subject to comparison, fines, charges or civil actions, and not any violation of good corporate governance, code of conduct and compliance with relevant laws, rules and regulations, include there was no case where an independent director or a non-executive director resigned due to the issue of corporate governance of HARN.

The person supervising accounting

The Chief Financial Officer, is assigned by position to be responsible for the highest responsibility in finance and accounting. Mr. Wisit Wachiralappaithoon has been holding the position since March 16, 2016.

The Account Manager, is assigned by position to be responsible for supervising accounting. Miss Ananya Proyngoen has been holding the position since December 1, 2016 is directly in charge of accounting management, she is a qualified as an accountant under the criteria set by the Department of Business Development.

However, the person taking the highest responsibility in finance and accounting and the person supervising accounting of HARN, is a qualified as an under the criteria set by the SEC and SET, consists; qualifications, education, experience, and undergone at least 6 hours of continuous accounting knowledge development training per year. **profile details in Attachment 1, page 238-239**

Course ¹⁾	the person taking the highest responsibility in finance and accounting (CFO)	the person supervising accounting ³⁾
Orientation 12 hour	☒	☒
Accounting knowledge (Refresh) 6 hours per year ²⁾	☒	☒

Note: ¹⁾ The hours for Orientation and Refresh training is as specified by the SEC.

²⁾ Refresher course that is consistent and beneficial to HARN

³⁾ The person supervising accounting is an accountant who has the qualifications and conditions of being an accountant in accordance with the rules prescribed in the Notification of the Department of Business Development.

CPD hours of the highest responsible person in accounting and finance (CFO) for 2022

Year	Training Institute	Course / Activity Details	Number of CPD hours		
			Account	Other	Total
2022	Federation of Accounting Professions In the royal patronage	Self-study CPD No. 2/2562 project Non-public stakeholder financial reporting standards (NPA)	20	0	20
2022	Federation of Accounting Professions In the royal patronage	Code of Conduct for Accounting Professionals (CPA only, Category 5)	0	2	2
2022	Dharmaniti Training and Seminar Company Limited	Forensic Accounting, use "legal accounting" to investigate corporate fraud	6	0	6
2022	Dharmaniti Training and Seminar Company Limited	Foreign exchange risk analysis and management	6	0	6
Total Number CPD hours			32:00	2:00	34:00

Number of CPD hours of the accounting supervisor for 2022

Year	Training Institute	Number of CPD hours		
		Account	Other	Total
2022	Business accounting and key issues according to accounting principles NPAEs	6:30	0	6:30
2022	Summary of important issues and problems encountered in the practice of TFRS 9, TFRS 15 and TFRS 16	6	0	6
2022	Financial reporting standards and essential accounting standards for accountants (TFRS15 ,TAS16, TAS38 ,TAS40)	8	0	8
2022	Improving, closing accounts and disclosing information to be in accordance with financial reporting standards.	7	0	7
2022	Corporate income tax for tax accountants	0	7	7
2022	Ethics training project for professional accountants only certified public accountant	2	0	2
Total Number CPD hours		29:30	7:00	36.30

Head of the Office of Corporate Audit

HARN does not have an internal audit work unit yet, The Audit Committee has approved the appointment of Ultima Advisory Company Limited, by assigning Miss Chonlada Thirapattananon and Miss Siriphan Tantipanichphan as internal audit of HARN, as an external audit agency that not related to HARN, with Chief Financial Officer who is the Secretary of the Audit Committee responsible for coordinating within the company to ensure that HARN has an adequate and appropriate internal control. **More details appear in Part 2 "9. Internal Control and Connected Transactions", page 165-172 , and profile details in Attachment 3, pag 241**

Head of Compliance

To ensure that there is a process to supervise compliance with the relevant laws and regulations, including the specification of duties and responsibilities of various departments, to reduce any impacts that may incur from operations not in compliance with the relevant laws and regulations. This may cause HARN to face legal penalties or loss of benefits. The executives of all departments are responsible for collecting and reviewing the laws related to their responsibilities, while setting procedures and work processes based on the appropriate internal control and risk management, in line with the follow-up for compliance. The Quality Management Department by the Chief Operating Officer is a regulatory body responsible for monitoring the work performance as appropriate and accuracy according to the relevant laws, regulations and ethics before presenting to the Board of Directors for acknowledgment at least once a year, **profile details in Attachment 1, page 238**

7.6.2 Head of Investor Relations and contact

The Chief Executive Officer, is assigned by position to be Investor Relations. Mr. Wirat Sukchai has been holding the position since November 13, 2014, and can be contacted at Investor Relations, HARN, Tel. 0-2318-9744 ext. 5001 Email: wirat.s@harn.co.th or website: www.harn.co.th and **profile details in Attachment 1, page 236**

The role to facilitating effective communication with the shareholders and investors, including institutional shareholders, minor shareholders, analysts, and relevant regulatory authorities to ensure that information disclosed are correct, reliable, and adequate information in a fair, transparent, and comprehensive matter such as corporate strategy and direction, company information, quarterly financial information.

During 2022, HARN executives met with shareholders and investors on various occasions, detailed below:

- | | | |
|--------------------------------------|----------|-------------------------|
| • met and shared information | Physical | 1 times, online 2 times |
| • SET's Opportunity Day | Online | 4 times |
| • Information provided via telephone | | 6 times |
| • Facebook newsletter | | 4 times |

Apart disclosure of information according to the rules and channels of The Stock Exchange of Thailand (SET), Annual Disclosure Statement / the Annual Report (Form 56-1 One Report). HARN disclosed modernize information in both Thai and/or English via website www.harn.co.th and Facebook: harn Engineering Solution Pcl.

7.6.3 Audit Fee

HARN and its subsidiaries paid a total of Baht 1,633,200, in audit fees to the Dharmniti Auditing Co., Ltd., and auditing of the subsidiary in Vietnam, for 2022. It's the audit fees of HARN paid of Baht 1,492,000 and of the subsidiaries paid of Baht 141,000 In addition, HARN has non-audit fee namely; a service fee observing the destruction of product total Baht 10,000, however excluding other expense such as overtime, allowance, traveling, and telephone etc.

8. Corporate Governance Milestones

8.1 Performance of the Board of Directors in 2022

8.1.1 Nomination, Development and Performance Assessment of the Board

1) Nomination Criteria of the Board and Independent Directors

In selecting and considering an appropriate Independent Directors and Director Candidate, the Directors must be fully qualified with the Public Company Limited Act, and the securities and exchange law, as well as other relevant notifications, stipulations and/or regulations, in which HARN will not bring diversity factors such as gender, race, ethnicity, country of origin, or nationality as Directors' qualification restrictions. An independent director shall have the required qualifications and no prohibited characteristics, just as in the case of a director pursuant to the Public Limited Companies Act, Also values independence of the Directors, their conflict of interest, and their expertise. HARN developed Board Skill Matrix in accordance with Nomination and Remuneration Policy the Board to create a wide range of expertise in line with strategic directions. Also searched and selected qualified Directors through the IOD Chartered Directors or other agencies provide that HARN deems appropriate.

In case of any director and/or independent director vacating office before the end of the office term, the Board may appoint a new director with the required qualifications as a replacement. The replacing shall hold office only for the remaining term of office of the independent director whom he has replaced.

Qualifications of independent directors

The Board, approved the definition of the independence of directors, with in line the criteria set by the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET) as follows;

1. Holding not more than 1% of the total shares with voting rights of HARN⁽¹⁾, which shall be inclusive of the shares held by any related person thereof. ("Person related" shall mean the person under Section 258 of the Securities and Exchange Act);
2. Neither being nor having been an executive director, an employee, a staff member, an adviser who receives a regular salary, or a controlling person of HARN⁽¹⁾ unless the foregoing status has ended for no less than 2 years;
3. Not being a person related by blood or registration under law of other directors, major shareholder, controlling person or person to be nominated as an executive or a controlling person of HARN⁽¹⁾ or its subsidiary company;
4. Neither holding nor having held a business relationship with HARN⁽¹⁾, in a manner which may interfere with his/her independent judgment; and neither being nor having been a substantial shareholder or a controlling person of any person having a business relationship with HARN⁽¹⁾, unless the foregoing relationship has ended for no less than 2 years;
5. Neither being nor having been an auditor of HARN⁽¹⁾, and not being a substantial shareholder, controlling person or partner of an audit firm which employs auditors of HARN⁽¹⁾, unless the foregoing relationship has ended for no less than 2 years;
6. Neither being nor having been any professional service provider including legal adviser or financial adviser who receives an annual service fee exceeding Baht 2 million from HARN⁽¹⁾, and not being a substantial shareholder, controlling person or partner of the professional service provider, unless the foregoing relationship has ended for no less than 2 years;
7. Not being a director who has been appointed as a representative of a director of HARN, major shareholder, or shareholder related to the major shareholder;
8. Not undertaking any business the nature of which is the same as that of HARN or subsidiary company and which, in any material respect, is competitive with the business of HARN or subsidiary company or not being a substantial partner in the partnership, a director who is involved in management, an employee, a staff member, an adviser who receives a regular salary, or a shareholder holding more than 1% of the total shares with voting rights of a company undertaking any business the nature of which is the same as that of HARN or subsidiary;
9. Not having any characteristics that prohibit the expression of independent opinion towards HARN's business undertakings.

Note: ⁽¹⁾ Including company principal, subsidiary, associated, major shareholder, or controlling person of HARN.

However, term of office of the Independent Committee is not more than 9 consecutive years counting from the date of appointment or from the date the company listed on the stock exchange, without exception. 4 independent directors out of the total 8 directors serve 9 consecutive years 1 independent directors namely; Dr. Thakol Nunthirapakorn, serve 2 consecutive years 1 independent directors namely; Mr. Prasert Deejongkit and serve 1 consecutive years 2 independent directors namely; Dr. Teerachai Pornsinsirak and Mrs. Valeeratn Chuerboonchai.

In this regard, the independent directors shall examine and certify their qualifications and independence at least once a year, also required to disclose independence on office-holding by independent directors of HARN, in the Annual Disclosure Statement / Annual Report (Form 56-1 One Report).

In 2022, there is no independent director for more than 9 years, and independent directors has qualifications with in line the criteria set by the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET) not contradict relevant laws and regulations.

2) Nomination Criteria of the Board

1. Allowing minority shareholders to propose qualified names according to the law as per qualifications set by HARN in order to be a candidate of the Board, by announcing invitations on HARN's website at least 90 days in advance of the shareholders' meeting. HARN set ratio of minimum shares to be qualified prior to the announcement and must have a minimum of 5% voting shares of HARN. However, nominations must include history of education and sufficient experience to helpfull decision.

2. The nomination and Remuneration Committee review rules and method of recruiting to the board prior to the end of term of office. If submit the former Board as a candidate, performance of that individual must be reviewed once again. However, the Nomination and Remuneration Committee, may appointed consultant to assist in the selection of directors.

3. The Nomination and Remuneration Committee selects and proposes to the Board for consideration of the names of qualified candidates prior to the Shareholders' approval in the AGM. After the Board's endorsement, the list of qualified candidates is proposed to the AGM, individually. In this process each director and/or independent directors must recieve more than half of the total number of votes of Shareholders attending the AGM and having the right to vote.

4. The shareholders' meeting shall elect the directors in accordance with the following criteria and procedure:

- 4.1 The shareholders' voting right of one share equals one votem, provided separate ballot for each of the Director, the majority votes of the shareholders who attend the meeting and have the right to vote.
- 4.2 The shareholders' right shall cast all the votes he has to elect one or several directors. In case of electing several directors, each shareholder may not divide his votes and allocate them to all such candidates in portions.

Furthermore, the Nomination and Remuneration Committee, provided an opportunity for shareholders to propose nominate Director Candidates, in which publicized on SETLink of SET's electronic system and HARN's website, from October 1 to December 31, 2021. When the deadline, none of the shareholders has proposed nominate Director Candidate to be elected as HARN's Director. The Company Secertary has been reported in the Board meeingtng.

In 2022, the Nomination and Remuneration Committee, nominated and appointed seven new directors replacing directors who completed their terms at the Anuual General Meeting (AGM): Mr. Dr.Teerachai Pornsinsirak Independent Directors and reappointed former 1 directors who completed their terms at the 2022 AGM to another term, namely Mr. Thammanoon Tripetchr. HARN no advisor has been appointed for the nomination and Remuneration Committee. The said directors qualified, knowledge, abilities and experience in the business. It will helpful in setting direction and in line with HARN's business strategy.

However, each Director able to take of office listed company in the Stock Exchange of Thailand which does not exceed 3 companies without exception. In 2022, there is no Director to take of office for more than 3 companies, as follow; **(More details appear in attachment 1, page 233-236)**

Name			other listed companies in which the directors hold positions
Dr. Thakol	Nunthirapakorn	Independent Director	2 companys
Mr. Prasert	Deejongkit	Independent Director	1 companys
Dr. Teerachai	Pornsinsirak	Independent Director	1 companys
Mrs. Valeeratn	Chuerboonchai	Independent Director	- none -
Mrs. Sirima	Iamsakulrat	Director	- none -
Dr. Jain	Charnnarong	Director	- none -
Mr. Thammanoon	Tripetchr	Director, Chief Executive Officer and Chief Maketing Officer	- none -
Mr. Wirat	Sukchai	Director and Chief Maketing Officer	- none -

In 2022, each Board, reviwed expertise in according Board Skill Matrix. In summary, the Board has the diversity of gender, age, education background, experience, expertise in specialized beneficial matters to HARN. At December 31, 2022 the Board of 8 director composed; 6 Non-Executive Director, 2 Executive Director are 1 Chief Executive Officer, 1 Chief Maketing Officer and has numbers of committees that are not independent committees in a fair ratio of investment of Controlling Shareholders. Details the diversity of Board appear in Section 2 "7.2.1 Composition of the Board", page 121

3) Nomination Criteria the Cairman of the Board

The Board 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 HARN to ensure efficiency and compliance with relevant rules and regulations and to meet the meeting objectives.

To segregate policy-making duties from those of day-to-day management and to enable directors to look after and assess performance effectively, HARN has required that the Chairman of the Board and the Chief Executive Officer are always two persons. This is because the Chairman needs to define policy and oversee management's performance, guide, and assist it, but not to take part in or interfere with day-to-day management, which is the duty of the Chief Executive Officer under the authority delegated by the Board.

Board Meeting No. 2/2015 of May 14, 2015, appointed Professor Dr. Thakol Nunthirapakorn, anindependent director, as Chairman of the Board with effectfrom June 1, 2015. It would allow the work of the Chairman to be independent and boost confidencein the transparency of operations and fair treatment of allstakeholders, which in accordance Corporate Governance guidelines. The current Chairman is an independent director. He exercises high-level leadership and ensures that directors do not fall under the infl uence of management by encouraging them to exercise their voting rights and strictly comply with the CG code. Does not repeat a position of Chief Executive Officer which is Mr. Thammanoon Tripetchr. He has no business relationship or bloodline with the CEO. Therefore, the position is suitable and balanced.

4) Nomination of the CEO and Succession Planning

Nomination Top Executives

1. Top executives which refers to Chief Executive Officer.
2. The Nomination and Remuneration Committee nomination personnel that are knowledgeable, skills, characteristics and experienced as the top executives to command and perform duties to drive the organization towards goals. Also, must fully qualified and without legal prohibitions, which following rules of resource management, to results to the Board to appoint.

3. The Nomination and Remuneration Committee report to the Board regularly on development and successor plan in order to prepare talents as successors in case the Chief Executive Officer retire, resign, or unable to retain in duties.

4. The Board have no policy to submit any executives to be a Board of other companies. In case that executives will take another position as a Board of another business, it must be approved by the Executives Committees unless the business is non-profit organization. However, the position must not conflict with laws and rules related to the operation of HARN and must not use the position to refer nor to ask for other benefits of other entities.

Succession Plan

Nomination and Remuneration Committee to act to nominate top executives, they must be legitimately qualified with no prohibited characteristics and to the Succession Plan Policy.

In 2022, the Board reviewed and approve policy and plan succession plan the top executives to comply with HARN's best business practices to that are direction ensure mutually support one another, with the Nomination and Remuneration Committee to preform so that can rest assured of business continuity. There is Top Executives nomination including succession 2 personal, Mr. Thammanoon Tripetch as to Chief Executive Officer and Mr. Rattanaphan Mookhariwattananont as to Chief Marketing Officer, more details appear in Section 2 "7.4 Information of the Top Executives", page 129

5) Director development

The Boards values regular participation of Director and Top Executives in training and seminars concerning their competencies for their jobs. HARN directors underwent training with Thai Institute of Directors Association (IOD) and other leading entities and institutes as well as seminars on related topics. The Nomination and Remuneration Committee consider training curricula related to the Board and Top Executives, for application to HARN's businesses for sustainable growth. However, the Board and Top Executives trainings to foster their work knowledge and HARN's activities include the items below.

At present, 100% of the all Board who have attended training courses related to performance directors of IOD.

Training course for the Thai Institute of Directors Association (IOD) of the Board

Name		Courses														
		DAP	DCP	SFE	FSD	RCP	ACEP	ACP	ELP	ACPG	HRP	BNCP				
Dr. Thakol	Nunthirapakorn	8/2004	228/2016			43/2018		8/2005	3/2016	36/2017						
Mr. Prasert	Deejongkit	184/2021												14/2022		
Mrs. Valeeratn	Chuerboonchai	SET/2012	205/2015			28/2015							14/2015	14/2022		
Mr. Wirat	Sukchai	SET/2012	204/2015			24/2015							36/2015	14/2015	12/2017	
Mr. Thammanoon	Tripetchr	116/2015	211/2015			24/2015							28/2015		31/2022	
Mr. Jain	Chamnarong		173/2013			23/2015									8/2014	14/2022
Mrs. Sirima	Iamsakulrat	SET/2012	211/2015			24/2015										5/2018
Dr. Teerachai	Pornsinsirirak		211/2015													

Training courses at other leading institutions of the Board and Top Executives in 2022

Name of the Board		Courses
Dr. Thakol	Nunthirapakorn	- Hot issue for Directors - What Directors Need to Know About Digital Asset Class 3/2022 - Value of Audit Program Study Results - Business Sustainability Fundamentals - Business Sustainability Strategies - Risk analysis and key sustainability issues
Mr. Prasert	Deejongkit	Board Nomination & Compensation Program, class 14/2022
Dr. Teerachai	Pornsinsirirak	None

Name of the Board		Courses
Mrs. Valeeratn	Chuerboonchai	• Board Nomination & Compensation Program, class 14/2022
Mrs. Sirima	Iamsakulrat	None
Mr. Jain	Charnnarong	• Board Nomination & Compensation Program, class 14/2022
Mr. Wirat	Sukchai	• Fire Product value and on Lead Free (NSF) value • Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making
Mr. Thammanoon	Tripetchr	• How to Develop a Risk Management Plan (HRP), Class 31/2022 • Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making
Mr. Rattanaphan	Mukhariwattananon	• Fire Product value and on Lead Free (NSF) value • Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making
Mr. Wisit	Wachiralappaitoon	• Operations in accordance with the Personal Data Protection Act • Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making • Checking corporate fraud with Jurisprudence of Accountancy. • Foreign exchange risk analysis and risk management.
Mrs. Varinkan	Teraumranon	• Operations in accordance with the Personal Data Protection Act • Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making

6) Board and Board-Committees Self-assessment

In compliance with the CG code, HARN required the Board and Board-Committees to conduct self-assessment to scope its regular review of its performance. With the resolution of Board Meeting No. 5/2022 of October 7, 2022, the Board approved all 4 self-assessment forms as year 2022, with some modifications made to align with the roles, duties and responsibilities of the Board in the Charter so that all directors can consider the assessment results more clearly. Details are as follows:

- Update and add questions in the assessment form of the whole on executive committee and risk management committee on the topic of structure and qualifications.
- Update and add the assessment form of the Board and Board-Committee of roles and performance both whole and individual to reflect the efficient, effective implementation in accordance with duties and responsibilities specified.

The 4 assessment forms stipulated the percentages corresponding to the levels of performance achieved in each topic: more 90% = Excellent, 80-89% = Good, 70-79% = Relatively Good, 60-69% = Fair, below 60% = Need improvement, Self- Assessment were as follows:

1. Self- Assessment of the whole Board, consist 4 topics: Structure and qualifications, Meetings, Roles, duties and responsibilities, Others such as good relationship to management and encourage training.
2. Self- Assessment of the individual Board, consist 3 topics: Structure and qualifications, Meetings, Roles, duties and responsibilities
3. Self- Assessment of the whole Board-Committees and individual 3 consist: Structure and qualifications, Meetings, Roles, duties and responsibilities

Process, criteria and results of the evaluation of the whole Board and individual style, in 2022 as follows:

Process of Self- Assessment of the whole Board and Individual

1

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

2

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

3

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

4

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

Results of Self- Assessment of the whole Board and Individual

Criteria of Self- Assessment of Board and Board-Committees	2022 - Evaluation results (Whole)				
	Board of Director	Audit Committee	Nomination & Remuneration Committee	Executive Committee	Risk management Committee
Whole					
1. Structure and qualifications - Diversity of directors in terms of number and experience - Proportion of directors - Qualifications of each Board	89.58%	98.61%	93.06%	89.58%	87.08%
2. Roles, duties and responsibilities Spending adequate time to consider important matters etc. direction, strategy, action plan, transactions with conflict of interest, and internal control and risk management	95.09%	97.62%	95.24%	84.72%	87.50%
3. Meetings - Schedule meetings all year in advance - The sufficiency of information for directors to make a decision - Freedom of decision making and the expression of opinions of directors - Time frame of meeting	84.64%	95.83%	76.19%	83.33%	87.15%
4. Others - Relationship with the board and management team - Self development of the board/Executive, Training	90.63%	-	-	-	-
Total Results	89.98%	97.35%	88.16%	85.76%	87.25%

Measurement: more 90% = Excellent, 80-89% = Good, 70-79% = Relatively Good, 60-69% = Fair, below 60% = Need improvement

Criteria of Self- Assessment of Board and Board-Committees	2022 - Evaluation results (Individual)				
	Board of Director	Audit Committee	Nomination & Remuneration Committee	Executive Committee	Risk management Committee
Individual					
1. Structure and qualifications - Qualifications, knowledge, experience suitable for business of company - Assigned duties that are appropriate for role (Independent / Board-Committee)	81.25%	95.83%	83.33%	89.58%	89.58%
2. Roles, duties and responsibilities - Perform duties efficiently according the charter - Time and dedication to perform duties - Control and follow up the operations of management appropriately - Does not interfere with the management function - Develop and learn all the time	90.63%	97.22%	94.44%	84.72%	86.81%
3. Meetings - Attending the meeting - Studying the information to meeting in advance - Showing appropriate comments, to meeting - Abstain from attending the meeting or voting in case of having conflict of interests	86.25%	93.33%	85.00%	83.33%	87.50%
Total Results	86.04%	95.46%	87.59%	85.88%	87.96%

Measurement: more 90% = Excellent, 80-89% = Good, 70-79% = Relatively Good, 60-69% = Fair, below 60% = Need improvement

However, the assessment of the Board (whole) results has suitable overall performance / indicated good, with an average score of 89.98% and the assessment of the Board (individual) results have vision and responsibility to perform duties regularly / indicated good, with an average score of 86.04%

However, the assessment of the Board-Committees (whole) results suitable perform efficiently consist; Audit Committee indicated excellent, with an average score of 97.35% / Nomination & Remuneration Committee indicated good, with an average score of 88.16% / Executive Committee indicated good, with an average score of 85.76% / Risk management Committee indicated good, with an average score of 87.25%

However, the assessment of the Board-Committees (Individual) results has suitable perform duties consist; Audit Committee indicated excellent, with an average score of 95.45% / Nomination & Remuneration Committee indicated good, with an average score of 87.59% / Executive Committee indicated good, with an average score of 85.88% / Risk management Committee indicated good, with an average score of 87.96%

However, the board has no outsource consultant to assist in directing and propose the assessment of the Boards' performance. HARN also analyzed the assessment topics to improve performance for directorship efficiency enhancement and formulated an annual director develop plan increase the efficiency of performing duties and realize the maximum benefits of corporate governance approved by the Board's Meeting.

7) Assessment the Chief Executive Officer

The Board arranges an annual evaluation of the Chief Executive Officer's performance to ensure the principles of good corporate governance, has process and summary of performance evaluation of the Chief Executive Officer year 2022 as follow;

Performance evaluation process

The Nomination and Remuneration Committee reviewed the annual performance appraisal form of the Chief Executive Officer, and presented to the Board of Directors for approval in accordance with the specified criteria. The non-executive committee is required to conduct independent performance appraisals. HARN's secretary was assigned to summarize and analyze the results of performance evaluation for approval by the Nomination and Remuneration Committee, along with providing additional opinions to develop plans and appropriate compensation adjustments before presenting to the Chief Executive Officer and the Board of Directors for further approval.

The results of performance evaluation and annual remuneration would be communicated to the Chief Executive Officer for improvement of work efficiency, according to the established goals and strategy of the organization.

Performance evaluation criteria

Consider 2 types of performance indicators and change the weight of each KPI score for evaluation as appropriate, with the proportion of measurement as follows:

1. KPI = Key Performance Indicator, weighted 70%

It is an evaluation from performance scores, according to the assigned mission which supports the main goals.

2. API = Appraisal Indicator-weighted 30%

It is an evaluation from performance consistent with the strategy, vision, mission and values by the non-executive committee, according to guidelines of the Stock Exchange of Thailand in 8 topics: strategy formulation / strategic execution / financial planning and performance / relationship with the Board / external relations / management and relations with personnel / leadership / personal attributes. There are 5 levels of evaluation criteria: 5 = excellent / 4 = very good / 3 = good / 2 = fair / 1 = improvement.

The Chief Executive Officer Performance evaluation results in 2022 are quite good, equivalent to 63.70%

8) Orientation of New Directors

For new directors, HARN arranges an orientation program to know the business policies, understand applicable laws, standards regulations, risks and environment to business operation as well as present information. In addition, each director receives a Director's Handbook, which the company secretary has prepared, includes the following topics:

1. Structure of the board, executive and company secretary
2. Group structure, major shareholder structure
3. Company information and nature of business
4. Charter of the board of directors and board-committees
5. Schedule of management approval authority
6. Remuneration of the board of directors and board-committees
7. Meeting and Training Courses of the Board of Directors
8. Policy and principles of corporate governance and business ethics
9. Role of directors under general law
10. Certificate memorandum and HARN's articles of association
11. Consolidated and separate financial statements
12. Annual Registration Statement/ Annual report (From 56-1 One Report)

In 2022, HARN has appointed 1 new director, namely; Dr. Teerachai Pornsinsirak as an independent director by the Nomination and Remuneration Committee meet for new directors and provide them with the above-mentioned documents and handbook were handed over. On January 28, 2022, one director orientations were arranged was held with the Chief Executive Officer, Chief Marketing Officer, Chief Operating Officer, Chief Financial Officer along with Unit Director, join the self-introduction in meeting. This year in the briefing to the new directors, the Chief Executive Officer presented information about HARN, it introduces the Board and executives / company profile / vision mission / products and services / customer samples, and relevant information for their overview of the business operations.

8.1.2 Meeting attendance and individual directors' compensation

Board meetings

1. The Boards and Board-committees 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 1 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 Committees decisions in accordance whom delegated by the Board of Directors and report the approved topics to the Board.

2. The Company Secretary sends to each director meeting notices, agenda with complete details and rationale, and supplementary documents with enough essential details for decision-making at least 5 business days in advance ahead of each meeting to give them time to study these. Directors consider the agenda through an application to "Google Meet" the process of agenda delivery and the paperwork involved, thus speeding up directors' work while efficiently providing them with adequate details for decision-making. Since 2018, for each meeting, the Board has required regular follow-up agenda on the updates of implementation of Board observations and comments to ensure implementation of HARN's strategies.

3. The Board sets a policy that requires no less than one-two (1/2) of the current Board members in attendance to make a quorum. In voting, the minimum quorum of directors is no less than two-thirds (2/3) of all attending directors. However, if the quorum does not comply with this guideline, the discretion of the Chairman will be sought.

4. Chairman of the Board serves as the Chairman of the meeting to proceed with the meeting and allocate sufficient time for each agenda item, encouraging all Directors to openly discuss and express their opinions. High-level executives are invited to attend Board meetings to provide additional relevant information and allow the Board to get to know them, which will be useful

for the review of succession plans. The Board's is that for a given agenda item, if any director has potential conflicting interests, who will not attend the meeting and abstain voting on such agenda item. Where the votes cast in descending order are tied, the chairman of the meeting shall have a casting vote.

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. For each agenda item, the Company Secretary has the duty to prepare the the minutes, by the Board-certified minutes, signature of the Chairman of written are filed at head-office 4th floor Rama 9 road, for perusal by the directors and related parties.

Due to the aggravating, widespread COVID-19 in Thailand in 2022, the Chairman of the Board allowed electronic meetings, In 2022, HARN managed a total of 6 Board Meetings with 1 Board Strategic Meeting, Including, managed one Non-Executive Directors Meeting without the executives on October 7, 2022 to encourage all Directors to independently discuss, recommend, and openly express their opinions during these meetings without HARN's executives. The topic discusses related to business direction, management structure and developing a succession plan of top executives. The results of the meeting were reported to the Board meeting for acknowledgment.

In summary 2022, the Whole committee attended the meeting an average of 97.92% the details on the Board's meeting attendance can be found on the chart of Meeting Attendance of Board of Directors, Board-Committees, and Shareholders' Meeting as follow;

Name	Position	Board of Director (6 times)	Audit Committee (4 times)	Executive Committee (12 times)	Nomination and Remuneration Committee (3 times)	Risk Management Committee (4 times)	Annual General Meeting of Shareholders (AGM) (1 times)
		E-Meeting					Physical Meeting
1. Dr. Thakol Nunthirapakorn	Independent Director / Chairman of the Board / Chairman of the Audit Committee	6/6 (100%)	4/4 (100%)	-	-	-	1/1 (100%)
2. Mr. Prasert Deejongkit ¹⁾	Independent Director / Member of the Audit Committee / Chairman of the Nomination / Remuneration Committee	5/6 (83%)	4/4 (100%)	-	2/2 (100%)	-	1/1 (100%)
3. Dr. Teerachai Pornsinsirak ²⁾	Independent Director / Chairman of the Nomination and Remuneration Committee	4/4 (100%)	-	-	-	2/2 (100%)	1/1 (100%)
4. Mrs. Valeeratn Chuerboonchai ³⁾	Independent Director / Member of the Audit Committee / Member of the Nomination and Remuneration Committee	6/6 (100%)	2/2 (100%)	-	2/2 (100%)	-	1/1 (100%)
5. Mrs. Sirima Iamsakulrat ⁴⁾	Director	6/6 (100%)	-	-	-	-	1/1 (100%)
6. Dr. Jain Charnnarong ⁴⁾	Director / Member of the Executive Committee / Member of the Nomination and Remuneration Committee	6/6 (100%)	-	12/12 (100%)	2/2 (100%)	-	1/1 (100%)
7. Mr. Wirat Sukchai	Director / Chairman of the Executive Committee / Member of the Risk Management Committee	6/6 (100%)	-	12/12 (100%)	-	4/4 (100%)	1/1 (100%)
8. Mr. Thammanoon Tripetchr ⁵⁾	Director / Member of the Risk Management Committee / Member of the Executive Committee/	6/6 (100%)	-	12/12 (100%)	-	4/4 (100%)	1/1 (100%)
9. Mr. Rattanaphan Mukhariwattananon ⁶⁾	Member of the Executive Committee / Member of the Risk Management Committee	-	-	9/9 (100%)	-	4/4 (100%)	1/1 (100%)
10. Mr. Wisit Wachiralappaitoon	Member of the Executive Committee / Member of the Risk Management Committee	-	-	12/12 (100%)	-	4/4 (100%)	1/1 (100%)
11. Mrs. Varinkan Teraumranon	Member of the Executive Committee / Member of the Risk Management Committee	-	-	12/12 (100%)	-	4/4 (100%)	1/1 (100%)
12. Mr. Suchat Suwatnodom	Member of the Risk Management Committee	-	-	-	-	4/4 (100%)	1/1 (100%)
13. Mr. Kittiphong Kittimethawenun	Member of the Risk Management Committee	-	-	-	-	3/4 (75%)	1/1 (100%)
14. Mr. Vachiravit Akaraseranee	Member of the Risk Management Committee	-	-	-	-	4/4 (100%)	1/1 (100%)
15. Mr. Sukit Litikom	Member of the Risk Management Committee	-	-	-	-	2/4 (50%)	1/1 (100%)
16. Mr. Withoon Thamee	Member of the Risk Management Committee	-	-	-	-	4/4 (100%)	1/1 (100%)

Directors who Complete the Term in 2022 AGM

1. Miss Voranuch Supaibulpipat	Independent Director / Member of the Audit Committee / Chairperson of the Nomination and Remuneration Committee	2/2 (100%)	1/1 (100%)	-	1/1 (100%)	-	1/1 (100%)
2. Mr. Parkphum Wongpaitoon	Independent Director / Member of the Nomination and Remuneration Committee	2/2 (100%)	-	-	1/1 (100%)	-	1/1 (100%)

Directors resigned on the Board-Committee during the year

1. Mrs. Sirima Iamsakulrat	Independent Director / Member of the Nomination and Remuneration Committee	-	-	-	1/1 (100%)	-	
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Note: N/A means not attend and Directors who Appoint during the Year 2022

- ¹⁾ Mr. Prasert Deejongkit was appointed as Chairman of the Nomination and Remuneration Committee with effect from May 15, 2022 replacing Miss Voranuch Supaibulpipat, who retired by rotation at the 2022 AGM
- ²⁾ Dr. Teerachai Pornsinsirak was appointed as Independent Director with effect from April 25, 2022, replacing Miss Voranuch Supaibulpipat, who retired by rotation at the 2022 AGM, and was appointed as Chairman of the Risk Management Committee with effect from May 15, 2022, replacing Mr. Wirat Sukchai
- ³⁾ Mrs. Valeeratn Chuerboonchai was appointed as Independent Director and member of the nomination and remuneration committee replacing Mr. Parkphum Wongpaitoon, and was appointed as Member of the Audit Committee replacing Miss Voranuch Supaibulpipat, with effect from May 15, 2022 who retired by rotation at the 2022 AGM
- ⁴⁾ Dr. Jain Charnnarong was appointed as member of the nomination and remuneration committee with effect from March 15, 2022 replacing Mrs. Sirima Iamsakulrat
- ⁵⁾ Mr. Thammanoon Tripetchr was appointed as Chief Executive Officer with effect from March 1, 2022 replacing Mr. Wirat Sukchai
- ⁶⁾ Mr. Rattanaphan Mukhariwattananon was appointed as Member of the Executive Committee with effect from April 1, 2022

Remuneration of individual Board

HARN fairly and sensibly specifies the remuneration of directors. The remuneration consideration criteria are related to the performance and responsibilities of the board of directors, performance and overall economic situation. As well as the practices of listed companies in the same industry, good corporate governance principles also apply to consideration, by appointing the Nomination and Remuneration Committee to set and review directors' proper monthly compensation and meeting allowances every year, and make recommendation to the Board for consideration and approval before presenting the AGM for approval.

In 2022, compared with listed companies in the same industry, the remuneration structure and standards are still appropriate. Therefore, the remuneration of the same rate as the year 2021 are proposed. The monthly compensation and meeting allowances of the 2022 Board and Board-Committee already received approval from the 2022 AGM, without bonus and benefit offered same as last year, as follow; (The remuneration of directors is disclosed individually on page 146)

Position	Remuneration
1. Monthly remuneration: Director / Audit Committee / Risk Management Committee / Nomination and Remuneration Committee	
• Chairman of the Board	30,000 Baht / Month
• Board-Committees	25,000 Baht / Month
• Directors / Independent Director	20,000 Baht / Month
• Directors (2 working day/week)	80,000 Baht / Month
2. Meeting allowances: Director / Audit Committee (Only directors attending the meeting)	
• Chairman	20,000 Baht / meeting
• Director	15,000 Baht / meeting
3. Meeting allowances: Risk Management Committee / Nomination and Remuneration Committee (Only directors attending the meeting)	
• Chairman	15,000 Baht / meeting
• Director	10,000 Baht / meeting
4. Bonuses	None
5. Other Rights and Benefits	None

Note: Principles of compensation for the Board of Directors and Board Committees are as follows:

1. The Nomination and Remuneration Committee is the person who determines and establishes the principles or policies "Remuneration for Directors" and propose to the Board of Directors for approval to propose to the Annual General Meeting of Shareholders which must comply with HARN's Articles of Association, Chapter 4, regarding the Board of Directors, including various factors related as follows:
 - Duties and responsibilities of each director
 - To be appropriate when compared to other public companies that has the similar operating results and business operations.
 - To be fair and transparent to create incentives to maintain qualified directors as needed
 - To be appropriate for the ability to get paid the compensation from HARN
2. The Nomination and Remuneration Committee is summaries the annual remuneration and compensation which must not exceed the amount approved by the shareholders' meeting from the previous year and propose to the Board of Directors for approval to report to the shareholders' meeting to acknowledge the amount of money actually paid by considering the following factors:
 - Company performance previous year
 - Determine the appropriate time to pay
 - Details and conditions of payment such as annual remuneration for all directors who remain in office in the event that any director has recently held the position and has not yet completed a service year, annual remuneration will be paid in proportion referring to time appointment since joined.
3. Board and Committee members entitled to receipt of Directors' remuneration must not be HARN's employees.
4. Board member who also serve in another committee shall receive only one remuneration that pay the highest rate.

Summary of the remuneration all Directors in 2022 for period 12 months from 1 January to 31 December 2022 equal Baht 3,076,500, without bonus and benefit offered, comprises monthly remuneration for directors Baht 2,171,500 and meeting allowances Baht 905,000, the resolution of which was passed by the 2022 AGM. HARN payment of total in paid individually monthly remuneration for the Board s and Board-Committees and meeting allowance as follows as below

Name	Position	Total monthly remuneration	Total meeting allowances	Total remuneration
Dr. Thakol Nunthirapakorn	Chairman of the Board	360,000	200,000	560,000
Mr. Prasert Deejongkit	Chairman of the Board-Committee	277,500	165,000	442,500
Dr. Teerachai Pornsinsirak	Chairman of the Board-Committee	201,500	90,000	291,500
Mrs. Valeeratn Chuerboonchai	Independent Director	240,000	140,000	380,000
Mrs. Sirima Iamsakulrat	Director	240,000	100,000	340,000
Dr. Jain Charnnarong	Director	680,000	110,000	790,000
Mr. Thammanoon Tripetchr	Director (executives)	-	-	-
Mr. Wirat Sukchai	Director (executives)	-	-	-
Directors who Complete the Term in 2022 AGM				
Miss Voranuch Supaibulpipat	Independent Director	95,833	60,000	155,833
Mr. Parkphum Wongpaitoon	Independent Director	76,667	40,000	116,667
Total		2,171,500	905,000	3,076,500

Name	Position	2022						2021					
		Monthly Remuneration	Meeting allowances					Monthly Remuneration	Meeting allowances				
			Board of Director	Audit Committee	Nomination and Remuneration Committee	Executive Committee	Risk Management Committee		Board of Director	Audit Committee	Nomination and Remuneration Committee	Executive Committee	Risk Management Committee
1. Dr. Thakol Nunthirapakorn	Independent Director / Chairman of the Board / Chairman of the Audit Committee	360,000	120,000	80,000	-	-	-	360,000	110,000	75,000	-	-	-
2. Mr. Prasert Deejongkit ¹⁾	Independent Director / Member of the Audit Committee / Chairman of the Nomination and Remuneration Committee	277,500	75,000	60,000	30,000	-	-	165,333	60,000	45,000	-	-	-
3. Dr. Teerachai Pornsinsirak ²⁾	Independent Director / Chairman of the Risk Management Committee	201,500	60,000	-	-	-	30,000	-	-	-	-	-	-
4. Mrs. Valeeratn Chuerboonchai ³⁾	Independent Director / Member of the Audit Committee / Member of the Nomination and Remuneration Committee	240,000	90,000	30,000	20,000	-	-	240,000	80,000	-	-	-	-
5. Mrs. Sirima Iamsakulrat ⁴⁾	Director	240,000	90,000	-	-	-	-	240,000	80,000	-	20,000	-	-
6. Dr. Jain Charnnarong ⁴⁾	Director / Member of the Executive Committee / Member of the Nomination and Remuneration Committee	680,000	90,000	-	20,000	-	-	1,007,500	80,000	-	-	-	-
7. Mr. Wirat Sukchai	Director / Chairman of the Executive Committee/ Member of the Risk Management Committee / Chief Marketing Officer	-	-	-	-	-	-	-	-	-	-	-	-
8. Mr. Thammanoon Tripetchr ⁵⁾	Director / Member of the Risk Management Committee / Member of the Executive Committee / Chief Executive Officer	-	-	-	-	-	-	-	-	-	-	-	-
Directors who Complete the Term in 2022 AGM													
1. Miss Voranuch Supaibulpipat	Independent Director / Member of the Audit Committee / Chairperson of the Nomination and Remuneration Committee	95,833	30,000	15,000	15,000	-	-	300,000	80,000	55,000	30,000	-	-
2. Mr. Parkphum Wongpaitoon	Independent Director / Member of the Nomination and Remuneration Committee	76,667	30,000	-	10,000	-	-	240,000	80,000	-	10,000	-	-
Director who resigned from the Board-Committee during the year													
1. Mrs. Sirima Iamsakulrat	Independent Director / Member of the Nomination and Remuneration Committee				10,000								
Total		2,171,500	585,000	185,000	105,000	-	30,000	2,552,833	570,000	175,000	60,000	-	-

Note: ¹⁾ Mr. Prasert Deejongkit was appointed as Chairman of the Nomination and Remuneration Committee with effect from May 15, 2022 replacing Miss Voranuch Supaibulpipat, who retired by rotation at the 2022 AGM

²⁾ Dr. Teerachai Pornsinsirak was appointed as Independent Director with effect from April 25, 2022, replacing Miss Voranuch Supaibulpipat, who retired by rotation at the 2022 AGM, and was appointed as Chairman of the Risk Management Committee with effect from May 15, 2022, replacing Mr. Wirat Sukchai

³⁾ Mrs. Valeeratn Chuerboonchai was appointed as Independent Director and member of the nomination and remuneration committee replacing Mr. Parkphum Wongpaitoon, and was appointed as Member of the Audit Committee replacing Miss Voranuch Supaibulpipat, with effect from May 15, 2022 who retired by rotation at the 2022 AGM

⁴⁾ Dr. Jain Charnnarong was appointed as member of the nomination and remuneration committee with effect from May 15, 2022 replacing Mrs. Sirima Iamsakulrat

⁵⁾ Mr. Thammanoon Tripetchr was appointed as Chief Executive Officer with effect from March 1, 2022 replacing Mr. Wirat Sukchai

Other Remuneration and Other Benefits

- None -

8.1.3 Governance of Subsidiaries

The Board of Directors, which supervises the subsidiaries as part of the operation, have a resolution to appoint a representative to take the position of director in Aiyarahan Company Limited ("Subsidiary"), assign policies and guidelines to supervise and operate in accordance with the risk management plan, good governance and anti-corruption of HARN, with annual goals and indicators approved by the Board of Directors. A monthly meeting between representatives and executives of the subsidiaries is held to supervise and follow up to ensure that the operation results are in accordance with the goals and direction as indicated by HARN. The results will be reported to the Board of Directors every quarter.

HARN is working to promote compliance with policies and guidelines for supervising subsidiaries. In 2022, a meeting was held between representatives and management of subsidiaries in order to consider financial status, performance and other important matters which have been already reported to the Board of Directors for acknowledgment. In summary, the Subsidiary has an appropriate and careful internal control process for its business operations. No misconduct that violates the conflict of interest prevention policy.

8.1.4 Corporate Governance Policy and Guideline Compliance Control

1) Prevention of Conflict of Interest

HARN designated directors and the first 4 top-ranking executives all, as defined by the Securities and Exchange Commission, Thailand (SEC), must the report of vested interest and disclose conflicts of interest when taking office for the first time and they also have to report on their conflicts of interest regularly within any changes every time and within February for every year, delivered to company secretary to prevent conflicts of personal interest with HARN, to prevent activities that may cause conflicts of interest. Illegal and inappropriate activities.

In addition, there is the E-Learning in HARN Academy system as learning media to prevent using insider information and avoiding conflicts of interest, while educating all directors, executives, and employees in line with online testing of their knowledge and understanding every year.

In the year 2022, directors and the first 4 top-ranking executives all has submitted the report of the report of vested interest and the report conflicts of interest and signed the 100 % confirmation compliance with HARN's corporate governance principles and code of conduct, no misconduct that violates the conflict of interest prevention policy.

2) Use of Inside Information

HARN defined policies and guidelines as by the good corporate governance as confidentiality, information retention and use of inside information to prevent to seek undue benefits, in 2022 as actions follow;

1. The company secretary has prepared a schedule to notify prohibition period trading of securities year 2022 in advance notify by email to directors, executives including employees who are in a position to have access to inside information be aware, details are as; (1) fiscal year 2021, between January 25 to February 28, 2022 (2) financial statement Q1/2022 between April 12 to May 17, 2022 (3) financial statement Q2/2022 between July 12 to August 13, 2022 (4) financial statement Q3/2022 between October 14 to November 15, 2022, including their spouses and children under legal age, prohibition trading HARN stock within 30 days prior to the disclosure of quarterly and yearly financial statements to the public and until the period of 24 hours since disclosure to the public. Other than that, trading it normally.

2. Assign all directors and the first 4 top-ranking executives to trade securities they must report such trading to the Company Secretary at least 1 day in advance. Must report any changes in their HARN share ownership to report electronic through the SEC under Article 59 within 3 days of the date of trading of such shares, in which the company secretary reports trading to the board of directors acknowledged every quarter.

3. Organized E-Learning in the "HARN Academy" system as a learning medium on prevention use of Inside Information on the topic the good corporate governance, code of conduct, anti-corruption to knowlage for directors, executives and all employees in all areas thoroughly to cultivate and raise awareness, including requiring the comprehension test through online tests. There summary were 8 out of 8 directors who passed the tests, representing 100%, and 5 out of 5 executive who passed the tests, representing 100%, 232 out of 241 employees who passed the tests, representing 96.26%.

Year 2022, directors and the first 4 top-ranking executives has practices in accordance to policies and regulation strictly, there were 10 reported transactions outside silent periods involving those whose jobs involved internal information, no major incidents occurred that impacted HARN and no have misused HARN's internal information.

Shareholding information the Board, including related parties and persons with relationship as of December 31, 2022

Names of directors/executives		No. of shares held	% of total shares	note
1. Mr. Thakol	Nunthirapakorn (1) ^{/1}	-	-	(no shareholding)
2. Mr. Prasert	Deejongkit (1) ^{/1}	-	-	(no shareholding)
3. Dr. Teerachai	Pornsinsirak (1) ^{/1/2}	-	-	(no shareholding)
4. Mrs. Valeeratn	Chuerboonchai (1) ^{/1/3}	5,671,700	0.970	-
5. Mrs. Sirima	Iamsakulrat (1)	81,884,151	14.009	-
6. Mr. Jain	Charnnarong (1)	68,953,030	11.797	-
7. Mr. Wirat Sukchai Group (2)				
7.1 Mr. Wirat	Sukchai	86,795,159	14.849	-
7.2 Mrs. Nopparat	Sukchai (spouse)	13,000,000	2.224	-
8. Mr. Thammanoon	Tripetchr (1)	22,779,886	3.897	-
Total		279,083,926	47.75	-

Note: ^{/1} independent director

^{/2} Directors who Appoint replacing Miss Voranuch Supaibulpipat and Mr. Parkphum Wongpaitoon, who retired by rotation at the 2022 Annual General Meeting (AGM).

^{/3} was appointed as an independent director with effect from May 15, 2022

- No HARN share was held by directors' mother, spouses and children under legal age except those of No. 7 which no stock trading during the year 2022.

Shareholding information Executives, including related parties and persons with relationship as of December 31, 2022

Names of directors/executives		No. of shares held	% of total shares	note
1. Mr. Rattanaphan Mukhariwattananon Group (2)		-	-	-
1.1 Mr. Rattanaphan	Mukhariwattananon	4,262,883	0.729	-
1.2 Mrs. Rabeab	Mukhariwattananon (mother)	10,000.00	0.002	-
2. Mr. Wisit	Wachiralappaatooon (1)	642,437	0.110	-
3. Mrs. Varinkan	Teraumranon (1)	1,328,322	0.227	-

Note: No HARN share was held by executives' mother, spouses and children under legal age except those of No. 1 which no stock trading during the year 2022.

Report summarizing change in shareholding HARN proportion of the Board compair as of 2021 and 2022:

Names of directors / executives		number of shares At Date		Increase (Decrease)	Note
		December 31, 2022	December 31, 2021		
1. Mr. Thakol	Nunthirapakorn ^{/1}	-	-		(no shareholding)
2. Mr. Prasert	Deejongkit ^{/1}	-	-		(no shareholding)
3. Dr. Teerachai	Pornsinsirak ^{/1/2}	-	-		(no shareholding)
4. Mrs. Valeeratn	Chuerboonchai ^{/1/3}	5,671,700	5,677,686	(5,986)	-
5. Mrs. Sirima	Iamsakulrat	81,884,151	84,234,151	(2,350,000)	-
6. Mr. Jain	Charnnarong	68,953,030	72,319,130	(3,366,100)	-
7. Mr. Wirat	Sukchai	86,795,159	87,775,858	(980,699)	-
8. Mr. Thammanoon	Tripetchr	22,779,886	22,373,795	406,091	-

Note: ^{/1} independent director

^{/2} Directors who Appoint replacing Miss Voranuch Supaibulpipat and Mr. Parkphum Wongpaitoon, who retired by rotation at the 2022 Annual General Meeting (AGM).

^{/3} was appointed as an independent director with effect from May 15, 2022

- No HARN share was held by directors' mother, spouses and children under legal age except those of No. 7 which no stock trading during the year 2022.

Report summarizing change in shareholding HARN proportion of Executives under SEC's notification compair as of 2021 and 2022

Names of directors / executives		number of shares At Date		Increase (Decrease)	Note
		December 31, 2022	December 31, 2021		
Mr. Rattanaphan	Mukhariwattananon	4,262,883	3,087,621	1,175,262	-
Mr. Wisit	Wachiralappaatooon	642,437	542,345	100,092	-
Mrs. Varinkan	Teraumranon	1,328,322	1,222,162	106,160	-

Note: No HARN share was held by executives' mother, spouses and children under legal age except those of No. 1 which no stock trading during the year 2022.

3) Anti-Corruption

Prevention Policy Relating to Anti-Corruption Matters

Thaioil establishes and enforces through all the organization an explicit “Anti-Corruption Policy” comprising of definitions, responsibilities, implementations, and measures within Anti-Corruption Measures Handbook. The Board approved on May 10, 2018 which is an ISO 9001:2015 certified document. The Board, executives, employees, subsidiaries, joint ventures, other companies that control and agents (if any), are required to acknowledge and comply with this policy.

Define Anti-Corruption Policy an explicit, all the Board, executives, employees, subsidiaries, joint ventures, and other entities that may have a control over including agents (if any), prohibited 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 HARN exercise business.

HARN is uncompromisingly committed to anti-corruption, demonstrated by its membership of the Thai Private Sector Collective Action Coalition against Corruption (CAC) since 2017. It operates based on good governance, code of conduct and ethics in conducting business, with responsibility to the community, society, environment and all stakeholders throughout the supply chain. In this case, to show our true commitment to doing so, the Board of Directors issues the policy and guidelines against corruption for directors, management and staff to strictly adhere to.

- Declaration of intention to join Thailand Private Sector Collective Action Coalition against Corruption (CAC) on March 21, 2017.
- Underwent the certification process and became a certified member CAC with effect from November 5, 2018.
- Applied for CAC recertification and won approval, with effect from September 30, 2021.

To be in accordance with the latest anti-corruption policy HARN adopted, HARN provides guidelines for overseeing the compliance with anti-corruption practices as follows:

1. Assign directors management and staff to assess the compliance with corporate governance policies and principles, business ethics and the Anti-Corruption Measures Manual every year.
2. Follow up to regularly review and improve the anti-corruption policy every year in order to ensure that HARN's operations comply with changes in business, regulations and relevant legal requirements. It must be presented to the Audit Committee and reported to the Board of Directors on a quarterly basis.
3. Assign the Quality System Management Department to inspect and monitor the implementation of anti-corruption policy measures by various departments through internal quality audits and report to the Chief Operating Officer, Chief Financial Officer, and the management review meeting every month by presenting to the Risk Management Committee. It must be reported to Board of Directors on a quarterly basis.
4. If from information from the audit or complaints found by the investigation there is reasonable evidence to believe that there are transactions or actions that may have a significant impact on the financial status and HARN's performance, including any breach of the law, the Code of Business Conduct/Ethics, guidelines for corruption prevention, or questions about financial report or internal control system, the Audit Committee will report to the Board of Directors in order to take corrective action within the period the Audit Committee deems appropriate. An investigation will be conducted without disclosing the whistleblower's name in order to protect the potential impact on the whistleblowers of the complaint or allegation.

Furthermore, the Boards review policies suitability and Anti-corruption Measures on March 23, 2022, was no significant change, remains consistent and suitable for changes of the business environment, rules, regulations, and the provision of laws.

Performance

1. Assessed operational risks, compliance with laws, safety, health and environment, corporate reputation and corruption covering all parties involved. The risk control results were reported to the Risk Management Committee, Audit Committee and the Board every quarter. The results of the risk assessment of corruption and unethical actions in use of Inside Information, conflict of interest and ethics of the Board, Executives and Employees were at a satisfactory level without any wrongdoing found.

2. Communicate policies good corporate governance, code of conduct, measures anti-corruption, prevention of conflict of interest and prevention use of Inside Information to the Board, Executives and all employees which counts as 100% through e-mail, Intranet and Digital Signet to cultivate awareness and promote transparent, fair and verifiable operation behavior.

3. Organized internal training on Corporate Governance Policy and Principles, Code of Conduct and Anti-Corruption for new employees, including requiring a knowledge test. There were 36 employees in total who attended the training and passed the tests at 100%.

4. Organized E-Learning in the HARN Academy system as a learning medium on the good corporate governance, code of conduct, Anti-Corruption, prevention of conflict of interest and prevention use of Inside Information by yourself to knowledge for directors, executives and all employees in all areas thoroughly to cultivate and raise awareness, including requiring the comprehension test through online tests. There summary were 8 out of 8 directors who passed the tests, representing 100%, and 5 out of 5 executive who passed the tests, representing 100%, 232 out of 241 employees who passed the tests, representing 96.26%.

4) Whistleblowing

The Board provide process and channels for complaints and whistleblowing and/or all forms of all complaints of all stakeholders through the following channels:

1. Channels and Methods of Whistleblowing

Complainants must explicitly spell out “confidential” to the Chairman of the Audit Committee which is an Independent Committee, through these channels.

-  Chairman of the Audit Committee
Harn Engineering Solutions Public Company Limited
559 Soi Soonvijai 4, Rama 9 Road, Bangkok, Huaykwang, Bangkok 10310
-  chairac@harn.co.th
-  www.harn.co.th/corporate-governance/corruption-report/

2. Channels for Advice

Employees or others whom has inquiries and seek for advice on anti-corruption policy may contact through these channels.

-  Chief Financial Officer
Harn Engineering Solutions Public Company Limited
559 Soi Soonvijai 4, Rama 9 Road, Bangkok, Huaykwang, Bangkok 10310
-  02-318-9744 ext. 4004
-  wisit.w@harn.co.th

3. Channels Contact to HARN

Stakeholders can express their opinions, suggestions, and other complaints which are not an issue of anti-corruption through communication channels as follows:

- Company Secretary e-mail: wasukan.b@harn.co.th Tel: (02) 318-9744 ext 4011
- Investor Relations e-mail: wirat.s@harn.co.th Tel: (02) 318-9744 ext 5001
- Digital Enterprise & Communications e-mail: dec@harn.co.th Tel: (02) 318-9744 ext 4130
- Mail Harn Engineering Solutions Public Company Limited, 559 Soi Soonvijai 4, Rama 9 Road, Bangkok, Huaykwang, Bangkok 10310

However, once the chairman of the Audit Committee receives a clue, or the company secretary, investor relations, digital organization department or any other channels receive clues and complaints from the stakeholders of HARN, a preliminary consideration will be made regarding the category of which the matter of the complaint received falls into. The cases will be collected to present to the sub-committees or related directors and all suggestions and issues will be summarized to present to the Board of Directors quarterly. Except for complaints and whistleblowing directly sent to the chairman of the Audit Committee, the chairman of the Audit Committee will personally open those letters.

For employee complaints or suggestions, HARN has a process for dealing with such by considering whether the employee's complaint is a matter that may be an offense and at what level in order to determine the penalties for the action with fairness and accuracy. To build confidence in the measures to protect and maintain the confidentiality of complainants, employees can complain and express opinions through a variety of channels such as through a comment box, LINE Official account of HARN, or direct notification via e-mail to the Human Resources Department. All employees are obligated to acknowledge the available complaint channels since their orientation as new employees.

Actions when receiving complaints and reporting clues

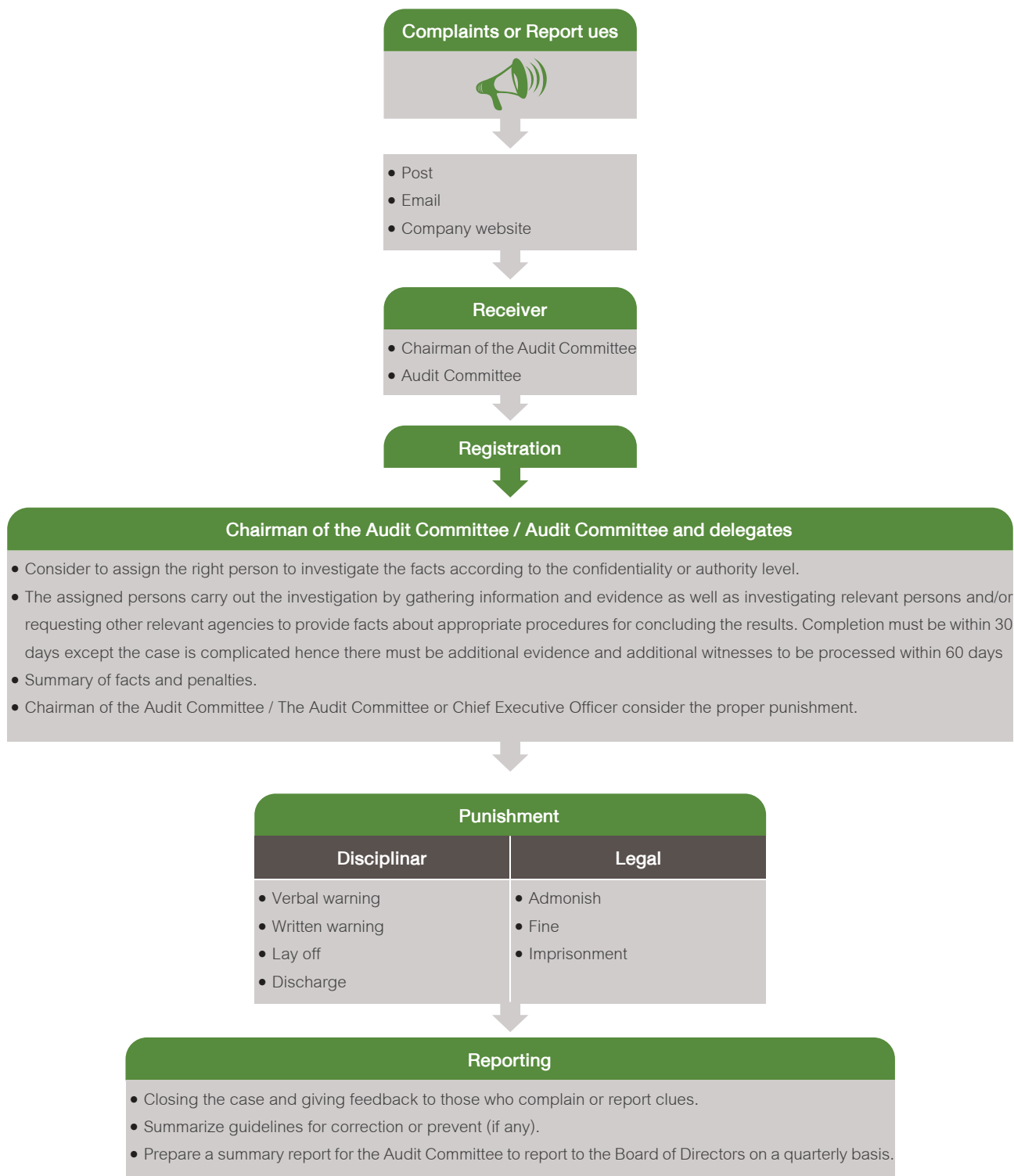
The Audit Committee will consider the complaints received and inform the relevant authorities in order to investigate the facts of the complaints and take appropriate corrective action. The Audit Committee will periodically monitor the progress. The relevant departments will notify the results within a reasonable period of time to the complainants. The Audit Committee will report to the Board of Directors.

Protection Measures Complainants and Whistleblowers

In order to protect the rights of whistleblowers with good intention, HARN will not disclose names, addresses or any other information that can identify the complainant or the whistleblower and keep the information of the complainant and whistleblower confidential. Only those responsible for the investigation of complaints will have access to such information. In this regard, the person receiving information from performing duties related to complaints have a duty to maintain information, complaints, clues and documentary evidence of the complainant and whistleblower confidential. No information is to be disclosed to any other person who does not have a relevant duty unless it is a disclosure in accordance with the duty required by laws.

Assigned by the Board of Directors, the Audit Committee acts as the main contact point for reporting incidents and clues, following up on incident reports, protecting and providing fairness to complainants or those who provide clues related to corruption within the organization, and reporting the results of the investigation and punishment to the Board of Directors. In 2022, there were no cases of fraud or violations of HARN regulations. In addition, it communicate acknowledged to all Board, Executives and Employees to the Good Corporate Governance, Code of Conduct and Anti-Corruption Measures o prevent complaints/ whistleblowing.

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



8.2 Performance Report of the Board-Committees

Report of the Audit Committee



Dr. Thakol Nunthirapakorn

Chairman of the Audit Committee

Appointed by the Board of Directors (the Board), the current Audit Committee consists of 3 proficient and knowledgeable independent directors, all of whom command diverse expertise and experience. In 2022, after Miss Voranuch Supaibulpipat retired by rotation from the Board at the 2022 Annual General Meeting (AGM) from April 25, 2022, Mrs. Valeeratn Chuerboonchai was elected by the Board meeting to take the position and member on May 15, 2022 onward, the individual terms of the Committee are summarized as follows:

January 1, to April 25, 2022

- | | | |
|------------------|----------------|----------|
| 1. Mr. Thakol | Nunthirapakorn | Chairman |
| 2. Miss Voranuch | Supaibulpipat | Member |
| 3. Mr. Prasert | Deejongkit | Member |

May 15, to December 31, 2022

- | | | |
|-------------------|----------------|----------|
| 1. Mr. Thakol | Nunthirapakorn | Chairman |
| 2. Mr. Prasert | Deejongkit | Member |
| 3. Mrs. Valeeratn | Chuerboonchai | Member |

April 26, to May 14, 2022

- | | | |
|----------------|----------------|----------|
| 1. Mr. Thakol | Nunthirapakorn | Chairman |
| 2. Mr. Prasert | Deejongkit | Member |

Serving as secretary to this committee is Mr. Wisit Wachiralappaitoon, Chief Financial Officer.

All of whom has qualifications are considered suitable for reviewing financial statements' credibility against the requirements of Securities and Exchange Commission of Thailand (SEC) and Stock Exchange of Thailand (SET).

The committee executed its Board-assigned duties and those under its own charter, which agreed with SEC's and SET's best practices, in oversees review financial reports to ensure that they are accurate, completely, and its business operations are compliant with applicable laws regulations and policy. The Audit Committee is also responsible for proposing to appoint and proposing to terminate the external auditor of the HARN's, including considering the appointment, transfer and termination of the employment the internal auditors of the HARN's. It also reviewed and advocated HARN's corporate governance, together with adequate risk management and internal control system, as well as enforcement of compliance. It ensured HARN's emphasis on being a transparent organization with efficient and effective internal audit activity, while aligning corporate goals, and improve the Internal Audit to be a trustworthy for sustainable long-term value creation for HARN with due regard for satisfying stakeholders' expectations.

1. Advocated the upgrading of processes of governance, risk management, internal control, and compliance, with a focus on raising awareness of employees' careful and thoughtful actions, including the review of rules and regulations related to the operation together with the cautious internal control process. Another emphasis was on the review of the investigation process and disciplinary action to be appropriate and fair.

2. Approve internal audit principles and guidelines, accentuates the continual improvement and uplift of the quality of the internal audit and internal audit works have been assessed in quality against International Standards, to bring to deploy recommendations and practices to improve.

3. Supported to set up goals of managing Cybersecurity Risks that could impact the security and stability of the HARN's Information to continuously improve operation and raise confidence in HARN's potential in all aspects.

4. Enhance monitor and review the appropriateness of personal information protection policies to clearly rules, mechanisms and regulatory measures and appropriately consistent with the Personal Data Protection Act B.E. 2562 (PDPA) or related to transactions with HARN.

5. Enhance Corporate Governance to drive the organization towards sustainable growth by advocating the role in providing assurance and consultation on Sustainability as well as the disclosure of Sustainability information in a transparent and trustworthy manner to all stakeholders.

In 2022, held a total of 4 meetings all of the Audit Committee members attended every meeting detail of attendance meeting as follows;

January 1, to April 25, 2022 : 1 meeting

- | | | |
|------------------|----------------|----------|
| 1. Mr. Thakol | Nunthirapakorn | : 1 time |
| 2. Miss Voranuch | Supaibulpipat | : 1 time |
| 3. Mr. Prasert | Deejongkit | : 1 time |

May 15, to December 31, 2022 : 2 meetings

- | | | |
|-------------------|----------------|-----------|
| 1. Mr. Thakol | Nunthirapakorn | : 2 times |
| 2. Mr. Prasert | Deejongkit | : 2 times |
| 3. Mrs. Valeeratn | Chuerboonchai | : 2 times |

April 26, to May 14, 2022 : 1 meeting

- | | | |
|----------------|----------------|----------|
| 1. Mr. Thakol | Nunthirapakorn | : 1 time |
| 2. Mr. Prasert | Deejongkit | : 1 time |

Including consultation with the executives, the Internal Auditor, and the Auditor. In addition, the Audit Committee held one non-executive meeting with the external auditor for unrestricted consultation on the external auditor's work, its opinions, issues arising from audit and financial report scrutiny, together with its collaboration with the Audit Committee and Internal Auditor. The performance highlights of the Audit Committee as follows:

1. Reviewed the Financial Statements:

Collaborating with the external auditor and relevant members of the executives, the Committee reviewed the quarterly and annual separate and consolidated financial statements. It also examined information disclosure on Key Audit Matters (KAMs) indicated in the auditors' report by Dharmniti Auditing Co., Ltd. To this end, the Committee reviewed the credibility of estimated figures, the management's assumptions requiring discretion, display of transactions, adjustment of material account entries to ensure as regards disclosure of information in an accurate, adequate, complete and reliable manner and useful for users of financial reports, as well as the criteria of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET). The auditor has performed the auditing work and provided unqualified opinions.

2. Internal Audit:

The Audit Committee reviewed and approved annual audit plans, conformance to the plans, internal audit findings and recommendations and follow-ups as well as improvements of significant issues every quarter. It also assessed the independency of the internal audit from Ultima Advisory Company Limited to perform the duties efficiently and effectively, comply with rules and policies, support the adoption of audit management system and data analysis tools to manage the internal audits so that the auditor can work without time and space constraints. In addition, it also pushed of the quality of audit perform efficiently and effectively, for greater professionalism that creates sustainable value to the organization, and upheld internal audit assessment of international professional standards, to ensure aspects of good governance and adequate internal control and internal audit.

3. Connected Transactions:

The Audit Committee reviewed connected transactions or those posing potential conflicts of interest with that of HARN's and subsidiary under the Office of the Securities and Exchange Commission (SEC) and the Stock Exchange of Thailand (SET) announcements and other relevant laws, the Audit Committee concluded that HARN and Subsidiaries had observed regular business practices, fairness, and sensibility in the best interests of HARN and its shareholders. Such transactions were also promptly disclosed to SET.

4. Review of Compliance with Laws, Corporate Governance, Risk Management, and Internal Control:

The Audit Committee reviewed management practices for systematic corporate governance and compliance to related laws and regulations. It closely kept track of preparation for new laws that will come into effect and reviewed risk management and risk management measures to ensure efficiency and effectiveness. Importantly, the Audit Committee paid attention to readiness for emerging risks and threats involving cyber security to ensure business continuity and prompt response to the fast-changing situation. The Audit Committee, moreover, followed the progress of Integrated Governance, Risk and Internal Control, Compliance (GRC) the whole sustainable organization, which links the internal auditor to the operations, along with a clear assessment method. The Audit Committee also endorsed findings from internal control system sufficiency assessment as required by SEC to ensure that HARN commands reviewed the complaint handling and whistleblowing process, comply with law without major problems or defects, appropriate and sufficient process business risk management and internal control.

5. Appointment of the External Auditor for 2022 and Approval for Audit Fee:

In selecting the external auditor, the Audit Committee considered performance records, experience, independency, audit fees, and compliance with SEC's announcements. The Committee resolved to nominate Mr. Thanawut Piboonsawat, License No.6699 and/or Miss Potjanarat Siripipat, License No.9012 and/or Miss Roongnapha Saengchan, License No.10142 and/or Miss Techinee Pornpenpob, License No.10769, or other auditors approved by the Office of the SEC's from Dharmniti Auditing Company Limited as external auditor and the proposed audit fee for the Board's endorsement before submitting to the 2022 Shareholders' Annual General Meeting for approval.

6. Quality Assessing of the Audit Committee

The Committee reviewed its own charter and assessed its own performance as a group and individuals against SET's best practices to ensure efficient, fruitful performance. Overall assessment result for the Committee as a group was "excellent" and result for self-assessment was "excellent", and reported its performance outcomes to the Board acknowledged, as well as action sets plans to improve its process of governance, risk management, and internal control supervision as well as compliance with HARN's regulations.

In conclusion, this year the Audit Committee executed its charter duties and responsibilities with diverse expertise, prudence, and freedom while providing creative views and advice for equal benefit of all stakeholders. The Committee concluded that HARN and Subsidiaries had prepared complete important financial reports aligning, accurate and credible, which is in line with the accounting and financial report standards, along with complete and adequate disclosure of connected transactions with potential conflicts of interest, including has internal control process, risk management, good corporate governance and anti-corruption prevention and appropriate and in full compliance with business applicable laws and regulations has efficient and efficient.

Report of the Nomination and Remuneration Committee



Mr. Prasert Deejongkit

**Chairman of the Nomination and
Remuneration Committee**

The Board of Directors appointed the Nomination and Remuneration Committee, which consists of independent directors and non-executive director not less than 3 members most directors must be qualified as independent directors. In 2022, the Board of Directors decided to the Nomination and Remuneration Committee, on May 15, 2022 onwards consists of 3 directors, 2 independent directors and 1 non-executive director are summarized as follows:

January 1, to May 14, 2022

- | | |
|--------------------------------|-------------|
| 1. Miss Voranuch Supaibulpipat | Chairperson |
| (Independent Director) | |
| 2. Mr. Parkphum Wongpaitoon | Member |
| (Independent Director) | |
| 3. Mrs. Sirima Iamsakulrat | Member |

May 15, to December 31, 2022

- | | |
|---------------------------------|----------|
| 1. Mr. Prasert Deejongkit | Chairman |
| (Independent Director) | |
| 2. Mrs. Valeeratn Chuerboonchai | Member |
| (Independent Director) | |
| 3. Dr. Jain Charnnarong | Member |

Serving as secretary to this committee is Ms. Varinkan Teraumranon, Chief Operating Officer.

The Nomination and Remuneration Committee duty is to recruit qualified people under HARN process and criteria for nomination as Directors and Chief Executive Officer, also selects Directors to serve on Board-Committees and reviews Director and Board-Committee's remuneration models and criteria before proposing for the consideration of the Board and the Annual General Meeting of Shareholders as required by law.

In 2022, the Nomination and Remuneration Committee executed duties assigned by the Board of Directors, considered, screened, and gave opinions on various issues before presenting to the Board of Directors with caution, prudence, transparency, and fairness as specified in the charter completely in line with the operational strategy Realize the best interests of the stakeholders, held a total of 3 meetings all of the Nomination and Remuneration Committee members attended every meeting, with attendance detailed below:

January 1, to May 14, 2022 : 1 meeting

- | | |
|--------------------------------|----------|
| 1. Miss Voranuch Supaibulpipat | : 1 time |
| 2. Mr. Parkphum Wongpaitoon | : 1 time |
| 3. Mrs. Sirima Iamsakulrat | : 1 time |

May 15, to December 31, 2022 : 2 meetings

- | | |
|---------------------------------|-----------|
| 1. Mr. Prasert Deejongkit | : 2 times |
| 2. Mrs. Valeeratn Chuerboonchai | : 2 times |
| 3. Dr. Jain Charnnarong | : 2 times |

The performance highlights of the Nomination and Remuneration Committee as follows:

Recruitment Duties

Strictly conduct recruitment and selection of qualified persons to be appointed as Board of Directors in accordance with the screening process and criteria specified in the policies and principles of corporate governance and business ethics. The appointment was carefully considered from various professions as required from the Board Skill Matrix and proposed to the Board of Directors and/or the shareholders' meeting as required by law. In this regard, the list of professional directors in the Thai Institute of Directors Association (IOD) was used to assist in the selection of suitable persons, including considering the composition and qualifications of the Board of Directors both in general and individually to suit the size, type, complexity, and variety of business operations. The consideration of qualifications will cover education, expertise, skills, experience, and specialization related to HARN's business, including independence according to the rules required by law and HARN.

1. Recruitment and selection of qualified person as director Replace directors who completed their terms

Conduct recruitment and selection of qualified persons as Board of Directors, replace directors who completed their terms for the year 2022, to present to the Board of Directors and the shareholders' meetings. The committee proposed to the agenda comprised one person, namely Mr. Thammanoon Triphet, a director on the Board of Directors, and one new director appointed in replacement of the retired director, namely Dr. Theerachai Pornsirisirak, an independent director. Those appointed directors were knowledgeable with capabilities and experience suitable for the nature of business operations which will be beneficial to HARN's strategies, while having qualifications as HARN's director and an independent director in accordance with the relevant laws and rules, in line with results of performance and reliable roles to stakeholders without any conflicts with HARN.

2. Nominated director as independent director and sub-committee

Nominated directors, for Independent Directors and 3 Board-committees, namely the Audit Committee, and Nomination and Remuneration Committee and Risk Management Committee, tabled these lists for the Board to appoint in place of vacancies or directors with term completion as required by law as follows.

- Appointed Mrs. Valeeratn Chuerboonchai as Independent Director and Member of the Audit Committee instead of Ms. Voranuch Supaibulpipat and as Member of the Nomination and Remuneration Committee instead of Mr. Parkphum Wongpaitoon
- Appointed Mr. Prasert Deejongkit as Chairman of the Nomination and Remuneration Committee instead of Ms. Voranuch Supaibulpipat
- Appointed Dr. Jain Charnnarong as the Nomination and Remuneration Committee instead of Mrs. Sirima Iamsakulrat
- Appointed Dr. Teerachai Pornsinsirak as Chairman of the Risk Management Committee instead of Mr. Wirat Sukchai

Those appointed directors were knowledgeable with capabilities and experiences suitable for the nature of business operations which could be beneficial to HARN's strategies, while having qualifications as HARN's director and an independent director in accordance with the relevant laws and rules, in line with results of performance and reliable roles to stakeholders without any conflicts with HARN.

3. Orientation and provided documents for new director

Provided useful documents, to newly appointed directors in 2022, 1 new director were appointed: namely Dr. Teerachai Pornsinsirak

4. Selection of a senior executive as the Chief Executive Officer in replacement of the former Chief Executive Officer, who resigned from the position.

Manage for the selection of HARN's senior executive to be the Chief Executive Officer in replacement of Mr. Wirat Sukchai, who resigned from the position of the Chief Executive Officer, to be in accordance with the succession plan to another executive with knowledge and capabilities in maintaining business continuity by nominating to the Board of Directors for the consideration to appoint Mr. Thammanoon Triphet from the former position of Managing Director: Digital Printing Business to hold the position of the Chief Executive Officer in replacement of Mr. Wirat Sukchai, which shall be effective from March 1, 2022 onwards.

5. Review stipulated the overall qualification structure framework (Skill Matrix)

For accordance with corporate governance principles, by conducting a specific competence assessment of the Board of Directors for the year 2022 to review the appropriate expertise, both regulatory and strategic, to be appropriate and in line with the business context.

6. Review the development plan for directors and top executive

Considering training courses related to the development of knowledge and competence on good corporate governance and the performance of a director's duties of the Thai Institute of Directors Association (IOD) in order to develop directors and increase useful perspectives to be applied to the business, has sent 3 director to attend Board Nomination & Compensation Program (BNCP) Class 184/2021 : namely Mr. Prasert Deejongkit, Mrs. Valeeratn Chuerboonchai, Dr. Jain Charnnarong and has sent Chief Executive Officer to attend How to Develop a Risk Management Plan (HRP) : namely Mr. Thammanoon Triphet

7. Opportunities minority shareholders propose agenda and qualified persons as directors

Supported the granting opportunity for minor shareholders, to propose agendas and nominate candidates as directors to nomination process from from October 1 to December 31, 2022 before the 2023 Annual General Through rules. Meeting through HARN's website. This would also be announced on the website of the Stock Exchange of Thailand.

Remuneration Duties

8. Determine remuneration and criteria for remuneration payment to directors

Consider the framework and criteria for remuneration to directors and sub-committees for approval at the Annual General Meeting of Shareholders in the year 2022. When compared to the organizations with the same industrial business and similar business size, it was found that the structure of criteria for regular remuneration and meeting payment rates remained appropriate. Therefore, the remuneration shall be at the same rate as the year 2021, which was approved by the 2002 General Meeting of Shareholders.

9. Review the criteria for performance evaluation and set remuneration for Chief Executive Officer

Review the 2022 Chief Executive Officer of Performance Evaluation criteria Form, assessed the performance by non-executive directors, using the guidelines of the Stock Exchange of Thailand as well as consider annual salary and bonuses payment adjustment for the Board's consideration

Other duties according to the charter

10. Reviewed the director recruitment and remuneration policy

Consider the rules and procedures for recruitment of directors, structure of remuneration for the Board of Directors, criteria for remuneration payment, including promotion of continual development with complete, sufficient, and appropriate coverage guidelines, with no issues to be additionally resolved.

11. Consider review of performance evaluation form for Chief Executive Officer

Consider the structure of remuneration for the Chief of Executive Officer which must be linked to the operation performance of HARN in the short and long term in finance, society, environment, and good governance through the cycle of sustainability in compliance with the direction of HARN's four strategic groups, including SMART Business, SMART People, SMART Technology, Smart ESG (Environment-Social-Governance), approved by the Board of Directors' meeting.

12. Review the succession policy of Top Executives

Prepare for the readiness of executives with capacities for replacement in case of a vacancy for higher level positions. Therefore, it is required to change the goals of positions necessary for development or succession plans to cover the operational guidelines, including additional basic qualifications, focusing on clear and direct communication capabilities for the same direction of involvement, which has been approved by the Board of Directors Meeting, and report performance for plan to the Board's consideration.

13. Review the Nomination and Remuneration Committee charter

To set the guidelines in developing and improving the the performance of duties appropriately and sufficiently and in accordance with the principles of good corporate governance, transparency, and clarity as well as reviewing the appropriate compensation structure to support HARN's operations to be in alignment with the goals. This includes the evaluation of the operating performance of groups and individuals according to the good governance guidelines of the Stock Exchange of Thailand to ensure that the operation of the Nomination, Remuneration and Corporate Governance Committee is effective for the achievement of specified results. The evaluation results of groups and individuals are at a good level, which has been reported to the Board of Directors.

Nomination and Remuneration Committee have used knowledge, ability, caution, and sufficient independence in giving opinions and suggestions for the overall benefit of HARN for the best interest of shareholders. It also serves to oversee the Board's performance under the good corporate governance system in accordance with the relevant laws and regulations. In 2022, no significant errors that affect HARN and the shareholders have been found, including, no non-executive directors resigned due to HARN's corporate governance issues, including avoiding methods of harming HARN's reputation.

Report of the Executive Committee



Mr. Wirat Sukchai

Chairman of the Executive Committee

Harn Engineering Solutions Public Company Limited operate the business according of good corporate governance and a code of conduct adhere to represent an integral part of the core mission to which has always been strictly committed to ensure HARN's sustainable success. The Board of Directors appointed the Executive Committee, which consists of directors and top executive consisting of 6 knowledgeable, competent, and experienced directors to perform their duties in planning of policies and strategies of business operations and monitoring the results of performance to be in accordance with the specified objectives, policies, and plans as follows:

In 2022, the Board of Directors to appoint Mr. Rattanaphan Mukhariwattananon as the Executive Committee on April 1, 2022 onwards are summarized as follows:

January 1, to March 31, 2022

- | | | |
|-------------------|-------------------|---|
| 1. Mr. Wirat | | Sukchai Chairman and Chief Marketing Officer: Refrigeration System |
| 2. Mr. Thammanoon | Tripetchr | Member and Chief Executive Officer,
Chief Marketing Officer: Digital Printing System |
| 3. Mr. Jain | Charnnarong | Member |
| 4. Mr. Wisit | Wachiralappaitoon | Member and Chief Financial Officer |
| 5. Mrs. Varinkan | Teraumranon | Member and Chief Operating Officer |

April 1, to December 31, 2022

- | | | |
|--------------------|-------------------|--|
| 1. Mr. Wirat | | Sukchai Chairman and Chief Marketing Officer: Refrigeration System |
| 2. Mr. Thammanoon | Tripetchr | Member and Chief Executive Officer,
Chief Marketing Officer: Digital Printing System |
| 3. Mr. Jain | Charnnarong | Member |
| 4. Mr. Rattanaphan | Mukhariwattananon | Member and Chief Marketing Officer:
Fire Protection, Air Conditioning and Sanitary System |
| 5. Mr. Wisit | Wachiralappaitoon | Member and Chief Financial Officer |
| 6. Mrs. Varinkan | Teraumranon | Member and Chief Operating Officer |

Serving as secretary to this committee is Mrs. Varinkan Teraumranon.

In 2022 HARN still had to face with business challenges continued from previous years although situation of COVID-19 epidemic began to subside, and the economy began to have some signs of recovery. However, there were still factors affecting the slowdown and uncertain economic conditions of Thailand with changes both inside and outside the country as a result of conflicts between superpowers on the global economy, this is a challenge of HRN to adapt to the change. The Executive Board managed HARN's businesses under such situation to the best of their ability with careful. Also gave any guidance and suggestions about business administration as well as followed up and evaluate of HARN and subsidiaries' performance, closely, in order to strengthen the organization's business continuity and sustainable.

In 2022, the Executive Committee, held a total of 12 meetings, with perfect attendance by all members, completely executed all duties stated in the charter the Executive Committee, and as assigned by the Board of Directors completely by report the performance with guidelines for solving problems and suggestions to the Board of Directors regularly, with attendance detailed below:

January 1, to March 31, 2022 : 3 meetings

- | | | |
|-------------------|-------------------|----------|
| 1. Mr. Wirat | Sukchai | : 3 time |
| 2. Mr. Thammanoon | Tripetchr | : 3 time |
| 3. Dr. Jain | Charnnarong | : 3 time |
| 4. Mr. Wisit | Wachiralappaitoon | : 3 time |
| 5. Mrs. Varinkan | Teraumranon | : 3 time |

April 1, to December 31, 2022 : 9 meetings

- | | | |
|--------------------|-------------------|-----------|
| 1. Mr. Wirat | Sukchai | : 9 times |
| 2. Mr. Thammanoon | Tripetchr | : 9 times |
| 3. Dr. Jain | Charnnarong | : 9 times |
| 4. Mr. Rattanaphan | Mukhariwattananon | : 9 times |
| 5. Mr. Wisit | Wachiralappaitoon | : 9 times |
| 6. Mrs. Varinkan | Teraumranon | : 9 times |

The performance highlights of the Executives Committee as follows:

1. Specified and reviewed of HARN and its subsidiaries' mission, vision, strategy, and business plan.

Consider, review the vision, mission and target in the past year, to determine the strategy and operation plan of HARN and Subsidiary, in accordance with the vision and mission, considering internal, external factors that have an impact, opportunities and risks, by requiring a meeting to monitor and follow up on the strategic implementation strategy and communicate plans to all executives and employees on a monthly basis including, monitor to be implementation a strategy, be consistent and achieve goals and report every quarter the strategic plan to the Board's.

2. Reviewed and monitored performance

Review has been considered and track the performance on a monthly of every business line of HARN, as well as the progress of various projects, in order to accordance plan policy, target and budgets, as approved by the Board and report every quarter the performance to the Board for acknowledgment.

3. Considered and approved the annual budget and investment.

Considered, scrutinize and approved the annual budget and investment of HARN, including the develop information technology systems Digital Transformation, Solar Rooftop project, parking lot, office building and other important matters in business to promote sustainable business operations on environment, society, and governance (ESG) to the Board's approval.

4. Consider approving the 2022 annual dividend.

Consider, scrutinize and approve in 2021, annual dividend payment at the rate Baht 0.10 per share of net profit from the operating results of the year 2021 as reference to specific financial statements for the Board's and the shareholders' approval

5. Determine and review organizational structure, administration, and policy of human resource management

Consider reviewing the organizational structure, administration, and policy of human resource management by reviewing the criteria for recruitment, training, performance evaluation development, relocation, termination, and setup of annual salary increase rate, bonus for the year 2022, and other benefits for employee and department manager, except Chief Executive Officer.

6. Consider the sustainable development

Consider the study and approval of target objectives towards carbon neutral in 2030, while focusing on the climate change problem in line with HARN's innovations of the four necessities for living and other and environmental factors. Also, it is to create the equality of all partners without any discrimination through cooperation among all related partners to improve the operations towards a concept of sustainable organizational development in accordance with "HARN ESG Venture" guidelines.

7. Review the Executive Committee charter

Consider and review the Charter of the Executive Committee to ensure that the guidelines for their performing duties are suitable for current situations. Also, the overall performance evaluation of the Executive Committee has been done for groups and individuals for the year 2022 in three areas: 1) structure and qualifications 2) meeting, and 3) roles and responsibilities according to the good governance guidelines of the Stock Exchange of Thailand. The evaluation results for groups and individuals were at the level of good, which was reported to the Board of Directors for acknowledgement. The Executive Committee is committed to taking the evaluation results as a guideline for further improvement.

The Executive Committee still has a commitment to perform duties with full capacities and prudence for the most benefit of all groups of stakeholders. Also, it is to lead HARN towards effective operating performance according to good corporate governance policies and principles, anti-corruption, business ethics, and organizational development towards sustainable growth as appropriate to support the vision, mission, and strategy of HARN's business for the international sustainability direction. This can reflect the operations with responsibility to the environment, society, and governance or ESG with a balance. Following the commitment in various fields, HARN has been evaluated in the 5-star "excellent" business for the 4th consecutive year with the full score of 100 for the shareholders' meeting for the 5th consecutive year. This reflects HARN's good corporate governance under standards, along with its responsibilities for the environmental, social, and sustainable management which result from the effective cooperation of the Executive Committee and employees. Therefore, HARN will confidently experience continual growth with utmost benefits to all stakeholders and value added to shareholders through the long-term sustainability.

Report of the Risk Management Committee



Dr. Teerachai Pornsinsirak

Chairman of the Risk Management Committee

The Risk Management Committee, appointed by the Board of Directors, has Chief Executive Officer, Chief Marketing Officer, Chief Financial Officer, Chief Operating Officer and director of various departments of HARN serving as members to this committee, who possess knowledge, capability, experience as well as understanding the business. In 2022, Dr. Teerachai Pornsinsirak, was appointed by the Board meeting to take the Chairman of the Risk Management Committee on May 15, 2022 onward, to support the Board of Directors on the supervision of corporate risk management to achieve business goals, and to enhance confidence in and credibility of HARN among investors and stakeholders. Comprises of 11 members, are summarized as follows:

January 1, to April 24, 2022

1.	Mr. Wirat Sukchai	(Acting) Chairman
2.	Mr. Thammanoon Tripetchr	Member
3.	Mr. Rattanaphan Mukhariwattananon	Member
4.	Mr. Wisit Wachiralappaitoon	Member
5.	Mr. Pracha Phromphornchai	Member
6.	Mr. Suchat Suwatnodom	Member
7.	Mr. Kittiphong Kittimethawenun	Member
8.	Mr. Vachiravit Akaraseranee	Member
9.	Mr. Sukit Litikorn	Member
10.	Mr. Withoon Thamee	Member
11.	Mrs. Varinkan Teraumranon	Member

April 25, to December 31, 2022

1.	Dr. Teerachai Pornsinsirak	Chairman
2.	Mr. Wirat Sukchai	Member
3.	Mr. Thammanoon Tripetchr	Member
4.	Mr. Rattanaphan Mukhariwattananon	Member
5.	Mr. Wisit Wachiralappaitoon	Member
6.	Mr. Suchat Suwatnodom	Member
7.	Mr. Kittiphong Kittimethawenun	Member
8.	Mr. Vachiravit Akaraseranee	Member
9.	Mr. Sukit Litikorn	Member
10.	Mr. Withoon Thamee	Member
11.	Mrs. Varinkan Teraumranon	Member

Serving as secretary to this committee is Ms. Varinkan Teraumranon, Chief Operating Officer.

The Risk Management Committee defined and reviewed the corporate risk management framework, policy, and processes, performing as indicated in the Risk Management Committee Charter, as well as efficiently providing recommendations for proper risk management approaches while aligning with corporate vision and direction and business plans as well as mitigating impacts of business uncertainties. Moreover, consistently and effectively advocates and improves risk management practices throughout the organization on a par with international standards to forge corporate culture while continuously monitoring results of corporate risk management and that of various projects risk management to ensure shareholders and stakeholders that risk managementsystem can indeed handle these risks in all dimensions.

In 2022, the Risk Management Committee, held a total of 4 meetings, with perfect attendance by all members, with attendance detailed below:

January 1, to April 24, 2022 : 2 meetings

1. Mr. Wirat	Sukchai	: 2 time
2. Mr. Thammanoon	Tripetchr	: 2 time
3. Mr. Rattanaphan	Mukhariwattananon	: 2 time
4. Mr. Wisit	Wachiralappaitoon	: 2 time
5. Mr. Pracha	Phromphornchai	: 2 time
6. Mr. Suchat	Suwatnodom	: 2 time
7. Mr. Kittiphong	Kittimethawenun	: 2 time
8. Mr. Vachiravit	Akaraseranee	: 2 time
9. Mr. Sukit	Litikorn	: 2 time
10. Mr. Withoon	Thamee	: 2 time
11. Mrs. Varinkan	Teraumranon	: 2 time

April 25, to December 31, 2022 : 2 meetings

1. Dr. Teerachai	Pornsinsirak	: 2 times
2. Mr. Wirat	Sukchai	: 2 times
3. Mr. Thammanoon	Tripetchr	: 2 times
4. Mr. Rattanaphan	Mukhariwattananon	: 2 times
5. Mr. Wisit	Wachiralappaitoon	: 2 times
6. Mr. Suchat	Suwatnodom	: 2 times
7. Mr. Kittiphong	Kittimethawenun	: 2 times
8. Mr. Vachiravit	Akaraseranee	: 2 times
9. Mr. Sukit	Litikorn	: 2 times
10. Mr. Withoon	Thamee	: 2 times
11. Mrs. Varinkan	Teraumranon	: 2 times

The performance highlights of the Risk Management Committee as follows:

1. Review and Amend the Risk Management Policy

Review has been considered risk management policies to the composition and measures to prevent the acceptable risk appetite as appropriate for the circumstances, continually support and develop risk management throughout the corporation. Has management both strategic, financial, compliance, social and environmental risk, including continually emerging risk, as well as reviewing the risks associated with corruption in accordance, measures to control risks and follow up on operation, with in line anti-corruption measures framework.

2. Steered Risk Management to Ease Business Impacts

Key global situations that may affect HARN business operations were monitored. Has proactive measures focusing on management to reduce the likelihood of all risk incidents, with reactive measures if a risk event occurs to minimize the impact on organizational goals. It defined comprehensive risk management plans for all situations. In 2022, Risk theme and Risk impact was adjusted to be in line with the changing circumstances as well as rules and laws circumstances to ensure that HARN's risk management process is appropriate and effectively implemented.

3. Supervised the Risk Management Considering Environment, Society and Governance

To make risk management process complete and embrace comprehensive management of all stakeholders that into account the 3 mains of responsibility, namely the environment, society and governance (ESG), gave advised on strategies and critical corporate issues for stakeholders together with operating guidelines included the drive for implementation by all functions and advice for goal achievement.

4. Supervised the Develop of Corporate Innovations

To ensure a complete innovation development process with efficient and innovation and technology management for increased innovation effectiveness that meets HARN's strategic and core goals, as well as resource optimization, contributing to sustainable growth.

5. Considered and commented on current-future Project related Business

Rigorously considered risk issues and risk management practices, advised on the pros and cons of business decisions, as well as carefully commented on current and new businesses HARN wants to grow in the future in line with its strategic business direction and business uncertainties to make the operation worth the opportunity cost and suitable for the business context.

6. Monitored Corporate Risk Management

Closely monitor the organization's risk management a quarterly basis by defining the main risk types and risk themes and risk indicators for monitoring, early warning and measuring the effectiveness of risk management counseled management on the improvement of its management practices by revising risk management plans in line with prevailing business strategies and contexts. Also, has the Committee reported its performance results to the Board In quarterly basis, and urged and closely monitored the outcomes of bounced cheque, debtor, and price hedging processes under highly volatile markets.

7. Review the Enterprise Risk Control Reports

Review has been considered the enterprise risk control reports alongside the 2022 annual plan to clear risk management plan be in line with strategies and target business. Implementation was cascaded throughout the corporation to efficiently risks and promptly handle them.

8. Reviewed the Risk Management Committee Charter

Consider and review the Charter of the Risk Management Committee to ensure that the guidelines for their performing duties suitable and accord with for current situations contexts. Also, the overall performance evaluation of the Risk Management Committee has been done for groups and individuals for the year 2022, according to the good governance guidelines of the Stock Exchange of Thailand to ensure that HARN's risk management processes are appropriate able to support and develop risk management in all dimensions. In this regard, the evaluation results for groups and individuals were at the level of good, which was reported to the Board of Directors for acknowledgement.

The Risk Management Committee concluded that in 2022, HARN has developed a comprehensive corporate risk management system for all aspects of according to the risk management policy, and continual cover risk management practices to strategic, financial, compliance, social, environmental include emerging risk to cope with prevailing circumstances. The meetings were regularly arranged to review, monitor and manage key and urgent such risk issues, rendering HARN and Subsidiaries' risk management effectiveness. HARN indeed efficiently and sufficient, appropriate. Ultimately, this would sustainably support business goal achievement in the long-term amid challenging circumstances and controlled within indicated risk appetite.

9. Internal Control and Connected Transaction

9.1 Internal Control

HARN realizes the importance of the internal control system under the framework of The Committee of Sponsoring Organizations of Treadway Commission (COSO) to attain the aspects of the corporate risk management and internal control both efficient and effective structure design and process, credibility of financial and other reports, and full compliance with laws and regulations prescribed by the Stock Exchange of Thailand (SET) and the Securities and Exchange Commission (SEC). The Board of Directors assigns the Audit Committee to review results of internal control assessment, while the internal auditors take charge of monitoring and reviewing the adequacy of internal control system on a quarterly basis, which is an external service provider (Outsource), with Chief Financial Officer who is the Secretary of the Audit Committee responsible for coordinating within the company.

In 2022, the Board examined the assessment internal control according the Securities and Exchange Commission, Thailand (SEC)'s form and risk management to plan on a quarterly, and is prepared by the internal audit and subsequently reviewed by the Audit Committee, and concluded that HARN's internal control system was indeed adequate and suitable for its business operations to accomplish the objectives the development of operations and working systems to support the five aspects of internal control system under COSO, are as follows:

1) Control Environment

HARN commands a sound overall control environment that is adequate for business efficiency and effectiveness under the principles of good corporate governance and code of conduct. Its executives have promoted a corporate culture focusing on integrity and ethics as a role model with the following implementations:

- Defining written policies under the good corporate governance, code of conducts and anti-corruption, to provide a framework for the performance of various. For the Board of Directors, executives and employees to adhere to as a practical guideline resulting in HARN has undergone the annual assessment of Corporate Governance Report of Thai Listed Companies (CGR) by Thai Institute of Director Association (IOD) for the 4th consecutive year, scored top marks at excellent level.
- Arrange for the directors and the first 4 top-ranking executives to report conflicts of interest and requiring the Board and top executives within February annually reporting their conflicts of interest and stresses its code on giving and accepting gifts, assets, or other benefits so as to remind the Board, executives and employees to comply with the defined guidelines and code of conduct. Importantly, preparation has been made for Personal Data Protection Act, which will come into effect on June 1, 2022.
- Raise awareness and understanding on code of conduct among executives and employees through internal training courses, employee orientation and e-mails to promote good corporate governance. Also, the information about good corporate governance and code of conduct has been published on HARN's website to encourage related parties, such as business partners, joint ventures and company representatives, to acknowledge business ethics. In 2022, knowledge and testing through the electronic system of HARN Academy were provided to directors, executives and employees in order to realize their roles and responsibilities, according to the business ethics and code of conduct.
- The Board of Directors is independent from the executives, has roles duties and responsibilities involve the review and endorsement of major strategies and policies, including objectives, financial targets, risks, plans, and budgets. The Board also exercises supervision to ensure legal compliance and efficient and effective business operation
- Devised human resource development plan that enhances employees' competency in a systematic, duly embracing aspects of personnel attraction, development, and retention, with a succession plan of key positions readily prepared. Also values the process of fair performance management that reflects the ability to perform against Key Performance Indicators (KPIs). Including a long-term strategy was identified for personnel recruitment to support of the prevailing business needs.

2) Risk Assessment

HARN values risk management and incorporates it into the entire organization to drive the business towards both short-term and long-term goals with confidence, there are the Risk Management Committee (RMC) appointed by the Board of Directors, consisting of independent director and executives supervising of risk management for the organizational, functional, and operational levels of HARN and Subsidiaries, to ease impacts on businesses and business continuity management to ensure that they are in line with the corporate risk management policy and that such management is efficient suitable and ensure corporate objective achievement. The operating results of which shall be reported to the Board on a quarterly basis.

To this end, HARN devised the risk management plan embracing risk assessment, analysis, and review in line with its strategic and business plans to pursue objectives and goals. The plan takes into account corruption probability as well as external and internal factors that may influence both current and future business. Moreover, Risk Appetites Framework and Key Risk Indicators (KRIs) are defined to facilitate performance monitoring and reporting of each unit against the defined goals.

In 2022, HARN to assess risks and impacts from the COVID-19 pandemic so that timely response can be made. Regarding cyber security, risk was assessed and a business continuity plan was drawn. Each year, process owners are to assess prevailing parameters affecting internal control and further develop an improvement plan or enhances control to ensure alignment and up-to-datedness.

3) Control Measures

Efficient and effective control activities help HARN mitigate risks within risk appetite. The key control measures are as follows:

1. Internal control policies, including work procedures, manuals, and work instruction, and administration authorization define fund limits and approval authority hierarchy, including budgets, personnel administration, material purchase and procurement, contract, finance and accounting, and amortization.

2. Internal control measures with due regard for sound control principles, including segregation of duties, approval, review, and document filing, ensure efficient and effective conduct, credible reports and compliance with applicable laws and regulations. In 2022, HARN follow up the implementation of control plans under a given timeframe to monitor the adequacy and suitability of internal control.

3. Control measures for regularly monitoring transactions involving of the Board and executives, provide guidelines for informing the intention to purchase and/or sale of HARN securities, both their own purchase or sale and related persons, to the Company Secretary at least one working day before the actual transaction and the change of HARN security holding to SEC within three working days.

4. Preventive measures of the ongoing COVID-19 pandemic, which has prompted to make work standards, to cover potential risks and repercussions along with has defined cost management measures to support its performance outcomes affected by economic volatility and the COVID-19 pandemic.

5. The development of technology-related control activities helps clearly define IT policy are IT development policies and plans, which has cybersecurity framework by Information Communication and Technology Department (ICT) to define the direction and policy and efficiently drive digital management, thus accommodating future growth. Also staged the annual business continuity drill for cyber-attacks, designed to handle cyber-threats, emergencies in process operating.

6. The steer HARN management in the same directions through joint deliberation and decision-making on critical matters and regular monitoring subsidiaries' businesses. To this end, has appointing a representative as directors of subsidiaries. As a result, HARN has regularly participated in setting policy, acknowledging information, and monitoring performance outcomes against KPIs.

4) Information & Communication

HARN values information and communication technology systems that systematically support business execution, operation, management, and financial reports to accommodate the Board and executives' decision making. And to support efficient and effective internal control. HARN has defined information and communication technology policy and plan appropriately.

In 2021, In order to ensure appropriate internal communication for employees to receive prompt, complete, and accurate. HARN has defining efficient guidelines for managing contents and practical communication channels. To this, has clearly define responsible parties for each internal communication channel, including the intranet, e-mail, line official and digital signage as well as key communication channel to properly accommodate the Board's decision making, such as sent to the Board at least 5 business days prior to the meeting date.

As for external communication, HARN provides accurate and adequate business updates through website and Facebook. Moreover, opportunity meeting to announce operating results was arranged online to allow stakeholders to access key information more conveniently and timely, which benefits their decision making on investment. HARN has defined complaint-filing and whistleblowing measures in writing, which include complaint handling, fact investigation, conclusion, clear identification of complaint-filing channels, and whistleblowers and related parties' protection. This is to enable employees and third parties to report or provide related information on unlawful acts, fraud, or pursuit of illegal benefits.

5) Monitoring Activities

It is HARN executives' duty and responsibility to supervise and audit internal work systems to ensure efficiency and conformance to policies, requirements, and work regulations under the concise internal control system. HARN equally values the management of Security, Safety, Occupational Health and Environment, in which energy management and social responsibility are currently and to revise their operation as required. This will prevent and minimize losses concerning safety and occupational health of employees.

HARN, on an annual basis, monitors results of internal control. To elaborate, at the corporate and operational level, executives conduct an assessment using the SEC's internal control adequacy assessment forms. Should any change in tasks or work processes take place during the year, the Management Section is to duly update work procedures and control measures. In addition, also internal control to each month monitoring of any non-compliance, with a report submitted to process owners and the management meeting on a regular basis, to ensure that all parties realize the importance of compliance with business processes and internal control mechanisms. At the same time, the Internal Audit formulates annual audit plans based on key risks, changes or increase in work processes or systems, and requirement from executives and the Audit Committee to verify the adequacy and suitability of each activity.

9.2 Connected Transactions

9.2.1 Related party transaction approval measure or process

The Board meeting no. 3/2014 on May 15, 2014 resolved to establish a policy and process for approving related party transactions between HARN 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. HARN 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 Boards' or the shareholders' meeting, HARN 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:

1) Related party transactions with general commercial conditions

For related party transactions with general commercial conditions done between HARN and persons that have or may have conflict of interest or beneficial interest, at present or in the future, HARN 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. 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 HARN for business operation, or commercial transaction generally done by HARN 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 HARN or offered by HARN to persons in general
2. Prices and conditions offered by related persons to persons in general
3. Prices and conditions proven by HARN 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 for information. In case that the Audit Committee and the Board find out that such transaction has not been undertaken in compliance with the policy in place, they may jointly discuss to find a solution.

2) 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 HARN and the persons that have or may have conflict of interest or beneficial interest, at present or in the future, HARN 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 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, HARN will engage an independent expert or HARN'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, 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.

HARN will disclose the related party transactions made by HARN in the Notes to Financial Statements audited by the auditor. As shown in the Annual Registration Statement and the Annual Report (Form 56-1 One Report).

9.2.2 Connected Transactions between HARN and Individuals and Company with Potential Conflicts

As at 31 December 2022 accounting period, HARN conducted significant business transactions with its subsidiaries and related companies with common shareholders and/or Directors. Connected transactions with other entities which may result in conflicts of interest are based on market or contractual prices (the prices agreed in previous contracts), if there are no reference market prices. Details of the relationships with these companies are as follows:

Individuals / Company	Type	Relationship (As of December 31, 2022)
1. Harn Vietnam Co., Ltd., in Vietnam ("Harn Vietnam")	Distribution of printing equipment	Subsidiary, 100% owned by HARN
2. Aiyaraharn Co. Ltd., ("Aiyaraharn")	Production, purchase, sale, hiring, installation, service provider, and development of "IOT Products and Solutions"	Subsidiary, 65% owned by HARN. No shares held by HARN's related parties with potential conflicts.
3. Harn Engineering Co. Ltd., ("Harn Engineering")	Assets for rent, such as office space and warehouses	3.1 HARN's shareholder: as follow; 3.1.1 Mrs. Sirima Iamsakulrat, holding 14.01% of HARN, and holding 33.32% of Harn Engineering 3.1.2 Mr. Jain Charnnarong (younger brother of Mrs. Sirima Iamsakulrat), holding 11.80% of HARN, and holding 33.32% of Harn Engineering 3.1.3 Miss Nopporn Charnnarong (younger sister of Mrs. Sirima Iamsakulrat), holding 4.50% of HARN, and holding 33.32% of Harn Engineering 3.2 HARN's Director: as follow; 3.2.1 Mrs. Sirima Iamsakulrat 3.2.2 Mr. Jain Charnnarong
4. Phraboriban Co., Ltd. ("Phraboriban")	Assets for rent, such as warehouses	4.1 HARN's shareholder: as follow; 4.1.1 Mrs. Sirima Iamsakulrat, holding 14.01% of HARN, and holding 99.99% of Phraboriban 4.1.2 Mr. Jain Charnnarong (younger brother of Mrs. Sirima Iamsakulrat), holding 11.80% of HARN, and holding 0.001% of Phraboriban 4.2 HARN's Director: as follow; 4.2.1 Mrs. Sirima Iamsakulrat 4.2.2 Mr. Jain Charnnarong
5. Mr. Jain Charnnarong	-	Mr. Jain Charnnarong is the younger brother of Mrs. Sirima Iamsakulrat, and as the Director holding 11.80% of HARN
6. Jainnopsiri Co., Ltd. ("Jainnopsiri")	Investment, development, and management of real estate and land and buildings, including trading and auction	6.1 HARN's shareholder: as follow; 6.1.1 Mrs. Sirima Iamsakulrat, holding 14.01% of HARN, and holding 50% of Jainnopsiri 6.1.2 Mr. Jain Charnnarong (younger brother of Mrs. Sirima Iamsakulrat), holding 11.80% of HARN, and holding 50% of Jainnopsiri 6.2 HARN's Director: as follow; 6.2.1 Mrs. Sirima Iamsakulrat 6.2.2 Mr. Jain Charnnarong
7. Nutrix Public Company Limited ("Nutrix")	Factory manufacturing and distributing all types of animal feed products	7.1 HARN's shareholder: as follow; 7.1.1 Mrs. Valeeratn Chuerboonchai, holding 0.97% of HARN, and no shares held of Nutrix 7.2 HARN's Director: as follow; 7.2.1 Mrs. Valeeratn Chuerboonchai
8. Aiyarafun Co., Ltd. ("Aiyarafun")	Service provider for software design and development, information technology, and computers	8.1 HARN's subsidiaries Director: as follow; 8.1.1 Mr. Prasertsak Detudom

9.2.3 Sensibility of Connected Transactions

For fiscal years 2022 HARN and Subsidiaries engaged in key business transactions with subsidiaries with related parties. The transaction is necessary and reasonable as it is a normal business operation to support HARN's normal business. All related party transactions are based on market prices wherever available or in fair price comparable to transactions with other third parties. For transactions of employee benefit receivables, the price is referred to the employee benefit valuation by the actuary. The connected transactions the aforementioned, The Audit Committee considered, the opinion is needed and reasonable with fair price as well as being beneficial to HARN, as follow;

Connected transactions between HARN and Subsidiaries for Individuals and Company with Potential Conflicts in 2022

Potential Conflicts	Type	As of December 31, 2022 (Unit : Baht)	Needed and Sensibility of Connected Transactions
1. Harn Vietnam Co., Ltd., ("Subsidiary")	1.1 Sales 1.2 Connected Loan transactions - Long-term loans to related parties - Accrued interest receivable - Interest income	17,699 6,878,260 325,210 397,509	List of products related to printing equipment and the sales price set according to the sales policy <u>Loans</u> On March 12, 2020, HARN entered into a short-term loan agreement with Harn Vietnam in the amount of USD 200,000, and interest is charged at the rate of 6.15 percent per annum, with a one-year repayment. Later, on March 11, 2021, at the expiration of the agreement, HARN changed the condition of the loan term to the subsidiary for a period of 5 years. The agreement expires on March 11, 2026, with an interest rate of 5.85% per annum.
2. Aiyaraharn Co. Ltd., ("Subsidiary")	2.1 Installation expenses 2.2 HARN for renting an office - Lease office income - Office service income - Rental security deposit - Service security deposit - Accrued utilities income 2.3 HARN provides HR and accounting services in accordance with financial reporting standards - Service income	140,000 187,200 124,800 46,800 31,200 1,411 300,000	List of products installation related to fire extinguishing equipment and Installation expenses price set according to the price policy <u>Office Building Rental and Service Contract</u> 1. HARN agreed to rent the space on the 2nd floor, Room 211 of the office building no. 559 Soi Soonvijai 4, Rama 9 Road, Bangkok Subdistrict, Huaykwang District, Bangkok, with a total area of 52 square meters, at the rental rate of 15,600 baht and a service fee of 10,400 baht per month. The rental period is from November 22, 2020, to October 31, 2022. On the contract date, the lessee paid the security deposits for the rental and service contract in the amounts of 46,800 baht and 31,200 baht, and the contract be renewed for 2 years from November 1, 2022 to October 31, 2024. <u>Service Contract</u> 1. HARN agreed to provide staffing services, preparing salary and employee welfare, submitting documents according to the regulations of the Social Security Office, contacting government agencies related to personnel work, and preparing accounting records and financial statements in accordance with the financial reporting standards and the relevant provisions of the Revenue Code, including filing tax returns, VAT, withholding tax, and corporate income tax. These services are charged at 25,000 baht per month.
3. Harn Engineering Co. Ltd., ("Harn Engineering")	HARN receives employee benefits transfer from Harn Engineering Other receivables	1,747,319	In 2014, HARN had personnel restructuring by accepting the transfer of employees from HARN Engineering to be ones of HARN, for which the employee asset transfer contract was made between them and HARN agreed to count the length of continuous employment according to the labor law. Moreover, HARN accepted the transfer of all employees' rights and obligations, and HARN Engineering agreed to accept the employee benefit obligations during the time of being employees of HARN Engineering until the date of transfer to HARN. From the purchase and acceptance of the entire business transfer of Chillmatch Co., Ltd. and its subsidiaries on November 29, 2016, it results in HARN taking over some additional rights in employee benefit debtors of HARN Engineering and the conditions of accepting the transfer of employees, which is the same as the transaction in the previous paragraph. <u>Pricing:</u> The price is based on the independent expert's employee benefit obligation assessment. <u>Trend of Future Transaction:</u> It is a continuous transaction because HARN has to record the change in employee benefits that change every year according to the conditions of transaction calculation. <u>The Audit Committee's Opinion:</u> The transaction was caused by the personnel restructuring of HARN, resulting in the transfer of obligations and expenses related to the employees of HARN Engineering to HARN, which was considered a reasonable transaction.

Potential Conflicts	Type	As of December 31, 2022 (Unit : Baht)	Needed and Sensibility of Connected Transactions
4. Phraboriban Co., Ltd. ("Phraboriban")	HARN rented a warehouse from Phraboriban • Security deposit for building rental • Interest expenses • Lease liabilities	150,000 55,674 624,974	<u>Warehouse Building Lease Agreement</u> 1. HARN agreed to pay the rent for the warehouse space for use as a place for goods storage, assembly, and maintenance of printers and equipment. The total area is 356.38 square meters with the rental rate of 64,080 baht per month, for the period from November 1, 2020 to October 31, 2023. The security deposit under the contract was placed in the amount of 150,000 baht. <u>Pricing:</u> The market price by the rental rate is comparable to the rental price of nearby areas. <u>Trend of Future Transaction:</u> It is the transaction to be continued and in line with the office building lease agreement. <u>The Audit Committee's Opinion:</u> Such transaction is the rental of warehouse building space, which is necessary for HARN's business, and the rental rate is reasonable as the rental is comparable to the rental price of nearby areas.
5. Jainnopsiri Co., Ltd. ("Jainnopsiri")	5.1 Revenue from rendering of services • Revenue from rendering of services • Unearned revenue 5.2 HARN rented an office from Jainnopsiri • Rental deposit • Interest expense • Lease liabilities	153,683 188,033 2,000,000 2,181,398 86,202,441	Aiyarahan Co., Ltd. (a subsidiary of HARN) provides the refrigeration control system for HARN office building and sales price set according to the sales policy as shown in the notes to consolidated financial statements. <u>Office Building Rental Contract</u> HARN agreed to lease and pay the rent for the office building no. 559 Soi Soonvijai 4, Rama 9 Road, Bangkok Subdistrict, Huaykwang District, Bangkok, with a total area of 6,594 square meters at the rental rate of 130 baht per square meter per month or equal to 857,220 baht per month. The rent term under the lease contract started from January 1, 2021 to December 31, 2023 (3 years), and the lessor pledges to lease the building for another 7 years by increasing the rental rate by 10% every 3 years. The said price is the rental rate close to the market price of renting office spaces with similar nature in nearby areas, which have a rental price of about 45 - 470 baht per square meter per month. The security deposit for renting the building under this contract was placed in the amount of 2,000,000 baht. <u>Pricing:</u> The market price by the rental rate is comparable to the rental prices of nearby areas. <u>Trend of Future Transaction:</u> It is the transaction to be continued and in line with the building lease contract. <u>The Audit Committee's Opinion:</u> Such transaction is the space rental of the office building. The transaction is necessary to operate HARN's business and to serve as the location of HARN's office. The rental rate is also reasonable and comparable to the rental prices of the space in nearby areas.
	5.3 HARN office space for lease • Office rental	81,000	<u>Office Space Lease Agreement</u> HARN has rented the office space at the office building no. 559 Soi Soonvijai 4, Rama 9 Road, Bangkok Subdistrict, Huaykwang District, Bangkok, with a total area of 13.5 square meters at the rental rate of 500 baht per square meter per month or equal to 6,750 baht per month. The lease term starts from May 1, 2021, onwards. The said price is the rental rate close to the market price of the rental of office space of similar office buildings in nearby areas.
6. Aiyarafun Co., Ltd. ("Aiyarafun")	6.1 Interest expenses 6.2 Accrued interest 6.3 Short-term loans	15,000 22,808 500,000	Aiyaraham Company Limited (a subsidiary of HARN) has taken on a short-term loan in the form of promissory notes from Aiyarafun Co., Ltd., valid for 3 months, in the amount of 500,000 baht, with interest at the rate of 3% (referring to the interest rate of commercial banks, MRR-3% per annum). The loan is an unsecured loan and is due for repayment on March 17, 2023. Items related to this short-term loan appear in the consolidated financial statements.

9.2.4 Opinion of Independent Director

The Independent Directors agreed with the Board of Directors.

9.2.5 Policy Relating to Future Connected Transactions

Future connected transactions between HARN and connected companies will be conducted as part of the normal course of business as before i.e., rent of office building space and warehouse building and employee's benefit with no special favors and no transfer of benefits. For the pricing policy between HARN and connected companies, the price of products or feedstock purchased will be set in agreement and or linked to market prices. 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, HARN 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 HARN 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.

9.2.6 Appraisal Price for Related Transactions

- None -

Section 3 Financial Statements

Board of Directors' Responsibility on Financial Reports

The Board is responsible for the financial report of Harn Engineering Solutions Public Company Limited ("HARN") (previously known as Fire Victor Public Company Limited) and Subsidiary including financial information 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 (SEC) regarding preparation and presentation of financial report under the Securities and Exchange Act, taking into consideration appropriate and consistent accounting policies and accordance Financial Reporting Standards, as well as careful judgments and reasonable reporting in the preparation of the financial report, including adequate disclosure of important information in the Notes to Financial Statements according to the Report of Independent Auditor, for transparent use by shareholders and investors at large..

The Board has established and maintained good corporate governance and an effective risk management and internal control systems to reasonably ensure that the accounting information is correctly, completely and timely recorded, and adequate to sustain HARN assets and prevent fraud and material act of irregularities.

The Board has established and maintained good corporate governance and an effective risk management and internal control systems to become reasonably confident the accounting information is correctly, completely and timely recorded, and adequate to sustain HARN assets and prevent fraud and significant anomalies of irregularities.

The Board has appointed an Audit Committee comprising Independent Directors to oversee and review the reliability of the accuracy financial reports and the adequacy of internal control, risk management and internal audit to ensure effectiveness. The Audit Committee opinions on these issues. **Details in Section 2 "8.2 (Report of the Audit Committee)", page 153-155**

The Board is of the opinion that the HARN's overall internal control system is satisfactory and can reasonably ensure that the financial statements of Harn Engineering Solutions Public Company Limited and Subsidiary for the year for the year ended December 31, 2022 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 unconditionally to the financial statements in the Report of Independent Auditor presented in this Annual Registration Statement / Annual Report (Form 56-1 One Report).



Dr. Thakol Nunthirapakorn
Chairman of the Board



Mr. Thammanoon Tripetchr
Chief Executive Officer

Independent Auditor's Report

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

Opinion

I have audited the consolidated financial statements of Harn Engineering Solutions Public Company Limited and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at December 31, 2022, and the consolidated statement of comprehensive income, consolidated statement of changes in shareholders' equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, and I have audited the separate financial statements of Harn Engineering Solutions Public Company Limited (the Company), which comprise the statement of financial position as at December 31, 2022, 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 consolidated financial position of Harn Engineering Solutions Public Company Limited and its subsidiaries as at December 31, 2022, and its consolidated financial performance and its consolidated cash flows for the year then ended and the separate financial position of Harn Engineering Solutions Public Company Limited as at December 31, 2022, 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 describe in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I am independent of the Group in accordance with Code of Ethics for Professional Accountants including Independence Standards issued by the Federation of Accounting Professions (Code of Ethics for Professional Accountants) that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with the Code of Ethics for Professional Accountants. 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 consolidated financial statements and separate financial statements of the current period. These matters were addressed in the context of my audit of the consolidated financial statements and separate 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 Group and the Company had revenue from sales and service derived from five main business segments which are fire protection and projects, sanitary and air-conditioning systems, cold storage devices digital printing system and building-IoT solutions, for the year ended December 31, 2022 amounting to Baht 1,219.66 million and Baht 1,207.46 million, respectively, which have different terms and pricing conditions, including revenue from services under the fire protection installation project and building-IoT solutions, amounting to Baht 85.47 million and Baht 78.24 million or 7.01% and 6.48% of the Group's and the Company's total revenue from sales and service, respectively. The estimate of a performance obligation under the project agreement has an effect on the revenue that the Group and the Company recognized over time, which it has to recognize by the measuring progress towards complete satisfaction of a performance obligation as at December 31, 2022. 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 Group and the Company had 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 26, 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 Group and the Company had goodwill of Baht 334.67 million and Baht 334.67 million or 18.77% and 18.79% of total assets as at December 31, 2022, respectively, which is the goodwill arising from the acquisition and transfer of the entire business, which is the cold storage devices segment and digital printing system segment. The Group and the Company have 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 Group and the Company have disclosed goodwill in the notes to the financial statements No. 3.10 which describes the accounting policies and No.14 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 consolidated financial statements and separate 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 consolidated financial statements and separate financial statements, management is responsible for assessing the Group's and 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 Group and the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's and 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 consolidated financial statements and separate 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 consolidated financial statements and separate 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 consolidated financial statements and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and 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 Group's and 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 consolidated financial statements and separate financial Statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements and separate financial statements, including the disclosures, and whether the consolidated financial statements and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

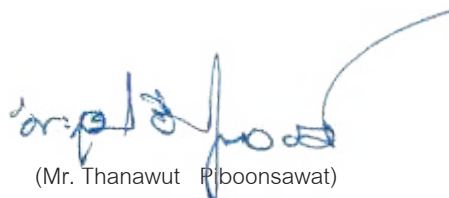
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that 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 consolidated financial statements and separate 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

Financial Statements

HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

STATEMENT OF FINANCIAL POSITION

AS AT DECEMBER 31, 2022

		<u>ASSETS</u>			
		Baht			
		Consolidated financial statements		Separate financial statements	
Note		2022	2021	2022	2021
CURRENT ASSETS					
Cash and cash equivalents	5	202,861,271	242,830,421	196,195,700	237,687,826
Trade and other current receivables	4.4, 6	256,976,034	255,438,587	256,996,182	253,139,212
Current contract assets	7	13,155,701	10,215,840	10,920,240	8,316,793
Inventories	8	431,088,369	328,295,971	429,557,747	325,990,471
Other current financial assets	9	96,725,564	39,614,195	96,725,564	39,614,195
Other current assets		725,779	1,306,314	454,535	1,113,274
TOTAL CURRENT ASSETS		1,001,532,718	877,701,328	990,849,968	865,861,771
NON-CURRENT ASSETS					
Investment in subsidiaries	10	-	-	2,357,444	2,357,444
Trade and other non-current receivables	6	16,980,743	9,182,927	16,980,743	9,182,927
Long-term loans to subsidiary	4.4	-	-	6,878,260	6,649,380
Investment property	11	153,346,577	153,942,681	153,346,577	153,942,681
Property, plant and equipment	12	124,556,265	135,775,492	124,396,756	135,659,285
Right-of-use assets	13	83,242,037	94,253,682	83,242,037	94,253,682
Goodwill	14	334,672,061	334,672,061	334,672,061	334,672,061
Customer relationship	15	12,622,934	26,477,794	12,622,934	26,477,794
Intangible assets	16	11,819,566	15,985,010	11,819,566	15,985,010
Deferred tax assets	17	15,183,585	9,425,953	14,921,144	9,389,839
Other non-current assets	4.4	29,146,836	28,306,373	28,992,420	28,306,373
TOTAL NON-CURRENT ASSETS		781,570,604	808,021,973	790,229,942	816,876,476
TOTAL ASSETS		1,783,103,322	1,685,723,301	1,781,079,910	1,682,738,247

HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

STATEMENT OF FINANCIAL POSITION (CONT.)

AS AT DECEMBER 31, 2022

LIABILITIES AND SHAREHOLDERS' EQUITY

		Baht			
		Consolidated financial statements		Separate financial statements	
Note		2022	2021	2022	2021
CURRENT LIABILITIES					
Trade and other current payables	4.4, 18	270,510,021	203,950,149	267,150,862	202,279,112
Current portion of lease liabilities	4.4, 19	9,228,565	9,055,775	9,228,565	9,055,775
Short-term loan from related parties	4.4	500,000	500,000	-	-
Corporate income tax payable		13,407,998	8,703,941	13,407,998	8,574,701
Other current provisions		2,311,150	2,097,485	2,258,762	2,097,485
Other current liabilities		2,682,007	1,410,913	2,682,007	1,410,913
TOTAL CURRENT LIABILITIES		298,639,741	225,718,263	294,728,194	223,417,986
NON-CURRENT LIABILITIES					
Lease liabilities	4.4, 19	78,348,031	87,382,191	78,348,031	87,382,191
Deferred tax liabilities	17	-	54,146	-	-
Non-current provisions for employee benefit	20	30,765,106	27,968,095	30,518,395	27,792,471
Other non-current liabilities		26,725,725	26,067,217	26,725,724	26,067,217
TOTAL NON-CURRENT LIABILITIES		135,838,862	141,471,649	135,592,150	141,241,879
TOTAL LIABILITIES		434,478,603	367,189,912	430,320,344	364,659,865
SHAREHOLDERS' EQUITY					
Share capital					
Authorized share capital					
584,500,000 ordinary shares of Baht 0.50 each		292,250,000	292,250,000	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	292,250,000	292,250,000
Share premium on ordinary shares	21	776,416,427	776,416,427	776,416,427	776,416,427
Surplus on share-based payment transaction	22	6,028,004	6,396,379	6,028,004	6,396,379
Retained earnings					
Appropriated					
Legal reserve	23	29,225,000	29,225,000	29,225,000	29,225,000
Unappropriated		244,050,922	213,716,829	246,840,135	213,790,576
Other components of shareholders' equity		22,368	(38,218)	-	-
TOTAL EQUITY ATTRIBUTABLE TO OWNERS OF THE PARENT		1,347,992,721	1,317,966,417	1,350,759,566	1,318,078,382
Non-controlling interest		631,998	566,972	-	-
TOTAL SHAREHOLDERS' EQUITY		1,348,624,719	1,318,533,389	1,350,759,566	1,318,078,382
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY		1,783,103,322	1,685,723,301	1,781,079,910	1,682,738,247

HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED DECEMBER 31, 2022

	Note	Baht			
		Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
Revenues					
Revenues from sales	4.5	1,073,327,753	909,158,785	1,068,960,390	900,779,895
Revenue from rendering of services		146,333,356	116,823,737	138,500,147	110,838,266
Other income	4.5	22,628,622	20,149,943	23,820,820	21,186,787
Total revenues		1,242,289,731	1,046,132,465	1,231,281,357	1,032,804,948
Expenses					
Cost of sales		753,407,017	615,614,286	749,538,739	610,358,286
Cost of rendering of services		119,849,153	98,091,231	113,761,686	93,748,136
Distribution cost		113,160,858	107,571,584	111,009,372	105,425,962
Administrative expenses	4.5	141,824,544	132,500,700	140,005,341	131,158,613
Total expenses		1,128,241,572	953,777,801	1,114,315,138	940,690,997
Profit from operating activities		114,048,159	92,354,664	116,966,219	92,113,951
Finance cost	4.5	2,294,299	2,309,545	2,279,299	2,301,737
Profit before tax expenses		111,753,860	90,045,119	114,686,920	89,812,214
Tax expenses	28	22,904,881	17,813,273	23,187,501	17,649,327
Profit for the year		88,848,979	72,231,846	91,499,419	72,162,887
Other comprehensive income					
Components of other comprehensive income that will be reclassified to profit or loss:					
Exchange differences on translating financial statement		60,586	415,679	-	-
		60,586	415,679	-	-
Components of other comprehensive income that will not be reclassified to profit or loss:					
Gains on re-measurements of defined benefit plans, net of tax	20	-	832,146	-	832,146
		-	832,146	-	832,146
Other comprehensive income for the year, net of tax		60,586	1,247,825	-	832,146
Total comprehensive income for the year		88,909,565	73,479,671	91,499,419	72,995,033
Profit attributable to					
Owners of the parent		88,783,953	72,271,139	91,499,419	72,162,887
Non-controlling interest		65,026	(39,293)	-	-
		88,848,979	72,231,846	91,499,419	72,162,887
Total comprehensive income attributable to					
Owners of the parent		88,844,539	73,518,964	91,499,419	72,995,033
Non-controlling interest		65,026	(39,293)	-	-
		88,909,565	73,479,671	91,499,419	72,995,033
Basic earnings per share	29				
Profit attributable to owners of the parent		0.15	0.12	0.16	0.12
Weighted average number of ordinary shares (shares)		584,500,000	584,500,000	584,500,000	584,500,000

HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

FOR THE YEAR ENDED DECEMBER 31, 2022

Baht

		Consolidated financial statements								Total shareholders' equity
		Equity attributable to owners of the parent						Non-controlling interest		
		Issued and paid-up share capital	Premium on ordinary shares	Surplus on share-based payment transactions	Retained earnings		Other components of equity		Total equity attributable to owners of the parent	
	Note				Appropriated legal reserve	Unappropriated	Exchange differences on translating financial statements			
Beginning balance as at January 1, 2021		292,250,000	776,416,427	3,732,848	29,225,000	216,598,102	(453,897)	1,317,768,480	606,265	1,318,374,745
Dividend	24	-	-	-	-	(75,984,558)	-	(75,984,558)	-	(75,984,558)
Employee joint investment program expenses	22	-	-	7,219,655	-	-	-	7,219,655	-	7,219,655
Treasury shares	22	-	-	(4,556,124)	-	-	-	(4,556,124)	-	(4,556,124)
Total comprehensive income for the year		-	-	-	-	72,271,139	-	72,271,139	(39,293)	72,231,846
Profit (loss) for the year		-	-	-	-	832,146	415,679	1,247,825	-	1,247,825
Other comprehensive income for the year		-	-	-	-	-	-	-	-	-
Ending balance as at December 31, 2021		292,250,000	776,416,427	6,396,379	29,225,000	213,716,829	(38,218)	1,317,966,417	566,972	1,318,533,389
Dividend	24	-	-	-	-	(58,449,860)	-	(58,449,860)	-	(58,449,860)
Employee joint investment program expenses	22	-	-	4,556,090	-	-	-	4,556,090	-	4,556,090
Treasury shares	22	-	-	(4,924,465)	-	-	-	(4,924,465)	-	(4,924,465)
Total comprehensive income for the year		-	-	-	-	88,783,953	-	88,783,953	65,026	88,848,979
Profit (loss) for the year		-	-	-	-	-	-	-	-	-
Other comprehensive income (expense) for the year		-	-	-	-	-	60,586	60,586	-	60,586
Ending balance as at December 31, 2022		292,250,000	776,416,427	6,028,004	29,225,000	244,050,922	22,368	1,347,992,721	631,998	1,348,624,719

HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY (CONT.)

FOR THE YEAR ENDED DECEMBER 31, 2022

Baht

Separate financial statements							
Note	Issued and paid-up share capital	Premium on ordinary shares	Surplus on share-based payment transactions	Retained earnings		Total shareholders' equity	
				Appropriated legal reserve	Unappropriated		
Beginning balance as at January 1, 2021	292,250,000	776,416,427	3,732,848	29,225,000	216,780,101	1,318,404,376	
Dividend	24	-	-	-	(75,984,558)	(75,984,558)	
Employee joint investment program expenses	22	-	7,219,655	-	-	7,219,655	
Treasury shares	22	-	(4,556,124)	-	-	(4,556,124)	
Total comprehensive income for the year							
Profit for the year		-	-	-	72,162,887	72,162,887	
Other comprehensive income for the year		-	-	-	832,146	832,146	
Ending balance as at December 31, 2021	292,250,000	776,416,427	6,396,379	29,225,000	213,790,576	1,318,078,382	
Dividend	24	-	-	-	(58,449,860)	(58,449,860)	
Employee joint investment program expenses	22	-	4,556,090	-	-	4,556,090	
Treasury shares	22	-	(4,924,465)	-	-	(4,924,465)	
Total comprehensive income for the year							
Profit for the year		-	-	-	91,499,419	91,499,419	
Ending balance as at December 31, 2022	292,250,000	776,416,427	6,028,004	29,225,000	246,840,135	1,350,759,566	

HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

STATEMENT OF CASH FLOWS

FOR THE YEAR ENDED DECEMBER 31, 2022

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Cash flows from operating activities				
Profit for the year	88,848,979	72,231,846	91,499,419	72,162,887
Adjustment to reconcile profit for the year to				
net cash provided by (used in) operating activities :				
Bad debt and expected credit losses	1,417,212	2,813,895	1,420,913	2,807,363
Depreciation and amortization	31,254,999	30,165,663	31,217,484	30,137,178
Amortization of customer relationship	13,854,860	13,854,860	13,854,860	13,854,860
Loss on devaluation of inventories	5,745,331	3,922,061	4,760,466	3,922,061
Loss on disposals of equipment	76,690	265,927	76,690	265,927
Unrealized (gain) loss on exchange rate	(135,596)	(1,464,833)	(292,793)	(1,615,511)
Unrealized (gain) loss on revaluation of				
other current financial assets	1,501,203	(2,860,366)	1,501,203	(2,860,366)
Loss on impairment of equipments (reversal)	-	(50,654)	-	(50,654)
Interest income	(219,464)	(182,520)	(616,604)	(570,968)
Dividend income	(2,530,932)	-	(2,530,932)	-
Employee's benefit expenses	2,797,011	1,907,265	2,725,924	1,811,827
Employee Joint Investment Program expenses	4,556,090	7,219,655	4,556,090	7,219,655
Finance cost	2,294,299	2,309,545	2,279,299	2,301,737
Tax expense	22,904,881	17,813,273	23,187,501	17,649,327
Profit from operating before changes in operating assets and liabilities	172,365,563	147,945,617	173,639,520	147,035,323
(Increase) decrease in operating assets				
Trade and other current receivables	(10,437,759)	(4,826,091)	(13,076,076)	(3,491,121)
Current contract assets	(2,947,229)	2,583,100	(2,609,972)	3,741,762
Inventories	(109,123,518)	(78,311,067)	(108,941,144)	(79,702,169)
Other current assets	646,627	(906,731)	658,739	(771,191)
Other non-current assets	(608,048)	(3,119,913)	(686,048)	(3,119,913)
Increase (decrease) in operating liabilities				
Trade and other current payables	69,100,616	34,062,382	67,832,802	36,409,853
Other current provisions	213,665	347,165	161,277	347,165
Other current liabilities	1,271,094	(233,675)	1,271,094	(233,675)
Non-current provisions for employee benefit	-	(664,000)	-	(664,000)
Other non-current liabilities	658,508	1,129,856	658,508	1,129,856
Cash generated from operating	121,139,519	98,006,643	118,908,700	100,681,890
Employee joint investment program expenses paid	(4,924,465)	(4,556,124)	(4,924,465)	(4,556,124)
Income tax paid	(24,235,256)	(25,200,914)	(23,885,509)	(25,195,635)
Net cash provided by operating activities	91,979,798	68,249,605	90,098,726	70,930,131

HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2022

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Cash flows from investing activities				
Cash payments for purchases of other current financial assets	(58,562,577)	(29,795,885)	(58,562,577)	(29,795,885)
Cash payments for purchases of investment property	(62,150)	-	(62,150)	-
Cash payments for purchases of equipment	(6,700,168)	(14,095,266)	(6,619,712)	(14,072,892)
Cash receipts from disposal of equipment	896,086	171,199	896,086	171,199
Cash payments for purchases of intangible assets	(523,959)	(2,153,440)	(523,959)	(2,153,440)
Interest received	169,470	182,521	555,788	552,489
Dividend received	2,530,932	-	2,530,932	-
Net cash used in investing activities	(62,252,366)	(45,690,871)	(61,785,592)	(45,298,529)
Cash flows from financing activities				
Cash payments for short-term loans from related parties	(600,000)	-	-	-
Cash receipt for short-term loans from related parties	600,000	500,000	-	-
Cash payments for lease liabilities	(11,355,400)	(11,277,500)	(11,355,400)	(11,277,500)
Dividend paid	(58,449,860)	(75,984,558)	(58,449,860)	(75,984,558)
Net cash used in financing activities	(69,805,260)	(86,762,058)	(69,805,260)	(87,262,058)
Net increase (decrease) in cash and cash equivalents	(40,077,828)	(64,203,324)	(41,492,126)	(61,630,456)
Cash and cash equivalents at beginning of year	242,830,421	306,074,340	237,687,826	299,318,282
Effect of translation adjustment on foreign currency				
financial statements	108,678	959,405	-	-
Cash and cash equivalents at end of year	202,861,271	242,830,421	196,195,700	237,687,826
Supplemental disclosures of cash flows information :				
Non-Cash transaction				
Liabilities incurred from acquisition of equipment and intangible assets				
Liabilities incurred from acquisition of equipment				
and intangible assets - beginning of year	3,394,300	630,517	3,394,300	630,517
Inventories transferred to equipment	(613,402)	(3,945,002)	(613,402)	(3,945,002)
Equipment transferred to expense	(4,750)	(606,987)	(4,750)	(606,987)
<u>Add</u> Purchases of equipment and intangible assets	4,962,863	23,564,478	4,882,407	23,542,104
<u>Less</u> Cash payments	(7,224,127)	(16,248,706)	(7,143,671)	(16,226,332)
Liabilities incurred from acquisition of				
fixed assets and intangible assets - ending of year	514,884	3,394,300	514,884	3,394,300

Notes to the Financial Statements

HARN ENGINEERING SOLUTIONS PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

NOTES TO THE FINANCIAL STATEMENTS

DECEMBER 31, 2022

1. GENERAL INFORMATION

(a) Legal status and address of the company group

Company

The Company was registered to be a limited company with the Ministry of Commerce 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 address of its registered head office are as follows:

Locate at: 559 Soi Soonvijai 4, Rama 9 Road, Bangkapi, Huaykwang, Bangkok 10310, Thailand.

Subsidiaries

1) Harn Vietnam Company Limited

Locate at : 5th floor, Vietcomreal Building, 68 Nguyen Hue, Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam

2) Aiyaraharn Company Limited

Locate at: 559 Soi Soonvijai 4, 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.

The subsidiary 1 operates the main business related to the selling of printing equipment and subsidiary 2 operates in providing Smart Building Business Solution.

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 Basis for the preparation of consolidated financial statements

2.2.1 The consolidated financial statements have included the financial statements of Harn Engineering Solutions Public Company Limited and its subsidiaries as follows;

Company name	Type of business	Percentage of shareholding		Country of establishment
		% of share capital		
		2022	2021	
Direct shareholding				
Harn Vietnam Co., Ltd.	Printing equipment	100.00	100.00	Vietnam
Aiyaraham Co., Ltd.	Building-IoT Solutions	65.00	65.00	Thailand

2.2.2 The Company is deemed to have control over an investee or subsidiary if it has rights, or is exposed, to variable returns from its involvement with the investee, and it has the ability to direct the activities that affect the amount of its returns.

2.2.3 Subsidiaries is fully consolidated, being the date on which the Company obtains control, and continue to be consolidated until the date when such control ceases.

2.2.4 The financial statements of an overseas subsidiaries is translated into Thai Baht at the closing exchange rate as to assets and liabilities, and at monthly average exchange rates as to revenues and expenses. The resultant differences have been shown under the caption of "Currency translation changes of the financial statements of foreign entity" in shareholders' equity.

2.2.5 The consolidated financial statements are prepared by using uniform accounting policies. So that the transaction and the others event which are the same or the similar circumstances have been used the identical policies to record those transaction.

2.2.6 Material balances and transactions between the Company and its subsidiaries companies have been eliminated from the consolidated financial statements.

2.3 Financial reporting standards that became effective in the current year

During the year, the Company and its subsidiaries have adopted the revised financial reporting standards, which are effective for fiscal years beginning on or after January 1, 2022. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards with most of the changes directed towards clarifying accounting practices, accounting guidance and disclosures in the notes to the financial statements and, for some standards, providing temporary reliefs or temporary exemptions to users of the standards.

The adoption of these financial reporting standards does not have any significant impact on the financial statements in the current year.

2.4 Revised Financial Reporting Standards that will become effective for the financial statements with the accounting period beginning on or after January 1, 2023

The Federation of Accounting Professions has announced to apply several revised financial reporting standards in the Royal Gazette. This will become effective for the financial statements with the accounting period beginning on or after January 1, 2023. This revision is for the financial reporting standards to be clearer and more appropriate and to conform with international financial reporting standards. Such revision does not affect the principles of the standards and does not affect the users of the financial reporting standards adopted before 2023.

The management of the Company and its subsidiaries believe that this revision of the standards will not significantly affect the financial statements.

2.5 New Financial Reporting Standards

The Federation of Accounting Professions has announced to apply the Financial Reporting Standard No.17 on "Insurance Contract" in the Royal Gazette. This standard requires to comply with the defined criteria of the international reporting standards including various related improvements. The effective date is to apply on the financial statements for the accounting period beginning on or after January 1, 2025.

3. SIGNIFICANT ACCOUNTING POLICIES

3.1 Business combinations

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

The Company's and its subsidiaries's control are 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 and its subsidiaries to the previous owners of the acquiree, and equity interests issued by the Company and its subsidiaries. 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 and its subsidiaries measures any non-controlling interest at its proportionate interest in the identifiable net assets of the acquiree.

Transaction costs that the Company and its subsidiaries 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 Financial instruments

Classification and measurement of financial assets

Financial assets are classified, at initial recognition, as to be subsequently measured at amortized cost, fair value through other comprehensive income, or fair value through profit or loss. The classification of financial assets at initial recognition is driven by the Company and its subsidiaries' business model for managing the financial assets and the contractual cash flows characteristics of the financial assets.

Equity instruments can be classified and cannot be changed by two types of measurement which are measuring fair value through profit or loss or measuring fair value through other comprehensive income that without recycling to profit or loss.

The initial recognition of financial assets that are not measured at fair value through profit or loss with fair value plus or deduct transaction cost directly related to the acquisition or issuance. Financial assets that are measured at fair value through profit or loss, transaction costs are recognized as expense in profit or loss.

Subsequent measurement of debt instruments by 3 methods depend on the classification of debt instruments.

- Financial assets measured at amortized cost when financial assets are held to receive cash flow under the agreement and condition of the agreement of the financial assets that generate cash flow to pay the principal and interest from the principal balance on the specified date only. Such financial assets have to be calculated using the effective rate and are subject to impairment assessment. Profit or loss arising from derecognized, modified or impaired will be recognized in profit or loss.
- Financial assets measured at fair value through other comprehensive income when financial assets are held to receive cash flow under the agreement and to sell financial assets and the agreement condition of financial assets generating cash flow that only pays the principal and interest from the principal balance on the specified date. The change of value of financial assets is recognized through other comprehensive income except loss on impairment and interest income and gain and loss on exchange rate are recognized as profit or loss upon recognized of financial assets. Earning or deficit previously recognized in other comprehensive income has to be reclassified into profit or loss. Such financial asset has to be calculated using the effective interest rate same as financial assets measured at amortized cost.
- Financial assets measured at fair value through profit or loss when financial assets that do not meet the criteria for amortized cost or financial assets measured at fair value through other comprehensive income will be presented in the statement of financial position at fair value by recognizing the net change of fair value in profit or loss.

Subsequent valuation of equity instruments must present equity instruments using the fair value and record profit/loss from change in fair value through profit or loss or other comprehensive income depending on equity instruments classification.

Classification and valuation of financial liabilities

The Company and its subsidiaries are recognized initially of financial liabilities at fair value net of transaction costs and classified as financial liabilities as financial liabilities subsequently measured at amortized cost using the effective rate. The amortized cost is calculated taking into account fees or costs that are an integral part of the effective rate. Amortization by the effective rate is presented as part of financial costs in profit or loss.

Derecognition of financial instruments

Financial assets will be derecognized from the account when the right to receive cash flow of such asset has ended or when the right to receive cash flow of the assets is transferred including upon the transfer of all risk and consideration of that asset or transfer of internal control in that asset although there is no transfer or maintaining of nearly all risk and consideration of such asset.

Financial liabilities will be derecognized from the account when the obligation of such liabilities has been complied, the obligation is cancelled or the obligation has ended. In case existing financial liabilities are changed to new liabilities from one single lender with considerably different requirements or there is a significant amendment in the requirements of existing liabilities, these are considered as recognition old liabilities and recognizing new liabilities by recognizing the difference of such carrying value under profit or loss.

Impairment of financial assets

Expected credit loss for financial assets measured at amortized cost or debt instrument financial asset measured at fair value through other comprehensive income and assets arising from credit facility obligation and financial guarantee agreement are assessed without having to wait for the credit event to occur first. The Company and its subsidiaries use the general approach in considering the allowance for loss on impairment. For trade receivables, the Company and its subsidiaries apply a simplified approach in calculating ECLs. The Company and its subsidiaries recognize a loss based on lifetime ECLs at each reporting date. It is based on its historical credit loss experience and adjusted for forward-looking factors specific to the debtors and the economic environment.

Offset of financial instruments

Financial assets and liabilities will be offset and presented at net balance in the statement of financial position in the case legally enforced in offsetting the recognized amount. The Company and its subsidiaries intend to pay the net balance or intends to receive assets and settle payment of liabilities at the same time.

Derivatives and hedging activities

Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The accounting for subsequent changes in fair value depends on whether the derivative is designated as a hedging instrument in hedge accounting, and if so, the nature of the item being hedged. The Company and its subsidiaries designate certain derivatives as either:

- Hedges of the fair value of recognised assets or liabilities or unrecognized firm commitments (fair value hedges); or
- Hedges of a particular risk associated with the cash flows of recognized assets and liabilities and highly probable forecast transactions (cash flow hedges).

Derivatives that is not applied hedge accounting is classified as an asset or liability when the remaining maturity of the hedged item is more than 12 months; it is classified as a current asset or liability when the remaining maturity of the hedged item is less than 12 months.

Certain derivative instruments do not qualify for hedge accounting. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognised immediately in profit or loss and are included in other gains (losses).

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 and its subsidiary entered into forward foreign exchange contracts in asset and liability management activities to control exposure to fluctuations in foreign exchange rates.

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.

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 and its subsidiary have no policy to speculate in or engage in the trading of any derivative financial instruments.

3.4 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.

3.5 Trade and other current receivables / current contract assets

Trade other current receivables / current contract assets are recognized initially at the amount of consideration that is unconditional unless they contain significant financing components, when they are recognized at its present value.

Trade other current receivables / current contract assets are stated at the amount expected to be collectible. The Company and its subsidiaries apply the TFRS 9 simplified approach to measuring expected credit losses which uses a simplified approach, which requires expected lifetime losses to be recognised from initial recognition of the receivables. To measure the expected credit losses, trade receivables have been grouped based on the days past due. The expected loss rates are based on the payment profiles and the corresponding historical credit losses which are adjusted to reflect the current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables. The Company and its subsidiaries have identified the GDP, the unemployment rate and the consumer price index of the countries in which it sells its goods and services to be the most relevant factors, and accordingly adjusts the historical loss rates based on expected changes in these factors. The impairment losses are recognised in profit or loss within administrative expenses.

3.6 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.

3.7 Investments in subsidiaries

Subsidiaries is a company in which the Company has the power to control the financial and operating policies generally accompanying a shareholding of more than one-half of the voting rights.

Investment in subsidiaries is stated at cost net from allowance on impairment (if any). Loss on impairment of investment will be recognized as loss in the statement of comprehensive income.

3.8 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	10
Tool and equipment	5

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

3.9 Property, plant and equipment

Recognition and measurement

Land is stated at cost, plant and 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 subsidiaries, 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
Factory building	40
Building improvements	10
Tool and equipment	5
Furniture and office equipment	5
Vehicles	5 - 7
Assets for rental and demonstration	5 - 10

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.

3.10 Goodwill

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

3.11 Intangible asset

Other intangible assets

Other intangible asset, which are acquired by the Company and its subsidiaries 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.

3.12 Impairment of assets

The carrying amounts of the Company's and its subsidiaries'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.

3.13 Share-based payment

The fair value of the shares as at grant date to the management and employees is recognized as employee expense along with the increase in shareholder's equity throughout the period that employee is able to access the rights without restriction. The amount recognized is expense to be adjusted to reflect the rights to purchase shares under the term of service that is not the term of equity market.

3.14 Leases

At inception of a contract, the Company and its subsidiaries assess whether the contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Company and its subsidiaries assess the lease term for the non-cancellable period as stipulated in lease contract or the remaining period of active leases at the date of initial application together with any period covered by an option to extend the lease if it is reasonably certain to be exercised or any periods covered by an option to terminate the lease if it is reasonably certain not to be exercise by considering the effect of changes in technology and/or the other circumstance relating to the extension of the lease term.

Right-of-use assets-as a lessee

Right-of-use assets are recognized at the commencement date of the lease. Right-of-use assets are stated at cost, less any accumulated depreciation and impairment losses (if any), and adjusted for any remeasurement of lease liabilities (if any). The cost of right-of-use assets includes the amount of lease liabilities recognized, initial direct costs incurred, and lease payments made at or before the commencement date, less any lease incentives received.

The cost of right-of-use assets also includes an estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease.

Right-of-use assets are calculated by reference to their costs on a straight-line basis over the shorter of the lease term and the estimated useful lives for each of right-of-use assets.

Lease liabilities

At the commencement date of the lease, lease liabilities are stated at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable (if any) and amount expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Company and its subsidiaries and payments of penalties for terminating the lease, if the lease term reflects the Company and its subsidiaries exercising the option to terminate.

In calculating the present value of lease payments, the Company and its subsidiaries use its incremental borrowing rate, which is determined by referring to the government bond yield adjusted with risk premium depending on the lease term, at the lease commencement date if the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of the interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments or a change in the assessment of an option to purchase the underlying asset.

Short-term leases and leases of low-value assets

The Company and its subsidiaries apply the short-term lease recognition exemption to its short-term leases (those leases that have a lease term of 12 months or less from the commencement date and not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases that are considered of low value. Lease payments on short-term and leases of low-value assets are recognized as expense in profit and loss on a straight-line basis over the lease term.

3.15 Employee benefits**Short-term benefits**

The Company and its subsidiaries are 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 and its subsidiaries 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 and its subsidiaries recognizes all actuarial gains (losses) immediately in other comprehensive income.

3.16 Revenues**Revenue from sale of goods**

Revenue from sale of goods is recognized at the point in time when control of the asset is transferred to the customer, generally on delivery of the goods. Revenue is measured at the amount of the consideration received or receivable, excluding value added tax, of goods supplied after deducting returns and discounts.

For sale with warranties to assure that the goods comply with agree-upon specifications, the Company recognized the warranty as provisions, contingent liabilities and contingent assets.

The service-type warranties provided customers with a service in addition to the assurance that the product complies with agree-upon specifications is recognized as revenue over the period in which the service is provided.

Revenue from rendering of services

Revenue from project services is recognized over time in accordance with the measuring progress towards complete satisfaction of a performance obligation, based on the costs incurred to the satisfaction of a performance obligation relative to the total expected costs to the satisfaction of that performance obligation. In some circumstances, the Company and its subsidiaries may not be able to reasonably measure the outcome of a performance obligation, but the Company and its subsidiaries expect to recover the costs incurred in satisfying the performance obligation. In those circumstances, the Company and its subsidiaries shall recognize revenue only to the extent of costs incurred until such time that it can reasonably measure the outcome of the performance obligation.

Revenue from providing maintenance service is recognized over time when services have been rendered considering the straight-line method over the term of the contracts.

Revenue from other service is recognized when services have been rendered.

The recognized revenue which is not yet due per the contracts has been presented as "Accrued service income /Unbilled receivables" in the statement of financial position, which is classified as trade receivables when the Company has right to receive without condition such as upon completion of services and acceptance by the customer.

Revenue from rental

Revenue from rental is recognized over time on a straight-line method over the term of the contracts.

Deferred revenue

The obligation to transfer goods or service to a customer for which the Company and its subsidiaries have received consideration or an amount of consideration is due from the customer is presented as "Deferred revenue" in the statement of financial position, which is classified as other payables under trade and other payable. Deferred revenue will be recognized as revenue when the Company completely perform the obligation stated in the contract.

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 consolidated 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 and its subsidiaries believe 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 and its subsidiaries 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.

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 an applying accounting policies

The preparation of financial statements in conformity with generally accepted accounting principles requires the Company and its subsidiaries are 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 and its subsidiaries 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 and its subsidiaries are 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 the expected credit loss based on the payment profiles and the corresponding historical credit losses which are adjusted to reflect the current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables such as GDP, the unemployment rate and the consumer price index.

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 and its subsidiaries 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 and its subsidiaries have 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 and its subsidiaries have recorded provision for penalty from delay delivery in the financial statements. However, actual results could differ from the estimates.

Determining the lease term of contracts with renewal and termination options

The Company and its subsidiaries determine the lease term as the non-cancellable term of the lease, together with any period covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised. The management is required to use judgment in evaluating whether it is reasonably certain whether or not to exercise the option to renew or terminate the lease, considering all relevant factors that create an economic incentive to exercise either the renewal or termination. After the commencement date, the Company and its subsidiaries reassess the lease term if there is a significant event or change in circumstances that is within its control and affects its ability to exercise or not to exercise the option to renew or to terminate.

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 and right-of-use assets/Depreciation

In determining depreciation of plant and equipment and right-of-use assets, 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 and right-of-use assets, 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 and its subsidiaries 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 and its subsidiaries are 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 20.

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.

Estimating the incremental borrowing rate

The Company and its subsidiaries cannot readily determine the interest rate implicit of the lease. Therefore, the market rate of the Company and its subsidiaries are used to discount lease liabilities. The incremental borrowing rate is the rate of interest that the Company and its subsidiaries would have to pay for necessary borrowing to acquire the assets, or assets with close value to right-of-use assets in similar economic environment, borrowing period and borrowing security.

(2) Key sources of estimation uncertainty

Fair value measurements and valuation processes

In estimating the fair value of an asset or liability, the Company and its subsidiaries use market-observable data to the extent it is available. Where Level 1 inputs are not available, the Company and its subsidiaries engage 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 31.

4. RELATED PARTY TRANSACTIONS

The Company and its subsidiaries 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.

4.1 Types of relationship of related parties were as follows:

Company/Person name	Country/ Nationality	Related	Relationship
Harn Vietnam Co., Ltd.	Vietnam	Subsidiary	Major shareholder
Aiyaraharn Co., Ltd.	Thailand	Subsidiary	Major shareholder
Harn Engineering Co., Ltd.	Thailand	Related company	Directorships and/or common shareholders
Phraboriban Co., Ltd.	Thailand	Related company	Directorships and/or common shareholders
Nutrix Plc.	Thailand	Related company	Directorships and/or common shareholders
Jannopsiri Co., Ltd.	Thailand	Related company	Directorships and/or common shareholders
Aiyarafun Co., Ltd.	Thailand	Related company	Directorships and/or common shareholders of subsidiary
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
Mr. Prasertsak Detudom	Thai	Related person	Directorships and/or common shareholders
Mr. Sathit Wanitchaikit	Thai	Related person	Directorships and/or common shareholders
Key management personnel	Thai	Related person	Authorized person and responsible in management

4.2 Bases of measurement for intercompany revenues and expenses

	Pricing Policy
Sale of goods	Market price
Purchase of goods	Market price
Purchase and sale of equipment and intangible asset	Contractually agreed prices
Installation expenses	Market price
Other income	Contractually agreed prices
Rental and service expenses	Contractually agreed prices
Compensation to management	As approved by director and / or shareholder
Interest income	Contract price
Interest expenses	Contract price

4.3 Significant agreements with related parties. The Company and its subsidiaries entered into office building rental agreement as follows:

	As at December 31, 2022		
	Lessor	Period	Rate per month (Baht)
Office rental agreement	Jannopsiri Co., Ltd.	9 year	857,220
	Phraboriban Co., Ltd.	3 year	64,080

During the year ended December 31, 2021, there were rental agreements that were cancelled had been shown as follows:

	Lessor	Period	Rate per month (Baht)
Warehouse rental agreement	Mr. Jain Charnnarong	4.4 year	45,947 - 53,100
	Harn Engineering Co., Ltd.	4.7 year	292,105 - 413,916

4.4 Balances with the related parties as at December 31, 2022 and 2021 consisted of:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Trade and other current receivables				
Subsidiaries				
Harn Vietnam Co., Ltd.	-	-	325,210	314,388
Aiyaraham Co., Ltd.	-	-	1,412	-
Related companies				
Harn Engineering Co., Ltd.	1,747,319	1,747,319	1,747,319	1,747,319
Jannopsiri Co., Ltd.	-	1,006	-	1,006
	<u>1,747,319</u>	<u>1,748,325</u>	<u>2,073,941</u>	<u>2,062,713</u>
Rental deposit				
Related companies				
Phraboriban Co., Ltd	150,000	150,000	150,000	150,000
Jannopsiti Co., Ltd.	2,000,000	2,000,000	2,000,000	2,000,000
	<u>2,150,000</u>	<u>2,150,000</u>	<u>2,150,000</u>	<u>2,150,000</u>

Loan to subsidiary

Movements of loans to subsidiary for the years ended December 31, 2022 and 2021 were as follows:

	Separate financial statements			
	2022		2021	
	USD	Baht	USD	Baht
Harn Vietnam Co., Ltd.				
Beginning balance	200,000	6,649,380	200,000	5,973,480
Addition	-	-	-	-
Deduction	-	-	-	-
Conversion of unrealized on exchange rate	-	228,880	-	675,900
Ending balance	200,000	6,878,260	200,000	6,649,380

On March 12, 2020, the Company entered into loan agreement with the subsidiary in the amount of USD 200,000. The interest rate has been charged at 6.15% per annum in the term of year. Later, on March 11, 2021, the company renewed the loan agreement to the subsidiary for another 5 years, the agreement expired on March 11, 2026 and charged the interest rate at 5.85% per annum.

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Trade and other current payables				
Subsidiary				
Aiyaraham Co., Ltd.	-	-	78,000	78,000
Related company				
Aiyarafun Co., Ltd.	22,808	7,808	-	-
Jansopsiri Co., Ltd.	188,033	-	-	-
	210,841	7,808	78,000	78,000
Lease liabilities				
Related company				
Phraboriban Co., Ltd.	624,974	1,388,259	624,974	1,388,259
Jansopsiri Co., Ltd.	86,202,441	94,307,684	86,202,441	94,307,684
	86,827,415	95,695,943	86,827,415	95,695,943

Short-term loans from related parties

Changes in short-term loans from related company the years ended December 31, 2022 and 2021 were as follows:

	Baht			
	Consolidated financial statements			
	As at December	During the year		As at December
	31, 2021	Increase	Decrease	31, 2022
Aiyarafun Co., Ltd.	500,000	-	-	500,000
Mr. Prasertsak Detudom	-	200,000	(200,000)	-
Mr. Sathit Wanitchaikit	-	400,000	(400,000)	-
	500,000	600,000	(600,000)	500,000
	Baht			
	Consolidated financial statements			
	As at December	During the year		As at December
	31, 2020	Increase	Decrease	31, 2021
Aiyarafun Co., Ltd.	-	500,000	-	500,000
	-	500,000	-	500,000

As at December 31, 2022, short-term loan represented the promissory notes from related company has 3 months maturity, bearing interest rates of 3 percent per annum (according to commercial bank interest rates of MRR-3 percent per annum), with due for repayment on March 17, 2023. The loans are an unsecured loan.

4.5 Transactions for the years ended December 31, 2022 and 2021 with related parties were summarized as follows:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Sale of goods				
Subsidiaries				
Harn Vietnam Co., Ltd.	-	-	17,699	18,741
Aiyaraharn Co., Ltd.	-	-	-	74,940
Related companies				
Nutrix Plc.	-	27,420	-	27,420
Jannopsiri Co., Ltd.	-	20,070	-	20,070
	-	47,490	17,699	141,171
Revenue from rendering of services				
Related company				
Jannopsiri Co., Ltd.	153,683	-	-	-
	153,683	-	-	-
Other income				
Subsidiaries				
Harn Vietnam Co., Ltd.	-	-	397,509	393,275
Aiyaraharn Co., Ltd.	-	-	612,000	612,000
Related company				
Jannopsiri Co., Ltd.	81,000	54,000	81,000	54,000
	81,000	54,000	1,090,509	1,059,275
Installation expenses				
Subsidiaries				
Aiyaraharn Co., Ltd.	-	-	140,000	-
	-	-	140,000	-
Office rental and service expenses				
Related companies				
Harn Engineering Co., Ltd.	-	292,105	-	292,105
	-	292,105	-	292,105
Interest expenses				
Related company				
Phraboriban Co., Ltd.	55,674	93,678	55,674	93,678
Jannopsiri Co., Ltd.	2,181,398	2,168,929	2,181,398	2,168,929
Aiyarafun Co., Ltd.	15,000	7,808	-	-
	2,252,072	2,270,415	2,237,072	2,262,607
Directors remuneration				
Directors remuneration	3,076,500	3,473,167	3,076,500	3,473,167
Management benefit expenses				
Short-term employee's benefits	19,332,091	17,441,356	17,892,091	16,001,356
Post-employment benefits	1,243,044	1,066,376	1,230,744	1,061,276
	20,575,135	18,507,732	19,122,835	17,062,632

Management benefit expenses represents the benefits paid to the Company and its subsidiaries are management and directors such as salaries, related benefit and directors' remuneration, including the benefit paid by other means. The Company and its subsidiaries are 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:

		Consolidated financial statements			
		Foreign currencies		Baht	
		2022	2021	2022	2021
Cash on hand	- Baht			90,000	55,844
Cash at banks					
Current accounts	- Baht			19,075,947	36,730,898
Savings accounts	- Baht			177,843,805	201,461,323
	- Vietnamese Dong	4,011,976,424	3,145,062,796	5,841,438	4,582,356
	- United States Dollar	296	-	10,081	-
				202,861,271	242,830,421
		Separate financial statements			
		Baht			
		2022	2021	2022	2021
Cash on hand				60,000	25,844
Cash at banks					
Current accounts				19,075,947	36,730,898
Savings accounts				177,059,753	200,931,084
				196,195,700	237,687,826

6. TRADE AND OTHER CURRENT RECEIVABLES

Trade and other current receivables were consisted of:

		Baht			
		Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
Trade receivable					
Trade receivables - related parties		-	1,006	-	1,006
Trade receivables - other companies		241,296,559	235,053,496	241,296,559	233,148,403
Total		241,296,559	235,054,502	241,296,559	233,149,409
<u>Less</u> Allowance for expected credit losses		(13,958,824)	(12,640,865)	(13,958,824)	(12,635,976)
Net		227,337,735	222,413,637	227,337,735	220,513,433
Other receivables					
Other receivables - subsidiaries		-	-	325,210	314,388
Other receivables - related parties		1,747,319	1,747,319	1,747,319	1,747,319
Other receivables - other companies		1,951,328	1,939,926	1,951,328	1,720,078
Accrued retentions		6,409,522	9,072,015	6,142,065	8,997,247
Deposit		3,937,734	6,870,814	3,929,792	6,862,867
Prepaid expenses		4,183,801	5,054,904	4,152,728	4,643,908

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Accrued income	3,098,354	1,766,779	3,099,764	1,766,779
Total other receivables	21,328,058	26,451,757	21,348,206	26,052,586
Lease receivables				
Lease receivables - printing devices	25,307,204	15,767,761	25,307,204	15,767,761
<u>Less</u> Allowance for expected credit losses	(16,220)	(11,641)	(16,220)	(11,641)
Total	25,290,984	15,756,120	25,290,984	15,756,120
<u>Less</u> due between over 1 year	(16,980,743)	(9,182,927)	(16,980,743)	(9,182,927)
Net	8,310,241	6,573,193	8,310,241	6,573,193
Total trade and other current receivables - net	256,976,034	255,438,587	256,996,182	253,139,212

Trade receivables are classified by aging as follows:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Current	149,801,023	150,580,310	149,801,023	148,706,871
Overdue				
Less than 3 months	61,302,657	67,370,369	61,302,657	67,338,715
Over 3 months up to 6 months	12,814,715	4,114,011	12,814,715	4,114,011
Over 6 months up to 12 months	7,879,344	8,176,950	7,879,344	8,176,950
Over 12 months	9,498,820	4,812,862	9,498,820	4,812,862
Total	241,296,559	235,054,502	241,296,559	233,149,409
<u>Less</u> Allowance for expected credit losses	(13,958,824)	(12,640,865)	(13,958,824)	(12,635,976)
Trade receivables, net	227,337,735	222,413,637	227,337,735	220,513,433

The minimum lease payments and present value of minimum lease payments which receivable will be paid under the lease agreements as at December 31, 2022 and 2021, are as follows:

	Baht			
	Consolidated financial statements / Separate financial statements			
	2022		2021	
	Minimum lease payments	Present value of minimum lease payments	Minimum lease payments	Present value of minimum lease payments
Collection period				
Within 1 year	15,984,457	8,310,241	9,575,286	6,573,193
Over 1 year but less than 5 years	26,414,166	16,980,743	13,385,234	9,182,927
	42,398,623	25,290,984	22,960,520	15,756,120
<u>Less</u> Deferred interest	(17,107,639)	-	(7,204,400)	-
	25,290,984	25,290,984	15,756,120	15,756,120

The allowance for expected credit losses as at December 31, 2022 and 2021 was as follows:

	Thousand Baht					
	Consolidated financial statements					
	Not yet due	Up to 3 months	3 - 6 months	6 - 12	Over	Total
				months	12 months	
As at December 31, 2022						
Trade and other current receivables	156,201	61,332	12,815	7,879	9,602	247,829
Lease receivables	41,754	661	-	-	-	42,415
Current contract assets	13,189	-	-	-	40	13,229
Loss allowance	535	463	901	2,455	9,817	14,171

	Thousand Baht					
	Consolidated financial statements					
	Not yet due	Up to 3 months	3 - 6 months	6 - 12	Over	Total
				months	12 months	
As at December 31, 2021						
Trade and other current receivables	157,626	67,491	4,265	8,177	6,603	244,162
Lease receivables	22,708	244	20	-	-	22,972
Current contract assets	10,242	-	-	-	40	10,282
Loss allowance	446	441	855	6,087	4,924	12,753

	Thousand Baht					
	Separate financial statements					
	Not yet due	Up to 3 months	3 - 6 months	6 - 12	Over	Total
				months	12 months	
As at December 31, 2022						
Trade and other current receivables	155,933	61,332	12,815	7,879	9,602	247,561
Lease receivables	41,754	661	-	-	-	42,415
Current contract assets	10,948	-	-	-	40	10,988
Loss allowance	528	463	901	2,455	9,817	14,164

	Thousand Baht					
	Separate financial statements					
	Not yet due	Up to 3 months	3 - 6 months	6 - 12	Over	Total
				months	12 months	
As at December 31, 2021						
Trade and other current receivables	155,677	67,459	4,265	8,177	6,603	242,181
Lease receivables	22,708	244	20	-	-	22,972
Current contract assets	8,338	-	-	-	40	8,378
Loss allowance	436	441	855	6,086	4,925	12,743

7. CURRENT CONTRACT ASSETS

Current contract assets were consisted of:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Current contract assets	13,228,804	10,281,575	10,987,740	8,377,768
<u>Less</u> Allowance for expected credit losses	(73,103)	(65,735)	(67,500)	(60,975)
Net	13,155,701	10,215,840	10,920,240	8,316,793

8. INVENTORIES

Inventories were consisted of:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Finished goods	386,562,096	288,639,413	384,074,221	286,333,913
Goods in transit	84,233,096	73,645,662	84,233,096	73,645,662
Total	470,795,192	362,285,075	468,307,317	359,979,575
<u>Less</u> Allowance for loss on devaluation of inventories	(39,706,823)	(33,989,104)	(38,749,570)	(33,989,104)
Net	431,088,369	328,295,971	429,557,747	325,990,471

Decline in value of inventory (reversal) recognized as cost of goods sold for the years ended December 31, 2022 and 2021 were Baht 5.75 million and Baht 3.92 million, respectively (for the Company's only amounting to Baht 4.76 million and Baht 3.92 million, respectively). Exchange difference on translating financial statement for the year ended December 31, 2022 was amount of Baht 0.03 million.

9. OTHER CURRENT FINANCIAL ASSETS

Other current financial assets were consisted of:

	Baht		
	Consolidated financial statements/ Separate financial statements		
	2022		
	Cost value	Unrealized gain (loss) on revaluation of investments	Fair value
Investment in debt instruments			
- Investment in Bond	49,817,926	18,951	49,836,877
- Investment in unit trusts	48,215,785	(1,327,098)	46,888,687
Total	98,033,711	(1,308,147)	96,725,564

	Baht		
	Consolidated financial statements/ Separate financial statements		
	2021		
	Cost value	Unrealized gain (loss) on revaluation of investments	Fair value
Investment in debt instruments			
- Investment in unit trusts	39,421,139	193,056	39,614,195
Total	39,421,139	193,056	39,614,195

10. INVESTMENT IN SUBSIDIARIES

Investment in subsidiaries consisted of:

Subsidiaries	Paid-up capital	Baht			
		Percentage of shareholding (%)		Separate financial statements	
		2022	2021	Cost method	
		2022	2021	2022	2021
Harn Vietnam Co., Ltd.	Vietnamese Dong 800 million	100.00	100.00	1,057,444	1,057,444
Aiyaraharn Co., Ltd.	Baht 2 million	65.00	65.00	1,300,000	1,300,000
Total				2,357,444	2,357,444

11. INVESTMENT PROPERTY

Investment property were consisted of:

	Baht				
	Consolidated financial statements / Separate financial statements				
	Balance	Transactions during the year			Balance
	Dec. 31, 2021	Additions	Decrease	Transfer in/out	Dec. 31, 2022
<u>Cost</u>					
Land	135,286,506	-	-	-	135,286,506
Factory building	19,349,556	-	-	-	19,349,556
Building improvements	948,427	62,150	-	-	1,010,577
Tool and equipment	350,350	-	-	-	350,350
Total	155,934,839	62,150	-	-	155,996,989
<u>Accumulated depreciation</u>					
Factory building	(1,485,675)	(483,739)	-	-	(1,969,414)
Building improvements	(291,283)	(104,446)	-	-	(395,729)
Tool and equipment	(215,200)	(70,069)	-	-	(285,269)
Total	(1,992,158)	(658,254)	-	-	(2,650,412)
Investment property-net	153,942,681				153,346,577

	Baht				
	Consolidated financial statements / Separate financial statements				
	Balance	Transactions during the year			Balance
	Dec. 31, 2020	Additions	Decrease	Transfer in/out	Dec. 31, 2021
<u>Cost</u>					
Land	135,286,506	-	-	-	135,286,506
Factory building	19,349,556	-	-	-	19,349,556
Building improvements	948,427	-	-	-	948,427
Tool and equipment	350,350	-	-	-	350,350
Total	155,934,839	-	-	-	155,934,839
<u>Accumulated depreciation</u>					
Factory building	(1,001,936)	(483,739)	-	-	(1,485,675)
Building improvements	(196,441)	(94,842)	-	-	(291,283)
Tool and equipment	(145,130)	(70,070)	-	-	(215,200)
Total	(1,343,507)	(648,651)	-	-	(1,992,158)
Investment property-net	154,591,332				153,942,681

	Baht			
	Consolidate financial statements		Separate financial statements	
	2022	2021	2022	2021
Depreciation for the year				
- Administrative expenses	658,254	648,651	658,254	648,651

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. In 2020, such land and building had a renter. The lease agreements end on March 15, 2020 (the lessee can extend the agreement period for another 1 year with the same rate. The lessee shall notify at least the months before the agreement expires). Later, on March 31, 2021, the former renter did not renew the lease agreement and there is a new renter. The lease agreement commencing on July 1, 2021, ends on June 30, 2024.

During the year 2020, the Company was appraised by 2 independent appraisers by applying the market price approach for land and the replacement cost approach for building and its construction in the valuation in according to the report, had its fair value in the amount of Baht 159.51 million.

The Company and its subsidiaries had rental incomes of investment property for the years ended December 31, 2022 and 2021 in total amounting of Baht 3,834,757 and Baht 2,752,271, respectively (for the Company's only amounting to 3,834,757 Baht and Baht 2,752,271, respectively) and recognized as operating expenses amounting to Baht 881,514 and Baht 1,402,004, respectively (for the Company's only amounting to Baht 881,514 and Baht 1,402,004, respectively), which was recognized in the statement of comprehensive income.

12. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment were consisted of:

	Baht						
	Consolidated financial statements						
	Balance	Transactions during the year					Balance
	Dec. 31, 2021	Additions	Decrease	Transfer in/out	Transfer classified transactions	Exchange difference on translating financial statements	Dec. 31, 2022
<u>Cost</u>							
Land	37,358,915	-	-	-	-	-	37,358,915
Buildings and structures	36,325,512	-	-	-	-	-	36,325,512
Tool and equipment	9,868,772	664,840	(750,143)	194,735	-	-	9,978,204
Furniture and office equipment	49,128,027	1,573,812	(1,177,142)	921,840	-	352	50,446,889
Vehicles	23,937,333	-	(2,239,771)	-	-	-	21,697,562
Assets for rent and demonstration	52,676,936	955,077	(2,828,413)	458,899	-	-	51,262,499
Assets in progress	617,500	1,580,224	(4,750)	(1,575,474)	-	-	617,500
Total	209,912,995	4,773,953	(7,000,219)	-	-	352	207,687,081
<u>Accumulated depreciation</u>							
Building and structures	(2,789,102)	(908,138)	-	-	-	-	(3,697,240)
Tool and equipment	(5,471,436)	(1,351,382)	741,922	-	-	-	(6,080,896)
Furniture and office equipment	(22,987,553)	(6,323,355)	1,164,916	-	-	9	(28,145,983)
Vehicles	(15,387,638)	(1,260,308)	1,489,770	-	-	-	(15,158,176)
Assets for rental and demonstration	(27,501,774)	(5,172,835)	2,626,088	-	-	-	(30,048,521)
Total	(74,137,503)	(15,016,018)	6,022,696	-	-	9	(83,130,816)
		)		-	-		
Property, plant and equipment-net	135,775,492						124,556,265

	Baht						
	Consolidated financial statements						
	Balance	Transactions during the year					Balance
	Dec. 31, 2020	Additions	Decrease	Transfer in/out	Transfer classified transactions	Exchange difference on translating Financial statements	Dec. 31, 2021
<u>Cost</u>							
Land	37,358,915	-	-	-	-	-	37,358,915
Buildings and structures	36,325,512	-	-	-	-	-	36,325,512
Tool and equipment	8,950,805	391,793	(7,180)	533,354	-	-	9,868,772
Furniture and office equipment	33,200,805	1,807,833	(3,450,763)	17,563,072	-	7,080	49,128,027

Baht

	Consolidated financial statements						Balance Dec. 31, 2021
	Balance Dec. 31, 2020	Transactions during the year					
		Additions	Decrease	Transfer in/out	Transfer classified transactions	Exchange difference on translating Financial statements	
Vehicles	25,170,243	82,736	(1,315,646)	-	-	-	23,937,333
Assets for rent and demonstration	33,139,623		(2,804,563)	18,621,703	-	-	52,676,936
		3,720,173					
Assets in progress	22,630,403	15,309,525	(574,019)	(36,718,129)	(30,280)	-	617,500
Total	196,776,306	21,312,060	(8,152,171)	-	(30,280)	7,080	209,912,995
<u>Accumulated depreciation</u>							
Building and structures	(1,880,965)	(908,137)	-	-	-	-	(2,789,102)
Tool and equipment	(4,206,291)	(1,272,323)	7,178	-	-	-	(5,471,436)
Furniture and office equipment	(21,695,324)	(4,696,394)	3,403,640	-	-	525	(22,987,553)
Vehicles	(14,744,320)	(1,815,468)	1,172,150	-	-	-	(15,387,638)
Assets for rental and demonstration	(24,670,581)	(5,292,891)			-	-	(27,501,774)
			2,461,698	-			
Total	(67,197,481)	(13,985,213)	7,044,666	-	-	525	(74,137,503)
Less allowance for impairment	(50,654)	-	50,564	-	-	-	-
Property, plant and equipment- net	129,528,171						135,775,492

Baht

	Separate financial statements					Balance Dec. 31, 2022
	Balance Dec. 31, 2021	Transactions during the year			translating	
		Additions	Decrease	Transfer in/out		
<u>Cost</u>						
Land	37,358,915	-	-	-	-	37,358,915
Buildings and structures	36,325,512	-	-	-	-	36,325,512
Tool and equipment	9,868,772	664,840	(750,143)	194,735	-	9,978,204
Furniture and office equipment	48,971,707	1,493,356	(1,177,142)	921,840	-	50,209,761
Vehicles	23,937,333	-	(2,239,771)	-	-	21,697,562
Assets for rent and demonstration	52,676,936	955,077	(2,828,413)	458,899	-	51,262,499
Assets in progress	617,500	1,580,224	(4,750)	(1,575,474)	-	617,500
Total	209,756,675	4,693,497	(7,000,219)	-	-	207,449,953
<u>Accumulated depreciation</u>						
Buildings and structures	(2,789,102)	(908,138)	-	-	-	(3,697,240)
Tool and equipment	(5,470,869)	(1,350,900)	741,922	-	-	(6,079,847)
Furniture and office equipment	(22,948,007)	(6,286,322)	1,164,916	-	-	(28,069,413)
Vehicles	(15,387,638)	(1,260,308)	1,489,770	-	-	(15,158,176)
Assets for rental and demonstration	(27,501,774)	(5,172,835)	2,626,088	-	-	(30,048,521)
Total	(74,097,390)	(14,978,503)	6,022,696	-	-	(83,053,197)
Property, plant and equipment-net	135,659,285					124,396,756

	Baht				
	Separate financial statements				
	Balance	Transactions during the year			Balance
	Dec. 31, 2020	Additions	Decrease	Transfer in/out	Dec. 31, 2021
				classified transactions	
<u>Cost</u>					
Land	37,358,915	-	-	-	37,358,915
Buildings and structures	36,325,512	-	-	-	36,325,512
Tool and equipment	8,948,395	394,203	(7,180)	533,354	9,868,772
Furniture and office equipment	33,073,939	1,785,459	(3,450,763)	17,563,072	48,971,707
Vehicles	25,170,243	82,736	(1,315,646)	-	23,937,333
Assets for rent and demonstration	33,139,623	3,720,173	(2,804,563)	18,621,703	52,676,936
Assets in progress	22,630,403	15,309,525	(574,019)	(36,718,129)	617,500
Total	196,647,030	21,292,096	(8,152,171)	-	209,756,675
<u>Accumulated depreciation</u>					
Buildings and structures	(1,880,965)	(908,137)	-	-	(2,789,102)
Tool and equipment	(4,206,205)	(1,271,842)	7,178	-	(5,470,869)
Furniture and office equipment	(21,683,257)	(4,668,390)	3,403,640	-	(22,948,007)
Vehicles	(14,744,320)	(1,815,468)	1,172,150	-	(15,387,638)
Assets for rental and demonstration	(24,670,581)	(5,292,891)	2,461,698	-	(27,501,774)
Total	(67,185,328)	(13,956,728)	7,044,666	-	(74,097,390)
<u>Less</u> Equipment allowance	(50,654)	-	50,654	-	-
Property, plant and equipment-net	129,411,048				135,659,285

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Depreciation for the years				
- cost of sale	3,693,380	4,070,940	3,692,898	4,070,459
- Distribution cost and administrative expenses	11,322,638	9,914,273	11,285,605	9,886,269
Total	15,016,018	13,985,213	14,978,503	13,956,728

As at December 31, 2022 and 2021, the Company and its subsidiaries had equipment which were fully depreciated but still in use with the cost price of Baht 36.26 million and Baht 34.68 million, respectively (for the Company's only amounting to Baht 36.26 million and Baht 34.68 million, respectively).

13. RIGHT-OF-USE ASSETS

Right-of-use assets consists of:

Baht					
Consolidated financial statements / Separate financial statements					
	Balance as at	Transactions during the year			Balance as at
	December	Addition	Change in	Transfer-in	December
	31, 2021		conditions/written-off	(Transfer-out)	31, 2022
<u>At cost</u>					
Building	104,557,640	-	-	-	104,557,640
Equipment	984,913	214,731	-	-	1,199,644
Total	105,542,553	214,731	-	-	105,757,284
<u>Less Accumulated depreciation</u>					
Building	(11,071,746)	(10,242,540)	-	-	(21,314,286)
Equipment	(217,125)	(983,836)	-	-	(1,200,961)
Total	(11,288,871)	(11,226,376)	-	-	(22,515,247)
Right-of-use assets - net	94,253,682				83,242,037

Baht					
Consolidated financial statements / Separate financial statements					
	Balance as at	Transactions during the year			Balance as at
	December	Addition	Change in	Transfer-in	December
	31, 2020		conditions/written-off	(Transfer-out)	31, 2021
<u>At cost</u>					
Building	104,557,640	-	-	-	104,557,640
Equipment	541,917	442,996	-	-	984,913
Total	105,099,557	442,996	-	-	105,542,553
<u>Less Accumulated depreciation</u>					
Building	(118,458)	(10,953,288)	-	-	(11,071,746)
Equipment	(12,795)	(204,330)	-	-	(217,125)
Total	(131,253)	(11,157,618)	-	-	(11,288,871)
Right-of-use assets - net	104,968,304				94,253,682

The Company and its subsidiary lease several assets including office building which lease term 10 years, warehouse which lease term 3 years and equipment of which lease term 4 years.

14. 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, 2021 the Company has tested for impairment of goodwill by hiring an independent appraiser in assessing the value of the Refrigeration System and Digital Printing System dated October 26, 2021. In assessing the Value in Use, the present value of future free cash flow or DCF expected to be received in each year from the financial forecast 5 years (from January 1, 2022 to December 31, 2026) with discounted rate obtained from the calculation of the weighted average cost of capital : WACC of the business unit.

Later, during the year ended December 31, 2022 the Company's management has tested for impairment of goodwill by preparing forecasted financial information in assessing the value of the Refrigeration System and Digital Printing System. In assessing the Value in Use, the present value of future free cash flow or DCF expected to be received in each year from the financial forecast 5 years (from January 1, 2022 to December 31, 2027) with discounted rate obtained from the calculation of the weighted average cost of capital : WACC of the business unit.

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
	2022	2021	
- Discount rate	4.53% (Weighted Average Cost of Capital: WACC)	8.72% (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%	0%	Appropriate estimated rate

15. CUSTOMER RELATIONSHIP

Customer relationship were consisted of:

	Baht			
	Consolidated financial statements / Separate financial statements			
	Balance	Transactions during the year		Balance
	Dec. 31, 2021	Addition	Decrease	Dec. 31, 2022
<u>Cost</u>				
Customer relationship	104,307,663	-	-	104,307,663
<u>Less</u> accumulated amortization	(77,829,869)	(13,854,860)	-	(91,684,729)
Customer relationship - net	26,477,794			12,622,934

	Baht			
	Consolidated financial statements / Separate financial statements			
	Balance	Transactions during the year		Balance
	Dec. 31, 2020	Addition	Decrease	Dec. 31, 2021
<u>Cost</u>				
Customer relationship	104,307,663	-	-	104,307,663
<u>Less</u> accumulated amortization	(63,975,009)	(13,854,860)	-	(77,829,869)
Customer relationship - net	40,332,654			26,477,794

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Depreciation for the years				
- Administrative expenses	13,854,860	13,854,860	13,854,860	13,854,860

16. INTANGIBLE ASSET

Intangible asset were consisted of:

	Baht				
	Consolidated financial statements / Separate financial statements				
	Balance	Transactions during the year			Balance
	Dec. 31, 2021	Addition	Decrease	Transfer In / out	Dec. 31, 2022
				Transfer classified transactions	
<u>Cost</u>					
Software licenses	42,245,035	188,910	(173,455)	-	42,260,490
Total	42,245,035	188,910	(173,455)	-	42,260,490
<u>Less Accumulated amortization</u>					
Software licenses	(26,260,025)	(4,354,351)	173,452	-	(30,440,924)
Total	(26,260,025)	(4,354,351)	173,452	-	(30,440,924)
Intangible asset-net	15,985,010				11,819,566

	Baht				
	Consolidated financial statements / Separate financial statements				
	Balance	Transactions during the year			Balance
	Dec. 31, 2020	Addition	Decrease	Transfer In / out	Dec. 31, 2021
				Transfer classified transactions	
<u>Cost</u>					
Software licenses	39,901,355	312,500	-	2,031,180	42,245,035
Software in progress	-	2,000,900	-	(2,031,180)	-
Total	39,901,355	2,313,400	-	-	42,245,035
<u>Less Accumulated amortization</u>					
Software licenses	(21,885,845)	(4,374,180)	-	-	(26,260,025)
Total	(21,885,845)	(4,374,180)	-	-	(26,260,025)
Intangible asset-net	18,015,510				15,985,010

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Depreciation for the years				
- cost of rendering of services	564,201	871,654	564,201	871,654
- Administrative expenses	3,790,150	3,502,526	3,790,150	3,502,526
Total	4,354,351	4,374,180	4,354,351	4,374,180

As at December 31, 2022 and 2021, the Company and its subsidiaries had intangible assets which were fully depreciated but still in use with the cost price of Baht 7.41 million and Baht 3.66 million, respectively (for the Company's only amounting to Baht 7.41 million and Baht 3.66 million, respectively).

17. DEFERRED TAX ASSETS AND DEFERRED TAX LIABILITIES

Deferred tax assets and deferred tax liabilities were consisted of:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Deferred tax assets	15,183,585	9,425,953	14,921,144	9,389,839
Deferred tax liabilities	-	(54,146)	-	-
	<u>15,183,585</u>	<u>9,371,807</u>	<u>14,921,144</u>	<u>9,389,839</u>

Changes in deferred tax assets and deferred tax liabilities for the years ended December 31, 2022 and 2021 were summarized as follows:

	Baht			
	Consolidated financial statements			
	Balance as at	Income (expenses) during the year		Balance as at
	Dec. 31, 2021	In profit or loss	In other comprehensive income	Dec. 31, 2022
			Exchange difference on translating financial statements	
Deferred tax assets:				
Allowance for expected credit losses	2,550,656	368,187	-	2,919,126
Allowance for devaluation of inventories	6,797,821	1,145,516	-	7,941,365
Allowance for impairment of investment	49,564	-	-	49,564
Lease agreements	436,857	430,055	-	866,912
Non-current provisions for employee benefit	5,380,155	423,403	-	5,803,558
Derivatives liabilities	44,935	310,114	-	355,049
Unearned revenue	29,386	(2,791)	-	26,304
Employee joint investment program expenses	1,279,276	(73,675)	-	1,205,601
Total	<u>16,568,650</u>	<u>2,600,809</u>	<u>(1,980)</u>	<u>19,167,479</u>
Deferred tax liabilities:				
Inventories (from fair value adjustment of business combination)	58,583	58,583	-	-
Equipment (from fair value adjustment of business combination)	488	488	-	-
Unrealized gain (loss) on temporary investments	487,854	270,000	-	217,854
Customer relationship (from fair value adjustment of business combination)	5,295,559	2,770,972	-	2,524,587
Depreciation of equipment	264,681	137,577	-	127,323
Finance lease assets	1,012,828	(101,302)	-	1,114,130
Prepaid expenses	76,850	76,798	-	-
Total	<u>7,196,843</u>	<u>3,213,116</u>	<u>(167)</u>	<u>3,983,894</u>
Deferred tax assets (liabilities) - net	<u>9,371,807</u>			<u>15,183,585</u>
Deferred tax income (expenses) - net		<u>5,813,925</u>	<u>(2,147)</u>	

Baht				
Consolidated financial statements				
	Balance as at	Income (expenses) during the year		Balance as at
	Dec. 31, 2020	In profit or loss	In other comprehensive income	Dec. 31, 2021
Deferred tax assets:				
Allowance for expected credit losses	2,315,859	234,797	-	2,550,656
Allowance for devaluation of inventories	6,013,408	784,413	-	6,797,821
Allowance for impairment of investment	49,564	-	-	49,564
Allowance for impairment of equipment	10,131	(10,131)	-	-
Lease agreements	486	436,371	-	436,857
Non-current provisions for employee benefit	5,183,911	404,280	(208,036)	5,380,155
Derivatives liabilities	83,377	(38,442)	-	44,935
Unearned revenue	-	29,386	-	29,386
Employee joint investment program expenses	746,570	532,706	-	1,279,276
Total	14,403,306	2,373,380	(208,036)	16,568,650
Deferred tax liabilities:				
Inventories (from fair value adjustment of business combination)	93,358	34,775	-	58,583
Equipment (from fair value adjustment of business combination)	54,161	53,673	-	488
Unrealized gain (loss) on temporary investments	-	(487,854)	-	487,854
Customer relationship (from fair value adjustment of business combination)	8,066,531	2,770,972	-	5,295,559
Depreciation of equipment	231,351	(33,330)	-	264,681
Finance lease assets	1,368,293	355,465	-	1,012,828
Prepaid expenses	-	(76,850)	-	76,850
Total	9,813,694	2,616,851	-	7,196,843
Deferred tax assets (liabilities) - net	4,589,612			9,371,807
Deferred tax income (expenses) - net		4,990,231	(208,036)	

Baht				
Separate financial statements				
	Balance as at	Income (expenses) during the year		Balance as at
	Dec. 31, 2021	In profit or loss	In other comprehensive income	Dec. 31, 2022
Deferred tax assets:				
Allowance for expected credit losses	2,548,679	368,910	-	2,917,589
Allowance for devaluation of inventories	6,797,821	952,093	-	7,749,914
Allowance for impairment of investment	49,564	-	-	49,564
Lease agreements	436,857	430,055	-	866,912
Non-current provisions for employee benefit	5,345,031	409,184	-	5,754,215
Derivatives liabilities	44,935	310,114	-	355,049
Employee joint investment program expenses	1,279,276	(73,675)	-	1,205,601
Total	16,502,163	2,396,681	-	18,898,844

	Baht		
	Separate financial statements		
	Balance as at	Income (expenses) during the year	Balance as at
	Dec. 31, 2021	In profit or loss	Dec. 31, 2022
		In other comprehensive income	
Deferred tax liabilities:			
Inventories (from fair value adjustment of business combination)	58,583	58,583	-
Equipment (from fair value adjustment of business combination)	488	488	-
Unrealized gain (loss) on temporary investments	487,854	270,000	-
Customer relationship (from fair value adjustment of business combination)	5,295,559	2,770,972	-
Depreciation of equipment	257,012	135,883	-
Finance lease assets	1,012,828	(101,302)	-
Total	7,112,324	3,134,624	-
Deferred tax assets (liabilities) - net	9,389,839		
Deferred tax income (expenses) - net		5,531,305	-
	Baht		
	Separate financial statements		
	Balance as at	Income (expenses) during the year	Balance as at
	Dec. 31, 2020	In profit or loss	Dec. 31, 2021
		In other comprehensive income	
Deferred tax assets:			
Allowance for expected credit losses	2,315,262	233,417	-
Allowance for devaluation of inventories	6,013,408	784,413	-
Allowance for impairment of investment	49,564	-	-
Allowance for impairment of equipment	10,131	(10,131)	-
Lease agreements	486	436,371	-
Non-current provisions for employee benefit	5,167,874	385,193	(208,036)
Derivatives liabilities	83,377	(38,442)	-
Employee joint investment program expenses	746,570	532,706	-
Total	14,386,672	2,323,527	(208,036)
Deferred tax liabilities:			
Inventories (from fair value adjustment of business combination)	93,358	34,775	-
Equipment (from fair value adjustment of business combination)	54,161	53,673	-
Unrealized gain (loss) on temporary investments	-	(487,854)	-
Customer relationship (from fair value adjustment of business combination)	8,066,531	2,770,972	-
Depreciation of equipment	231,351	(25,661)	-
Finance lease assets	1,368,293	355,465	-
Total	9,813,694	2,701,370	-
Deferred tax assets (liabilities) - net	4,572,978		
Deferred tax income (expenses) - net		5,024,897	(208,036)

18. TRADE AND OTHER CURRENT PAYABLES

Trade and other current payables were consisted of:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Trade payables				
Trade payables - other companies	168,725,583	115,246,936	166,518,618	114,457,732
Other current payables				
Accrued commission expenses	14,652,252	13,220,166	14,652,252	13,220,166
Accrued bonus	12,908,021	10,202,941	12,730,594	10,202,941
Advance from customers for goods and services	45,856,074	35,351,729	45,249,770	35,091,043
Other accrued expenses	15,682,282	18,842,437	15,331,311	18,315,201
Account payable - Revenue department	3,490,810	2,978,290	3,395,318	2,806,379
Other deposit	1,518,349	1,244,220	1,596,349	1,322,220
Other	7,676,650	6,863,430	7,676,650	6,863,430
Total	101,784,438	88,703,213	100,632,244	87,821,380
Total trade and other current payables	270,510,021	203,950,149	267,150,862	202,279,112

19. LEASE LIABILITIES

The carrying amounts of lease liabilities and the movement for the years ended December 31, 2022 and 2021 are presented below.

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Beginning balance	96,437,966	104,970,733	96,437,966	104,970,733
Addition	214,731	442,996	214,731	442,996
Accretion of interest	2,279,299	2,301,737	2,279,299	2,301,737
Payments	(11,355,400)	(11,277,500)	(11,355,400)	(11,277,500)
Decrease from contract cancellation	-	-	-	-
Ending balance	87,576,596	96,437,966	87,576,596	96,437,966
Less: current portion	(9,228,565)	(9,055,775)	(9,228,565)	(9,055,775)
Lease liabilities - net of current portion	78,348,031	87,382,191	78,348,031	87,382,191

Amounts recognized in the statement of comprehensive income for the years ended December 31, 2022 and 2021 are comprise;

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Depreciation of right-of-use assets	11,226,376	11,157,618	11,226,376	11,157,618
Interest expense on lease liabilities	2,279,299	2,301,737	2,279,299	2,301,737
Expense relating to short-term lease	-	380,552	-	380,552
Leases of low-value assets	183,741	268,214	151,058	237,756
Total	13,689,416	14,108,121	13,656,733	14,077,663

For the year ended December 31, 2022 and 2021, the Company and its subsidiaries had rental income from investment property in the amount of Baht 11,539,141 and Baht 11,926,266, respectively (for the Company's only amounting to Baht 11,506,458 and Baht 11,895,808, respectively) and also had non-cash additions to right-of-use assets and lease liabilities of Baht 214,731 and Baht 442,996, respectively (for the Company's only amounting to Baht 214,731 and Baht 442,996, respectively).

20. NON-CURRENT PROVISIONS FOR EMPLOYEE BENEFIT

Movements of non-current provisions for employee benefit for the years ended December 31, 2022 and 2021 were as follows:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Beginning balance defined benefit obligations	27,968,095	27,765,012	27,792,471	27,684,826
Current service costs and interest	2,797,011	1,907,265	2,725,924	1,811,827
Actuarial (gain) loss	-	(1,040,182)	-	(1,040,182)
Benefits paid by the plan	-	(664,000)	-	(664,000)
Ending balance defined benefit obligations	30,765,106	27,968,095	30,518,395	27,792,471

The statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Current service costs				
Cost of sales	356,717	219,465	369,867	204,414
Distribution cost	789,312	569,377	789,312	569,377
Administrative expenses	1,043,132	728,697	958,895	648,310
Interest on obligation	607,850	389,726	607,850	389,726
Total	2,797,011	1,907,265	2,725,924	1,811,827

Actuarial (gain) loss

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Actuarial (gain) loss arising from				
Changes in demographic assumptions	-	387,723	-	387,723
Changes in financial assumptions	-	(2,371,661)	-	(2,371,661)
Experience adjustments	-	943,756	-	943,756
Total	-	(1,040,182)	-	(1,040,182)

Principal actuarial assumptions at the reporting date for the years ended December 31, 2022 and 2021 are as follow:

	Percentage			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Discount rate	1.92 - 2.32	1.92 - 2.32	1.92 - 2.32	1.92 - 2.32
Salary increase rate	4.00	4.00	4.00	4.00
Employee turnover rate	4.78 - 28.65	4.78 - 28.65	4.78 - 28.65	4.78 - 28.65
Mortality rate	105.00% of Thai	105.00% of Thai	105.00% of Thai	105.00% of Thai
	Mortality Ordinary	Mortality Ordinary	Mortality Ordinary	Mortality Ordinary
	Table 2017	Table 2017	Table 2017	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, 2022 and 2021 are summarized below:

2022				
Consolidated financial statements / Separate financial statements				
	%		Baht	
	Increase	Decrease	Increase	Decrease
Discount rate	1	(1)	(2,468,333)	2,876,380
Salary increase rate	1	(1)	2,684,381	(2,331,843)
Turnover rate	20	(20)	(3,233,426)	3,922,859
Mortality rate	20	(20)	(313,143)	317,561

2021				
Consolidated financial statements / Separate financial statements				
	%		Baht	
	Increase	Decrease	Increase	Decrease
Discount rate	1	(1)	(2,440,716)	2,850,146
Salary increase rate	1	(1)	2,402,291	(2,092,552)
Turnover rate	20	(20)	(2,862,237)	3,448,983
Mortality rate	20	(20)	(282,946)	286,890

21. 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.

22. 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, 2020 to April 30, 2025, 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 5-30% 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 st year - 2 nd year, cannot sell any shares After the 2 nd year, can sell 25% of accumulated shares After the 3 rd year, can sell 50% of accumulated shares After the 4 th year, can sell 75% of accumulated shares After the 5 th year, can sell all shares
EJIP program manager	Philip Securities (Thailand) Public Company Limited

Movements of the employee joint investment program for the years ended December 31, 2022 and 2021 were as follows:

	Baht					
	Consolidated financial statements / Separate financial statements					
	2022			2021		
	Surplus on share-based payment transactions	(Less) Treasury shares	Net	Surplus on share-based payment transactions	(Less) Treasury shares	Net
Beginning balance	13,822,057	(7,425,678)	6,396,379	6,602,402	(2,869,554)	3,732,848
Movements of the year						
- Employees joint investment program expenses	4,556,090	-	4,556,090	7,219,655	-	7,219,655
- Employees joint investment program expenses paid	-	(4,924,465)	(4,924,465)	-	(4,556,124)	(4,556,124)
- Transfer shares to employees	(2,248,330)	2,248,330	-	-	-	-
- Employees leave the investment program	(690,574)	690,574	-	-	-	-
Ending balance	15,439,243	(9,411,239)	6,028,004	13,822,057	(7,425,678)	6,396,379

The statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

	Baht	
	Consolidated financial statements / Separate financial statements	
	2022	2021
Cost of sales	714,414	1,049,582
Distribution cost	1,491,398	2,683,116
Administrative expenses	2,350,278	3,486,957
	4,556,090	7,219,655

23. 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.

24. APPROPRIATION OF RETAINED EARNINGS

According to the resolution of the Annual General Meeting of Shareholders No. 1/2022 on April 25, 2022 the shareholders approved dividend payment from the operation for the year 2021 at Baht 0.10 per share for the issued and paid-up ordinary shares of 584,500,000 shares, in total amount of Baht 58,449,860. The dividend was paid on May 13, 2022.

According to the resolution of the Board of Directors' Meeting No. 1/2021 held on February 25, 2021, the Board of Directors approved dividend payment at Baht 0.13 per share for 584,500,000 issued and paid-up ordinary shares, in total amount of Baht 75,984,558. The dividend declaration had been approved from Annual General Shareholders' Meeting No. 1/2021 on April 23, 2021. The dividend was paid on May 14, 2021.

25. 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 an asset management company. 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, 2022 and 2021, the Company and its subsidiaries paid contributions to provident fund and recognized as expenses amounting to Baht 4.57 million and Baht 4.46 million, respectively (for the Company's only amounting to Baht 4.57 million and Baht 4.46 million, respectively).

26. 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 and its subsidiaries 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
- Segment 5 Building-IoT Solutions

Operating segment by business in the consolidated statement of comprehensive income for the years ended December 31, 2022 and 2021 were as follows:

Thousand Baht												
Consolidated financial statements												
	2022						2021					
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Total	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Total
Revenue from sale of goods	462,886	55,703	230,334	324,405		1,073,328	351,478	47,848	197,352	312,481		909,159
Revenue from rendering of services	96,854			42,245	7,234	146,333	72,459			39,421	4,944	116,824
Cost of sale of goods	(342,026)	(40,189)	(172,541)	(198,651)		(753,407)	(250,652)	(33,741)	(143,173)	(188,048)		(615,614)
Cost of rendering of services	(79,984)			(34,485)	(5,380)	(119,849)	(60,723)			(33,995)	(3,373)	(98,091)
Gross profit	137,730	15,514	57,793	133,514	1,854	346,405	112,562	14,107	54,179	129,859	1,571	312,278
Other income						22,629						20,150
Distribution cost						(113,161)						(107,572)
Administrative expenses						(141,825)						(132,501)
Profit from operation						114,048						92,355
Finance cost						(2,294)						(2,310)
Tax expense						(22,905)						(17,813)
Profit for the year						88,849						72,232
Other comprehensive income for the year						61						1,248
Total comprehensive income for the year						88,910						73,480

Thousand Baht										
Separate financial statements										
	2022					2021				
	Segment 1	Segment 2	Segment 3	Segment 4	Total	Segment 1	Segment 2	Segment 3	Segment 4	Total
Revenue from sale of goods	462,886	55,703	230,334	320,037	1,068,960	351,553	47,848	197,352	304,027	900,780
Revenue from rendering of services	96,854	-	-	41,646	138,500	72,459	-	-	38,379	110,838
Cost of sale of goods	(342,034)	(40,189)	(172,541)	(194,775)	(749,539)	(250,719)	(33,741)	(143,173)	(182,725)	(610,358)
Cost of rendering of services	(80,124)	-	-	(33,638)	(113,762)	(60,724)	-	-	(33,024)	(93,748)
Gross profit	137,582	15,514	57,793	133,270	344,159	112,569	14,107	54,179	126,657	307,512
Other income					23,821					21,187
Distribution cost					(111,009)					(105,426)
Administrative expenses					(140,005)					(131,159)
Profit from operation					116,966					92,114

	Thousand Baht									
	Separate financial statements									
	2022					2021				
	Segment 1	Segment 2	Segment 3	Segment 4	Total	Segment 1	Segment 2	Segment 3	Segment 4	Total
Finance cost					(2,279)					(2,302)
Income tax expense					(23,188)					(17,649)
Profit for the year					91,499					72,163
Other comprehensive income for the year					-					832
Total comprehensive income for the years					91,499					72,995

Operating segment by business in the statement of financial position as at December 31, 2022 and 2021 were as follows:

	Thousand Baht											
	Consolidated financial statements											
	2022						2021					
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Total	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Total
Assets for reportable segments												
Trade receivables - other companies	138,489	16,538	32,538	53,732	-	241,297	122,386	16,377	45,003	51,288	-	235,054
Inventories	265,733	9,954	90,783	64,348	270	431,088	183,577	4,063	66,656	73,795	205	328,296
Goodwill	-	-	200,066	134,606	-	334,672	-	-	200,066	134,606	-	334,672
Customer relationship	-	-	9,165	3,458	-	12,623	-	-	19,242	7,236	-	26,478
Assets under common use												
- Investment property	-	-	-	-	-	153,347	-	-	-	-	-	153,943
- Property, plant and equipment	-	-	-	-	-	124,556	-	-	-	-	-	135,775
- Right-of-use assets	-	-	-	-	-	83,242	-	-	-	-	-	94,254
- Intangible assets	-	-	-	-	-	11,820	-	-	-	-	-	15,985
- Others	-	-	-	-	-	390,458	-	-	-	-	-	361,266
Total assets for reportable segments	404,222	26,492	332,552	256,144	270	1,783,103	305,963	20,440	330,967	266,925	205	1,685,723
Total liabilities for reportable segments	-	-	-	-	-	434,479	-	-	-	-	-	367,190

	Thousand Baht									
	Separate financial statements									
	2022					2021				
	Segment 1	Segment 2	Segment 3	Segment 4	Total	Segment 1	Segment 2	Segment 3	Segment 4	Total
Assets for reportable segments										
Trade receivables - other companies	138,489	16,538	32,538	53,732	241,297	122,385	16,377	45,003	49,383	233,148
Inventories	265,733	9,954	90,784	63,087	429,558	183,577	4,063	66,655	71,695	325,990
Goodwill	-	-	200,066	134,606	334,672	-	-	200,066	134,606	334,672
Customer relationship	-	-	9,165	3,458	12,623	-	-	19,242	7,236	26,478
Assets under common use										
- Investment property	-	-	-	-	153,347	-	-	-	-	153,943
- Property, plant and equipment	-	-	-	-	124,397	-	-	-	-	135,659
- Right-of-use assets	-	-	-	-	83,242	-	-	-	-	94,254
- Intangible assets	-	-	-	-	11,820	-	-	-	-	15,985
- Others	-	-	-	-	390,124	-	-	-	-	362,609

Thousand Baht										
Separate financial statements										
2022					2021					
Segment 1	Segment 2	Segment 3	Segment 4	Total	Segment 1	Segment 2	Segment 3	Segment 4	Total	
Total assets for reportable segments	404,222	26,492	332,553	254,883	1,781,080	305,962	20,440	330,966	262,920	1,682,738
Total liabilities for reportable segments	-	-	-	-	430,320	-	-	-	-	364,660

For the years ended December 31, 2022 and 2021, there was no revenue from sales and service with a single external customers contributed 10% or more to the total revenue.

27. EXPENSE BY NATURE

Expenses by nature for the years ended December 31, 2022 and 2021 consist of the significant expenses were as follows:

Baht				
Consolidated financial statements		Separate financial statements		
2022	2021	2022	2021	
Purchases of finished goods	862,185,990	675,993,144	858,934,637	671,651,943
Other changes in finished goods and work in process	(102,792,398)	(70,444,004)	(103,567,276)	(71,835,105)
Employee expenses	189,373,440	184,861,927	184,378,758	179,543,249
Office rental and service expenses	658,905	1,036,850	593,075	987,127
Depreciation and amortization	45,109,859	44,020,523	45,072,344	43,992,038
Others	133,705,776	118,309,361	128,903,600	116,351,745
Total	1,128,241,572	953,777,801	1,114,315,138	940,690,997

28. INCOME TAX EXPENSE

28.1 Major components of income tax expense

For the years ended December 31, 2022 and 2021 consisted of:

Baht				
Consolidated financial statements		Separate financial statements		
2022	2021	2022	2021	
Income tax expense shown in profit or loss :				
Current tax expense:				
Income tax expense for the years	28,718,806	22,803,504	28,718,806	22,674,224
Deferred tax expense (income):				
Changes in temporary differences relating to the original recognition and reversal	(5,813,925)	(4,990,231)	(5,531,305)	(5,024,897)
Total	22,904,881	17,813,273	23,187,501	17,649,327
Income tax relating to components of other comprehensive income:				
Deferred tax expenses (income) relating to Gain (loss) on re-measurements of defined benefits plans	-	208,036	-	208,036
Total	22,904,881	18,021,309	23,187,501	17,857,363

28.2 A numerical reconciliation between income tax expense and the product of accounting profit multiplied by the applicable tax rate. For the years ended December 31, 2022 and 2021, which were summarized as follows:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Accounting profit for the years	111,753,860	90,045,119	114,686,920	89,812,214
The applicable tax rate (%)	20%	20%	20%	20%
Income tax expense at the applicable tax rate	22,350,772	18,009,024	22,937,384	17,962,443
Reconciliation items:				
Tax effect of expenses that are not deductible in determining tax profit:				
- Expenses not allowed as expenses in determining taxable profit	226,315	417,247	494,451	362,777
Addition expenses deductible for tax purpose	(247,710)	(705,156)	(244,334)	(701,781)
Other	575,504	92,158	-	25,888
Total reconciliation items	554,109	(195,751)	250,117	(313,116)
Total tax expense (income)	22,904,881	17,813,273	23,187,501	17,649,327

28.3 A numerical reconciliation between the average effective tax rate and the applicable tax rate.

For the years ended December 31, 2022 and 2021 were summarized as follows:

	Consolidated financial statements			
	2022		2021	
	Tax amount (Baht)	Tax rate (%)	Tax amount (Baht)	Tax rate (%)
Accounting profit before income tax expense for the years	111,753,860		90,045,119	
Income tax expense at the applicable tax rate	22,350,772	20.00	18,009,024	20.00
Reconciliation items	554,109	0.50	(195,751)	(0.22)
Income tax expense at the average effective tax rate	22,904,881	20.50	17,813,273	19.78

	Separate financial statements			
	2022		2021	
	Tax amount (Baht)	Tax rate (%)	Tax amount (Baht)	Tax rate (%)
Accounting profit before income tax expense for the years	114,686,920		89,812,214	
Income tax expense at the applicable tax rate	22,937,384	20.00	17,962,443	20.00
Reconciliation items	250,117	0.22	(313,116)	(0.35)
Income tax expense at the average effective tax rate	23,187,501	20.22	17,649,327	19.65

29. 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.

	Consolidated financial Statements		Separate financial statements	
	2022	2021	2022	2021
Profit for the years of parent company (Baht)	88,783,953	72,271,139	91,499,419	72,162,887
Weighted average number of ordinary shares (Shares)	584,500,000	584,500,000	584,500,000	584,500,000
Basic earnings per share (Baht per share)	0.15	0.12	0.16	0.12

30. COMMITMENTS AND CONTINGENT LIABILITIES

As at December 31, 2022 and 2021, the Company and its subsidiaries had commitments and contingent liabilities as follows:

30.1 As at December 31, 2022 and 2021, the Company and its subsidiaries have letters of guarantee issued by banks for goods and work under system installation service agreement of:

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Million Baht	22.21	32.90	22.21	32.90
Million US dollars	-	0.15	-	0.15

30.2 The credit facilities with financial institutions as at December 31, 2022 and 2021 consisted of:

Type of credit	Consolidated financial statements / Separate financial statements			
	Facilities (Million Baht)		Referred interest rate (% per annum)	
	2022	2021	2022	2021
Bank overdrafts	9.00	10.00	MOR, MOR-0.50	MOR, MOR-0.50
Letter of credit/trust receipt	120.00	150.00	MLR-1, MMR	MLR-1, MMR
Letter of guarantee	74.00	74.00	1.25 - 2%	1.25 - 2%
Forward exchange contracts	410.00	560.00	-	-
Total	613.00	794.00		
Forward foreign exchange contracts				
(Million US dollars)	7.00	7.00		

30.3 Minimum lease and service payments are as follows:

Payment periods	Million Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Due not later than 1 year	0.50	0.53	0.48	0.52
Due later than 1 year but not later than 5 years	0.56	1.04	0.56	1.04

Rental and service expenses for the years ended December 31, 2022 and 2021 are Baht 0.66 million and Baht 1.04 million, respectively (for the Company's only to Baht 0.59 million and Baht 0.99 million, respectively).

30.4 Commitment on capital expenditure

30.4.1 As at December 31, 2022 the Company has commitment to pay under computer equipment and access control system for office building contract totaled Baht 13.89 million. The Company has an outstanding commitment under the agreement amounted Baht 3.00 million.

30.4.2 As at December 31, 2022 the Company has commitment to pay under furniture and fixtures purchase contract totaled Baht 2.18 million. The Company has an outstanding commitment under the agreement amounted Baht 0.03 million

30.5 Litigation

As at December 31, 2022, the Company has a legal case for a total claimed amount of Baht 11.01 million which is currently being considered by the Civil Court. The management of the Company believes that the outcome of this case will not have significant effect to the Company. However, the management estimated provision for such litigation in an amount sufficient to cover the expected damages.

31. FAIR VALUE MEASUREMENT

The Company and its subsidiaries 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 and its subsidiaries 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, 2022 and 2021, the Company and its subsidiaries had the following financial assets and liabilities that were measured at fair value on which the fair value hierarchy is classified as follows:

		Baht		
Consolidated financial statements / Separate financial statements				
2022				
	Level 1	Level 2	Level 3	Total
Financial assets (liabilities) measured at fair value				
Investments in Bond	-	49,836,877	-	49,836,877
Investments in unit trusts	-	46,888,687	-	46,888,687
Foreign currency forward contracts	-	(1,688,695)	-	(1,688,695)

Baht				
Consolidated financial statements / Separate financial statement				
2021				
Level 1	Level 2	Level 3	Total	
Financial assets (liabilities) measured at fair value				
Investments in unit trusts	-	39,614,195	-	39,614,195
Foreign currency forward contracts	-	(16,713)	-	(16,713)

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 year, 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, 2022 and 2021.

Financial assets and financial liabilities	Fair value (Baht)		Fair value Hierarchy	Valuation techniques and key inputs for fair value measurement
	Consolidated financial statements/Separate financial statements			
	2022	2021		
<u>Financial assets (liabilities)</u>				
Foreign currency forward contracts	(1,688,695)	(16,713)	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 and its subsidiaries are as follows:

Cash and cash equivalents, trade and other current 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.

Trade and other current 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.

32. FINANCIAL INSTRUMENTS

Financial risk management policies

The Company and its subsidiaries are 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 and its subsidiaries do not hold or use derivative financial instruments for speculative or trading purposes.

Risk management is integral to the whole business of the Company and its subsidiaries. The Company and its subsidiaries have 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 and its subsidiaries are 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 and its subsidiaries define 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 and its subsidiaries are exposed to foreign currency risk relating to purchases which are denominated in foreign currencies. The Company and its subsidiaries primarily utilize 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, 2022 and 2021, the Company and its subsidiaries have financial liabilities in foreign currencies as follows;

	Foreign Currencies			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Not hedged				
US dollar	533,130	722,806	524,410	722,806
EURO	135,600	124,492	135,600	124,492
GBP	160,085	364,620	130,740	361,055
YEN	1,428,500	-	1,428,500	-

Derivatives

Derivatives are forward foreign exchange contracts used for economic hedging purposes and not as speculative investments. However, derivatives do not meet the hedge accounting criteria, therefore they are classified as 'held for trading' for accounting purposes and are accounted for at fair value through profit or loss. They are presented as current assets or liabilities to the extent they are expected to be realized within 12 months after the end of the reporting period.

As at December 31, 2022 and 2021, the Company had gain (loss) from changes in fair value of derivatives in the amount of Baht (1.69) million and Baht (0.02) million, respectively.

Net foreign exchange gains (losses)

For the years ended December 31, 2022 and 2021, the aggregate net foreign exchange gains (losses) recognized in profit or loss are as follow:

	Baht			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Unrealized gain (loss) on exchange rates	135,596	1,464,833	292,793	1,615,511
Gain (loss) on exchange rates				
- Sales	(21,451)	2,140,458	46,056	2,081,158
Total net gain (loss) on exchange rate recognized in profit before income tax	114,145	3,605,291	338,849	3,696,669

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 and its subsidiaries are customer base, management does not anticipate material losses from its debt collection.

Liquidity risk

The Company and its subsidiaries monitor its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Company's and its subsidiaries's operations and to mitigate the effects of fluctuations in cash flows.

Classification and measurement of financial asset and financial liabilities

	Baht					
	Consolidated financial statements					
	2022			2021		
	FVPL	Amortized cost	Total	FVPL	Amortized cost	Total
Financial assets						
Cash and cash equivalents	-	202,861,271	202,861,271	-	242,830,421	242,830,421
Trade and other current receivables	-	256,976,034	256,976,034	-	255,438,587	255,438,587
Current contract assets	-	13,155,701	13,155,701	-	10,215,840	10,215,840
Other non-current financial assets	96,725,564	-	96,725,564	39,614,195	-	39,614,195
Trade and other non-current receivables	-	16,980,743	16,980,743	-	9,182,297	9,182,297
Other non-current assets	-	29,146,836	29,146,836	-	28,306,373	28,306,373
	96,725,564	519,120,585	615,846,149	39,614,195	545,973,518	585,587,713
Financial liabilities						
Trade and other current payables	-	270,510,021	270,510,021	-	203,950,149	203,950,149
Current portion for lease liabilities	-	9,228,565	9,228,565	-	9,055,775	9,055,775
Short-term loan from related party	-	500,000	500,000	-	500,000	500,000
Lease liabilities	-	78,348,031	78,348,031	-	87,382,191	87,382,191
Other non-current liabilities	-	26,725,725	26,725,725	-	26,067,217	26,067,217
	-	385,312,342	385,312,342	-	326,955,332	326,955,332
Baht						
Separate financial statements						
	2022			2021		
	FVPL	Amortized cost	Total	FVPL	Amortized cost	Total
Financial assets						
Cash and cash equivalents	-	196,195,700	196,195,700	-	237,687,826	237,687,826
Trade and other current receivables	-	256,996,182	256,996,182	-	253,139,212	253,139,212
Current contract assets	-	10,920,240	10,920,240	-	8,316,793	8,316,793
Other non-current financial assets	96,725,564	-	96,725,564	39,614,195	-	39,614,195
Trade and other non-current receivables	-	16,980,743	16,980,743	-	9,182,927	9,182,927
Other non-current assets	-	28,992,420	28,992,420	-	28,306,373	28,306,373
	96,725,564	510,085,285	606,810,849	39,614,195	536,633,131	576,247,326
Financial liabilities						
Trade and other current payables	-	267,150,862	267,150,862	-	202,279,112	202,279,112
Current portion for lease liabilities	-	9,228,565	9,228,565	-	9,055,775	9,055,775
Lease liabilities	-	78,348,031	78,348,031	-	87,382,191	87,382,191
Other non-current liabilities	-	26,725,724	26,725,724	-	26,067,217	26,067,217
	-	381,453,182	381,453,182	-	324,784,295	324,784,295

33. RECONCILIATION OF LIABILITIES ARISING FROM FINANCING ACTIVITIES

Changes in the liabilities arising from financing activities for the years ended December 31, 2022 and 2021 are as follows:

	Baht			
	Consolidated financial statements / Separate financial statements			
	Balance as at	Cash flows	Non-cash transaction	Balance as at
	Jan. 1, 2022	Increase (decrease)*	Increase	Dec. 31, 2022
Lease liabilities	96,437,966	(11,355,400)	2,494,030	87,576,596
Total	96,437,966	(11,355,400)	2,494,030	87,576,596

	Baht			
	Consolidated financial statements / Separate financial statements			
	Balance as at	Cash flows	Non-cash transaction	Balance as at
	Jan. 1, 2021	Increase (decrease)*	Increase	Dec. 31, 2021
Lease liabilities	104,970,733	(11,277,500)	2,744,733	96,437,966
Total	104,970,733	(11,277,500)	2,744,733	96,437,966

* Financing cash flows included net proceed and repayment cash transactions in the statements of cash flows.

34. EVENT AFTER THE REPORTING PERIOD

Dividend payment

According to the resolution of the Board of Directors' Meeting No. 1/2023 held on February 24, 2023, the Board of Directors approved dividend payment at Baht 0.13 per share for 584,500,000 issued and paid up ordinary shares, in total amount of Baht 75,985,000. The dividend declaration will be proposed to the next Annual General Shareholders' Meeting for approval.

35. APPROVAL OF FINANCIAL STATEMENTS

These financial statements were authorized for issue by the Board of Directors of the Company on February 24, 2023.

Section 4 Attachment

Attachment 1

Details of the Board, Executives, the person taking the highest responsibility in finance and accounting, the person supervising accounting and Company Secretary

The Board and Authorized

As of December 31, 2022



Dr. Thakol Nunthirapakorn

Independent Director (Non-Executive) /
Chairman of the Board / Chairman of the Audit Committee



Mr. Prasert Deejongkit

Independent Director (Non-Executive) /
Chairman of the Nomination and Remuneration Committee /
Member of the Audit Committee



Dr. Teerachai Pornsinsirak

Independent Director (Non-Executive) /
Chairman of the Risk Management Committee



Mrs. Valeeratn Chuerboonchai

Independent Director (Non-Executive) /
Member of the Audit Committee/ Member of the
Nomination and Remuneration Committee



Mrs. Sirima Iamsakulrat

Directors (Non-Executive) /
Authorized Director



Dr. Jain Charnnarong

Directors (Non-Executive) /
Member of the Executive Committee /
Member of the Nomination and Remuneration
Committee / Authorized Director



Mr. Wirat Sukchai

Directors (Executive) /
Chairman of the Executive Committee /
Member of the Risk Management Committee
and Authorized Director



Mr. Thammanoon Tripetchr

Directors (Executive) /
Member of the Executive Committee /
Member of the Risk Management Committee
and Authorized Director

References information disclosed on HARN website, be in the links below, shall be deemed to be part of Form 56-1 One Report.

<https://www.harn.co.th/about/board-of-directors>

The person taking the highest responsibility in finance and accounting, The person supervising accounting and Company Secretary

As of December 31, 2022

01. Mr. Thammanoon Tripetchr

Chief Executive Officer :

Chief Marketing Officer: Digital Printing System



02. Mr. Wirat Sukchai

Chief Marketing Officer :

Refrigeration System

03. Mr. Rattanaphan Mukhariwattananon

Chief Marketing Officer :

Fire Protection, Air Conditioning
and Sanitary System



04. Mr. Wisit Wachiralappaitoon

Chief Financial Officer /

The person taking the highest
responsibility in finance and accounting

05. Mrs. Varinkan Teraumranon

Chief operating officer

06. Miss Ananya Proyngoen

The person supervising accounting



07. Miss Wasukan Boonmee

Company Secretary

References information disclosed on HARN website, be in the links below, shall be deemed to be part of Form 56-1 One Report
<https://www.harn.co.th/management/> and <https://www.harn.co.th/investor-relations/shareholders-information/information/>

Dr. Thakol Nunthirapakorn

Independent Director (Non-Executive)

Chairman of the Board and Chairman of the Audit Committee

Age 77 Yrs.

Shareholding (As at December 31, 2022):

- None -

Appointment:

September 5, 2012 (HARN was listed on the Stock Exchange of Thailand in 2014, resulting in holding the position continuously.)

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):

- Hot Issue for Directors - What Directors Need to Know About Digital Assets Class 3/2022
- Director's Briefing: Governing in Tomorrow's World Class 1/2021
- Role of the Chairman Program (RCP), Class 43/2018
- Anti-Corruption the Practical Guide (ACPG) Class 36/2017
- Chairman Forum (R-CF), Class 1/2016
- Directors Certification Program (DCP), Class 228/2016
- Ethical Leadership Program (ELP), Class 3/2016
- Audit Committee Program (ACP), Class 8/2005
- Director Accreditation Program (DAP), Class 8/2004

Other courses:

- Value of Audit
- Preliminary to Corporate Sustainability (P01)
- Corporate Sustainability Strategy (S01-S03)
- Sustainability Risk and Materiality Analysis (S04)

Board skill matrix (as December 31, 2022):

- Accounting and Finance / Responsibility and Sustainable Development

Work experience (5-years past experiences):

- 2019 - Present Director and Member of the Audit Committee, United Paper Public Company Limited
- 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.
- 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

Current Positions:

Listed Company (2)

- Ratchthani Leasing Plc.
- United Paper Plc.

Public Company / Limited Company

- None -

Other Organizations/Institutions

- None -

State Enterprise

- None -

Having a Special Interest that is Different from Other Directors

- None -

Family Relation with Other Directors

- None -

Dispute in the 10 Preceding Years

- None -

Participation in administration, staff, employees or consultants who receive a regular salary

- None -

Being a professional service provider, such as an auditor, legal advisor

- None -

Significant business relationships that May result in inability to perform duties independently

- None -

Mr. Prasert Deejongkit

Independent Director (Non-Executive)

Chairman of the Nomination and Remuneration Committee and
Member of the Audit Committee

Age 56 Yrs.

Shareholding (As at December 31, 2022)

- None -

Appointment:

April 23, 2021

Education:

- MBA (Financial Management (2nd honours)), National Institutes of Development Administration (NIDA)
- LLB, Sukhothai Thamathirat Open University, Nonthaburi
- BE (Mechanical Engineering), Chulalongkorn University

Training participation:

Training program of Thai Institute of Directors Association (IOD):

- Board Nomination & Compensation Program (BNCP), Class 14/2022
- Director Accreditation Program (DAP), Class 184/2021

Other courses:

- Islamic Banking and Finance: Legal, Regulatory & Risk Management, Euro money Training, November 2008
- Sasin Executives Program (SEP) 24, Sasin Graduate Institute of Business Administration of Chulalongkorn University, September 2010
- Leadership Succession Program (LSP) 2, Institute of Research and Development for Public Enterprises of Thailand Foundation (IRDP), June 2014
- Strategic and Innovation for Business in Asia (SIBA) 4, CMMU, Mahidol University and Sloan School of Management, Massachusetts Institute of Technology, June 2015
- Executive Development Program (EDP) 12, Fiscal Policy Research Institute Foundation, Ministry of Finance, August 2016

Board skill matrix (as December 31, 2022):

- Strategy, Marketing and Competition / Accounting and Finance / Legal related to business / Responsibility and Sustainable Development

Work experience (5-years past experiences):

- | | |
|----------------|--|
| 2022 - Present | Independent Director, Chairman of the Nomination and Remuneration Committee and Member of the Audit Committee, Harn Engineering Solutions Plc. |
| 2021 - Present | Director, CMDF Digital Infrastructure for Capital Market Co., Ltd. |
| 2020 - Present | EVP & Manager, Corporate Finance Department, Bangkok Bank Plc. |
| 2019 - Present | Director, TRIS Corporation Limited |
| 2015 - Present | Director, Club's Board of Directors, Investment Banking Club, Association of Securities Companies (Thailand) |
| 2013 - Present | Director, the Registered Provident Fund of Bangkok Bank Plc. |
| 2021 - 2022 | Independent Director, Member of the Audit Committee, Harn Engineering Solutions Plc. |
| 2020 - 2021 | Director of Sub-Committee on Director on Debt Securities, the Securities and Exchange Commission |
| 2009 - 2019 | SVP & Manager, Corporate Finance Department, Bangkok Bank Plc. |

Current Positions:

Listed Company (1)

- Bangkok Bank PLC

Public Company / Limited Company (2)

- TRIS Corporation Limited
- CMDF Digital Infrastructure for Capital Market Co., Ltd.

Other Organizations/Institutions (2)

- Investment Banking Club, Association of Securities Companies (Thailand)
- The Registered Provident Fund of Bangkok Bank Public Company Limited

State Enterprise

- None -

Having a Special Interest that is Different from Other Directors

- None -

Family Relation with Other Directors

- None -

Dispute in the 10 Preceding Years

- None -

Participation in administration, staff, employees or consultants who receive a regular salary

- None -

Being a professional service provider, such as an auditor, legal advisor

- None -

Significant business relationships that May result in inability to perform duties independently

- None -

Dr. Teerachai Pornsinsirak

Independent Director (Non-Executive)

Chairman of the Risk Management Committee
Age 52 Yrs.

Shareholding (As at December 31, 2022)

- None -

Appointment:

April 25, 2022

Education:

- Ph.D. (Electrical Engineering), California Institute of Technology (Caltech), California, USA.
- M.S. (Electrical Engineering), Stanford University, California, U.S.A.
- LLB, (Legal Science), Sukhothai Thamathirat Open University
- B.S. (Physics and Electrical Engineering), California Institute of Technology (Caltech), California, USA.
- Executive Certificate in Engineering and Business for Executives, California Institute of Technology (Caltech), California, U.S.A.

Training participation:

Training program of Thai Institute of Directors Association (IOD):

- Directors Certification Program (DCP), Class 211/2015

Other courses:

- Capital Market Academy Programs (Class 29), Capital Market Academy
- Blue Ocean Shift: Beyond Competing Master class, FDB
- Advanced Strategic Management, Corporate Strategy & Learning Institute (CSLI)
- The Art of Public Speaking, PTT Leadership & Learning Institute (PLLI)
- Energy Literacy for the World (Class 3), Thailand Energy Academy
- Harvard Business School (PTT Leadership Development Program II)
- MIT-CMMU Strategy and Innovation for Business in Asia (SIBA Class 2)
- PTT Management Development Program III (Business, Company, and People Management)
- Center for Creative Leadership (CCL), Singapore (Leadership Development Program)

Board skill matrix (as December 31, 2022):

- Strategy, Marketing and Competition / Technology and IT / Risk Management / Human Resources / Responsibility and Sustainable Development

Work experience (5-years past experiences):

- | | |
|----------------|---|
| 2022 - Present | Independent Director and Chairman of the Risk Management Committee, Harn Engineering Solutions Plc. |
| 2022 - Present | Head of Digital and Innovation, Banpu Plc. |
| 2021 - 2022 | Director and Managing Director, Thai Film Industries Plc. |
| 2020 - 2021 | Independent Strategy and Management Consultant, TEKA Construction Co., Ltd. |
| 2018 - 2020 | Chief Strategy Officer, B.Grimm Co., Ltd. |
| 2011 - 2018 | Research Manager, Technology and Innovation / Corporate Strategy, PTT Public Company Limited |
| 2004 - 2010 | Deputy Director of the National Center for Nanotechnology, National Science and Technology Development Agency |
| 2002 - 2003 | Global Product Manager / Technologist, Applied Materials, Inc., Silicon Valley, CA, U.S.A. |
| 1991 - 1997 | Payload and System Engineer, Hughes Aircraft Company, Los Angeles, CA, U.S.A. |

Current Positions:

Listed Company (1)

- Banpu Plc.

Public Company / Limited Company

- None -

Other Organizations/Institutions

- None -

State Enterprise

- None -

Having a Special Interest that is Different from Other Directors

- None -

Family Relation with Other Directors

- None -

Dispute in the 10 Preceding Years

- None -

Participation in administration, staff, employees or consultants who receive a regular salary

- None -

Being a professional service provider, such as an auditor, legal advisor

- None -

Significant business relationships that May result in inability to perform duties independently

- None -

Mrs. Valeeratn Chuerboonchai

Independent Director (Non-Executive)

Member of the Audit Committee / Member of the Nomination and Remuneration Committee

Age 68 Yrs.

Shareholding (As at December 31, 2022)

5,671,700 shares (0.97%)

Appointment:

May 15, 2022

Education:

- B.B.A. (Accounting), Assumption University

Training participation:

Training program of Thai Institute of Directors Association (IOD):

- Board Nomination & Compensation Program (BNCP), Class 14/2022
- Financial Statements for Directors (FSD), Class 28/2015
- Director Certification Program (DCP), Class 205/2015
- Anti-Corruption for Executive Program (ACEP), Class 14/2015
- 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

Board skill matrix (as December 31, 2022):

- Accounting and Finance / Human Resources

Work experience (5-years past experiences):

2022 - Present	Independent Director / Member of the Audit Committee / Member of the Nomination and Remuneration Committee, Harn Engineering Solutions Plc.
2018 - Present	Director, Nutrix Public Company Limited
2018 - 2022	Director, Harn Engineering Solutions Plc.
2012 - 2018	Director and Member of the Executive Committee, Harn Engineering Solutions Plc.
2012 - 2017	Assistant Managing Director: Operations, Harn Engineering Solutions Plc.
2007 - 2016	Director and Member of the Executive Committee, Chillmatch Co., Ltd.
2007 - 2016	Director and Member of the Executive Committee, QIIS Co., Ltd.
2007 - 2012	Finance Director, Fire Victor Co., Ltd.

Current Positions:

Listed Company - None -

Public Company / Limited Company (1)

- Nutrix Public Company Limited

Other Organizations/Institutions - None -

State Enterprise - None -

Having a Special Interest that is Different from Other Directors - None -

Family Relation with Other Directors - None -

Dispute in the 10 Preceding Years - None -

Participation in administration, staff, employees or consultants who receive a regular salary - None -

Being a professional service provider, such as an auditor, legal advisor - None -

Significant business relationships that May result in inability to perform duties independently - None -

Mrs. Sirima Iamsakulrat

Directors (Non-Executive)

And Authorized Director

Age 60 Yrs.

Shareholding (As at December 31, 2022)

81,884,151 shares (14.01%)

Appointment:

September 5, 2012 (HARN was listed on the Stock Exchange of Thailand in 2014, resulting in holding the position continuously.)

Education:

- M.B.A., Stanford University, USA.
- B.Econ. (Economics), Chulalongkorn University

Training participation:

Training program of Thai Institute of Directors Association (IOD):

- Board Nomination & Compensation Program (BNCP), Class 5/2018
- Successful Formulation & Execution of Strategy (SFE), Class 24/2015
- Director Certification Program (DCP), Class 211/2015
- Director Accreditation Program (DAP), Class SET/2012

Other courses:

- Preliminary to Corporate Sustainability (P01)
- Corporate Sustainability Strategy (S01-S03)
- Sustainability Risk and Materiality Analysis (S04)
- Sustainability Evaluation and Data Management (S05)
- Sustainability Reporting (S06)
- Challenges of internal auditors towards value creation in the current economic climate

Board skill matrix (as December 31, 2022):

- Core Business / Accounting and Finance / Responsibility and Sustainable Development

Work experience (5-years past experiences):

2022 - Present	Director, Harn Engineering Solutions Plc.
2017 - Present	Director, Jainnopsiri Co., Ltd.
2017 - Present	Director, Phraboriban Co., Ltd.
1989 - Present	Member of the Executive Committee, Harn Engineering Co., Ltd.
2018 - 2022	Director and Member of the Nomination and Remuneration Committee, Harn Engineering Solutions Plc.
2016 - 2018	Director and Chairperson of the Executive Committee, Harn Engineering Solutions Plc.
2012 - 2016	Member of the Executive Committee, Harn Engineering Solutions Plc.

Current Positions:

Listed Company - None -

Public Company / Limited Company (3)

- Harn Engineering Co., Ltd.
- Jainnopsiri Co., Ltd.
- Phraboriban Co., Ltd.

Other Organizations/Institutions - None -

State Enterprise - None -

Family Relation with Other Directors

Elder sister of Dr. Jain Charnnarong

Dispute in the 10 Preceding Years - None -

Dr. Jain Charnnarong

Directors (Non-Executive) /

Member of the Executive Committee / Member of the Nomination and Remuneration Committee / Authorized Director

Age 56 Yrs.

Shareholding (As at December 31, 2022)

68,953,030 shares (11.80%)

Appointment:

April 28, 2017

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):

- Board Nomination & Compensation Program (BNCP), Class 14/2022
- How to Develop a Risk Management Plan (HRP), Class 8/2015
- Successful Formulation & Execution of Strategy (SFE), Class 23/2015
- Family Business Sustainability (FBS), Class 1/2014
- Director Certification Program (DCP), Class 173/2013

Other courses:

- The direction of driving business in accordance with the sustainable development goals
- Directions and trends of key technologies to Digital Transformation
- Preliminary to Corporate Sustainability (P01)
- Corporate Sustainability Strategy (S01-S03)
- Sustainability Risk and Materiality Analysis (S04)
- Sustainability Evaluation and Data Management (S05)
- Sustainability Reporting (S06)

Board skill matrix (as December 31, 2022):

- Core Business / Technology and IT / Responsibility and Sustainable Development

Work experience (5-years past experiences):

2022 - Present	Director, Member of the Executive Committee, Member of the Nomination and Remuneration Committee, Harn Engineering Solutions Plc.
2020 - Present	Director, Aiyara Harn Co., Ltd.
2017 - Present	Director, Jainnopsiri Co., Ltd.
2017 - Present	Director, Phraboriban Co., Ltd.
2007 - Present	Director, Harn Engineering Co., Ltd.
2017 - 2022	Director and Member of the Executive Committee, Harn Engineering Solutions Plc.
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

Current Positions:

Listed Company - None -

Public Company / Limited Company (4)

- Harn Engineering Co., Ltd.
- Aiyara Harn Co., Ltd.
- Jainnopsiri Co., Ltd.
- Phraboriban Co., Ltd.

Other Organizations/Institutions - None -

State Enterprise - None -

Family Relation with Other Director

Younger brother Mrs. Sirima Iamsakulrat

Dispute in the 10 Preceding Years - None -

Mr. Wirat Sukchai

Directors (Executive)

Chairman of the Executive Committee, Member of the Risk Management Committee, Authorized Director, Chief Marketing Officer: Refrigeration System and Investor Relations

Age 57 yrs.

Shareholding (As at December 31, 2022)

86,795,159 shares (14.85%)

Appointment:

September 5, 2012 (HARN was listed on the Stock Exchange of Thailand in 2014, resulting in holding the position continuously.)

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):

- How to Develop a Risk Management (HRP) Class 12/2017
- Successful Formulation & Execution of Strategy (SFE), Class 24/2015
- Director Certification Program (DCP), Class 204/2015
- Role of Chairman Program (RCP), Class 36/2015
- Anti-Corruption for Executive Program (ACEP), Class 14/2015
- Director Accreditation Program (DAP), Class SET/2012

Other courses:

- Fire Product value and on Lead Free (NSF) value
- Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making
- Senior Executive Program (CMA), Class 29
- 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 4th Refreshment Program
- TQM : Total Quality Management Course
- Inspection of Building Fire Safety System Course

Board skill matrix (as December 31, 2022):

- Core Business / Strategy, Marketing and Competition

Work experience (5-years past experiences):

2022 - Present	Chief Marketing Officer: Refrigeration System, Harn Engineering Solutions Plc.
2016 - 2022	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.

Current Positions:

Listed Company - None -

Public Company / Limited Company - None -

Other Organizations/Institutions - None -

State Enterprise - None -

Family Relation with Other Director - None -

Dispute in the 10 Preceding Years - None -

Mr. Thammanoon Tripetchr

Directors (Executive)

Member of the Executive Committee, Member of the Risk Management Committee, Authorized Director, Chief Executive Officer and Chief Marketing Officer: Digital Printing System
Age 55 Yrs.

Shareholding (As at December 31, 2022)

22,779,886 shares (3.90%)

Appointment:

November 1, 2016

Education:

- B.B.A. (Management), Assumption University of Thailand

Training participation:

Training program of Thai Institute of Directors Association (IOD):

- How to Develop a Risk Management Plan (HRP), Class 31/2022
- Director Certification Program (DCP), Class 211/2015
- Successful Formulation & Execution of Strategy (SFE), Class 24/2015
- Financial Statements for Directors (FSD), Class 28/2015
- Director Accreditation Program (DAP), Class 116/2015

Other courses:

- Chief Transformation Officer (CTO)
- Preliminary to Corporate Sustainability (P01)
- Corporate Sustainability Strategy (S01-S03)
- ISO 9001 : 2015 Understanding and Implementation
- Safety Officer
- Development of strategic thinking
- Leadership Skill
- Internal Quality Audit
- Application of KPIs to ISO 9001: 2000
- CRM - Strategy & Technology

Board skill matrix (as December 31, 2022):

- Strategy, Marketing and Competition / Technology and IT / Risk Management / Human Resources / Responsibility and Sustainable Development

Work experience (5-years past experiences):

2022 - Present Chief Executive Officer and Chief Marketing Officer: Digital Printing System, Harn Engineering Solutions Plc.
2021 - Present Director, Harnvietnam Co., Ltd.
2020 - Present Director, Aiyaraharn Co., Ltd.
2016 - 2022 Managing Director: Digital Printing System, Harn Engineering Solutions Plc.
2015 - 2016 Managing Director, Q II S Co., Ltd.
2014 - 2016 Director, Chillmatch Co., Ltd.

Current Positions:

Listed Company - None -

Public Company / Limited Company (2)

- Aiyaraharn Co., Ltd.
- Harnvietnam Co., Ltd.

Other Organizations/Institutions - None -

State Enterprise - None -

Family Relation with Other Director - None -

Dispute in the 10 Preceding Years - None -

Mr. Rattanaphan Mukhariwattananon

Chief Marketing Officer:

Fire Protection System, Air Conditioning and Sanitary System
Age 44 yrs.

Shareholding (As at December 31, 2022)

4,262,883 shares (0.73%)

Appointment:

January 1, 2014

Education:

- Executive M.B.A. KU 25, Kasetsart University
- B.Ind.Tech. (Mechanical), Sriprathum university

Training participation:

- Fire Product value and on Lead Free (NSF) value
- Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making
- Basic of Air-conditioning System
- HVAC Training by Victaulic
- CSR for Corporate Sustainability (P01)
- ISO 9001 : 2015 Understanding and Implementation
- Risk Management Certificate Program, Class 10
- Sprinkler System Design
- Warehouse Sprinkler System and Clean Agent Fire Extinguishing Design

Work experience (5-years past experiences):

2022 - Present Chief Marketing Officer: Fire Protection System, Air Conditioning and Sanitary System, Harn Engineering Solutions Plc.
2014 - 2022 Sales Director: Fire Protection System, Air-conditioning system and sanitary, Harn Engineering Solutions Plc.
2008 - 2013 Sales Manager, Fire Victor Co., Ltd.
2003 - 2008 Sales Engineer, Fire Victor Co., Ltd.

Mr. Wisit Wachiralappaitoon

Chief Financial Officer and The person taking the highest responsibility in finance and accounting
Age 48 Yrs.

Shareholding (As at December 31, 2022)

642,437 shares (0.11%)

Appointment:

March 16, 2016

Education:

- Master of Science (Accounting), Thammasat University
- B.B.A. (Accounting), Ramkhamhaeng University
- LL.B. (Laws), Ramkhamhaeng University

Training participation:

- Operations in accordance with the Personal Data Protection Act
- Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making.
- The Continuing Professional Development Program By Self-Study CPD Financial Reporting Standards For Non-Publicly Interested Entities (NPAsEs)
- Training Schedule Ethics Training Project For Professional Accountants Only Certified Public Accountant
- Checking corporate fraud with Jurisprudence of Accountancy.
- Foreign exchange risk analysis and risk management.
- Accounting tools with RPA, AI and OCR technology
- Calculation of employee benefits Preparation problems and solutions to be correct according to accounting standards
- Training for Continuing Professional Knowledge (CPD) for auditors and accountants According to the regulations of the Federation of Accounting Professions.
- Executive Accountant Testing Program (Financial Strategy)
- Update tax law 2020 and tax issues that corporations should not miss.
- Account Management for Listed Company (SET)
- Financial Management Strategy To revive the organization and create growth in the New Normal
- The New CFO (Crisis Finance Officer) (SET)
- Changes in TFRS15, and Draft TFRS9, TFRS16, effective 2019 and 2020
- Prepare Financial Reporting Standard No. 9 Financial Instruments (TFRS 9) and No. 16 Lease Agreement (TFRS 16)

Work experience (5-years past experiences):

2019 - Present Chief Financial Officer, Harn Engineering Solutions Plc.
2016 - 2019 Finance Director, Harn Engineering Solutions Plc.
2012 - 2016 Chief Financial Officer, Hot Pot Plc.

Mrs. Varinkan Teraumranon

Chief operating officer
Age 57 Yrs.

Shareholding (As at December 31, 2022)

1,328,322 shares (0.23%)

Appointment:

October 10, 2019

Education:

- BBA (Accounting), Rajamangala Institute of Technology

Training participation:

Training program of Thai Institute of Directors Association (IOD):

- Effective Minute Taking Plan (EMT), Class 36/2016
- Company Reporting Program (CRP), Class 16/2016
- Company Secretary Program (CSP), Class 72/2016
- How to Develop a Risk Management Plan (HRP), Class 8/2015

Other courses:

- Certificate in ESG Management (C-ESG)
- Operations in accordance with the Personal Data Protection Act
- Analytical Thinking and Systems Thinking for Cross-functional Problem Solving and Decision Making
- Personal Data Protection Act (PDPA)
- CSR for Corporate Sustainability(P01)
- Business Sustainability Strategy (S01-S03)
- Sustainability Risk and Materiality Analysis (S04)
- CSR Evaluation and Data Management (S05)
- Sustainability Reporting (S06)
- Organizational Success Assessment through KPI Course
- 360° Marketing Communication Techniques Course
- Finance for Non-finance Executive Course
- Finance for the Boss Course

Work experience (5-years past experiences):

2021 - Present Chief operating officer, Harn Engineering Solutions Plc.
2019 - 2021 Chief operating officer and Company Secretary, Harn Engineering Solutions Plc.
2016 - 2019 Corporate Governance Director and Company Secretary, Harn Engineering Solutions Plc.
2016 - 2017 Assistant Managing Director: Corporate Governance and Secretary Company, Harn Engineering Solutions Plc.
2014 - 2016 Operation Support Director (General Management Group), Harn Engineering Solutions Plc.

Miss Ananya Proyngoen

The person supervising accounting

Age 41 yrs.

Shareholding (As at December 31, 2022)

117,988.00 shares (0.02%)

Appointment:

December 1, 2016

Education:

- Master of Accountancy (M.Acc.), Chulalongkorn University
- B.B.A. (Accounting), Rajamangala Institute of Technology Chakrabongsa Bhuvanarth Campus

Training participation:

- Business accounting and key issues according to accounting principles NPAEs
- Summary of important issues and problems encountered in the practice of TFRS 9, TFRS 15 and TFRS 16
- Financial reporting standards and essential accounting standards for accountants (TFRS15, TAS16, TAS38, TAS40)
- Improving, closing accounts and disclosing information to be in accordance with financial reporting standards.
- Corporate income tax for tax accountants
- Ethics training project for professional accountants only certified public accountant

Work experience (5-years past experiences):

2016 - Present	Account Manager, Harn Engineering Solutions Plc.
2014 - 2015	Account Manager, I AM Consulting Co., Ltd.
2013 - 2014	Accounting Supervisor, Yum Restaurants International

Miss Wasukan Boonmee

Company Secretary

Age 43 yrs.

Shareholding (As at December 31, 2022)

71,748.00 shares (0.01%)

Appointment:

August 11, 2021

Education:

- B.B.A. (Business Computer), Chandrakasem Rajabhat University

Training participation:

Training program of Thai Institute of Directors Association (IOD):

- Effective Minute Taking Plan (EMT), Class 65/2015
- Company Secretary Program (CSP), Class 64/2015

Work experience (5-years past experiences):

2021 - Present	Company Secretary, Harn Engineering Solutions Plc.
2016 - 2021	Assistant Company Secretary, Harn Engineering Solutions Plc.
2015 - 2016	Company Secretary and Secretary of the Audit Committee, Chillmatch Co., Ltd.
2007 - 2015	Administrative, Harn Engineering Co., Ltd.

Details Position the Board and the Management of HARN / Subsidiaries / Related Companies

Name		Company	Position of HARN / Subsidiaries / Related Companies											
			Harn Engineering Solutions Plc.	Ratchthani Leasing Plc.	United Paper Plc.	Nutrix Plc.	Jainnopsiri Co., Ltd.	Phraboriban Co., Ltd.	Harn Vietnam Co., Ltd.	Alyara Harn Co., Ltd.	Bangkok Bank Plc.	CMDF Digital Infrastructure Co., Ltd.	Tris Corporation Co., Ltd.	Banpu Plc.
1. Mr. Thakol	Nunthirapakorn	▲ ■		■	■									
2. Mr. Prasert	Deejongkit	■								■	■	■		
3. Mr. Teerachai	Pornsinsirirak	■											►	
4. Mrs. Valeeratn	Chuerboonchai	■				■								
5. Mrs. Sirima	Iamsakulrat	■	■				■	■						
6. Mr. Jain	Charnnarong	■ ●	■				■	■		■				
7. Mr. Wirat	Sukchai	■ ● ►												
8. Mr.Thammanoon	Tripetchr	■ ● ►							■	■ ►				
9. Mr. Rattanaphan	Mukhariwattananon	● ►												
10. Mr. Wisit	Wachiralappaitoon	● ►												
11. Mrs. Varinkan	Teraumaranon	● ►												

Note: ▲ = Chairman ■ = Director ● = Executive ■ = Management

Attachment 2

Details of Subsidiaries Directors

Harn Vietnam Company Limited

The Board of Directors at the Meeting No. 5/2018, held on November 9, 2018 resolved to establish a subsidiary in Vietnam which HARN owns 100%. To support the market expansion into Asian countries AEC and enhance the efficiency of customer service base in Ho Chi Minh City, Vietnam, focuses the target group Global Accounts of Domino UK, which is the distributor/owner main brand of HARN and other companies in main industrial of Vietnam for Digital Printing Products.

HARN registered the establishment of Harn Vietnam Company Limited ("subsidiary"), Vietnam, with a registered capital of 800,000,000 Vietnamese dong or approximately 1,057,444 baht. HARN holds 100% of the subsidiary's shares of the registered capital on July 30, 2019. Specifying the legal representatives of the Subsidiary as follow Mr. Thammanoon Tripetchr, sign and affix the company seal.

Aiyaraharn Company Limited

The Board of Directors at the Meeting No. 4/2020, held on May 14, 2020 resolved to establish a subsidiary which HARN owns 65%. To the operate a business on developing of Smart Building under the name "Aiyarahan".

HARN registered the establishment of Aiyarahan Company Limited ("subsidiary"), with a registered capital of Baht 2,000,000. HARN holds 65% of the subsidiary's shares of the registered capital on July 8, 2020. Specifying the Directors having authority to sign on behalf of the Subsidiary as follow Mr. Thammanoon Tripetchr, Mr. Jain Charnnarong, Mr. Prasertsak Detudom, two (2) of these three (3) shall jointly sign.

Details Position of the Subsidiaries

Name		Position of Subsidiaries	
		Harn Vietnam Co., Ltd.	Aiyaraharn Co., Ltd.
1. Mr. Thammanoon	Tripetchr	■	■
2. Mr. Jain	Charnnarong		■
3. Mr. Prasertsak	Detudom		■

Note : ■ = Director/Legal representatives ▶ = Management

References information disclosed on HARN website, be in the links below, shall be deemed to be part of Form 56-1 One Report.

<https://www.harn.co.th/about/business-structure/>

Attachment 3

Details of Head of Internal Audit and Head of Compliance

1) Head of Internal Audit

HARN hired Ultima Advisory Co., Ltd., as internal audit namely Ultima Advisory Company Limited by assigning Miss Chonlada Thirapattananon and Miss Siriphan Tantipanichphan as head of internal audit of HARN. Supervising the operations in accordance with the objectives and the international standards, including objectivity and independent consulting on HARN's and report directly to the Audit Committee, with Chief Financial Officer who is the Secretary of the Audit Committee responsible for coordinating within the company: as follows;

Miss Chonlada Thirapattananon

Managing Director

Age 54 Yrs.

Shareholding proportion (As at December 31, 2022) - None -

Appointment date December 2, 2016

Education

- M.Acc. (Accounting and Finance), Chulalongkorn University
- Graduate Diploma Program in Auditing, Thammasat University
- B.Acc. (Accounting), Thammasat University

Certified Public Accountant of Thailand License No. 4994

Training participation

1. Training project to receive a certificate in internal audit, class 3
2. COSO 2013 course
3. Internal Audit in Information System, Class 2/2016

Work Experiences (5 years past experiences)

- | | |
|----------------|--|
| 2010 - Present | Managing Director, Ultima Advisory Co., Ltd. |
| 2005 - 2010 | Manager, Deloitte Touche Tohmatsu Jaiyos Advisory Co., Ltd. |
| 1997 - 2005 | Financial Controller, Sensient Technologies (Thailand) Ltd.
Accounting and Finance Department, Amex Team
Advertising Group Manager, Gilbete Reed Co., Ltd. |
| 1991 - 1996 | Audit Manager / Ernst & Young Office Limited |

Relation among Family with other Directors, Management, Major Shareholders of the Company or Subsidiaries

- None -

Participation in administration, staff, employees or consultants who receive a regular salary

- None -

Significant business relationships that May result in inability to perform duties independently

- None -

Miss Siriphan Tantipanichphan

Senior Internal Audit Manager

Age 53 Yrs.

Shareholding proportion (As at December 31, 2022) - None -

Appointment date August 10, 2017

Education

- M.B.A, National Institute of Development Administration
- B.Acc. (Accounting), Thammasat University

Certified Public Accountant of Thailand License No. 4820

Training participation

- Training project to receive a certificate in internal audit, class 13
- COSO 2013 course
- COSO ERM 2017 course
- Internal Audit in Information System, Class 2/2016
- Corruption Prevention Course in Organizations, Class 16

Work Experiences (5 years past experiences)

- | | |
|----------------|--|
| 2016 - Present | Senior Manager, Ultima Advisory Co., Ltd. |
| 1993 - 2015 | Senior Manager, Ernst & Young Office Limited |

Relation among Family with other Directors, Management, Major Shareholders of the Company or Subsidiaries

- None -

Participation in administration, staff, employees or consultants who receive a regular salary

- None -

Significant business relationships that May result in inability to perform duties independently

- None -

2) Head of Compliance

Chief Operating Officer has been assigned by position to be Head of Compliance is responsibilities include overseeing corporate compliance, promoting corporate governance in business practices, and ensuring that the Executives and employees of HARN's and Subsidiaries comply with laws, rules, and regulations in countries where HARN operates. **More details appear in Section 2 "7.6.1 (Head of Compliance)" Pages 135 and profile details in Attachment 1, page 238**

References information disclosed on HARN website, be in the links below, shall be deemed to be part of Form 56-1 One Report.

<https://www.harn.co.th/corporate-governance/corporate-governance-policy/tors>

Attachment 4

Business Assets and Details on Asset Valuation

The details are reported under **Section 1 “1.2.7 Business Assets”** page 44-49 and **“Details on Asset Valuation”** page 49, disclosed on HARN website, be in the links below, shall be deemed to be part of Form 56-1 One Report.

<https://www.harn.co.th/corporate-governance/corporate-governance-policy/>

Attachment 5

Corporate Governance Policy and Code of Conduct Full Version

Harn Engineering Solutions Public Company Limited (“HARN”) operates its business responsibly, transparently, accountably, fairly, ethically and with due regard to all of its stakeholders by adhering to the principles of good corporate governance. Recognizes that its adherence to the principles of good corporate governance will contribute to the operational and management efficiency of HARN's and Subsidiaries. The Company also bolsters its credibility and fosters sustainable growth, itself but also for the society and the nation as a whole in order to achieve its vision.

The Board of Directors has formulated the Policies and Principles of Corporate Governance and Code of Conduct has been distributed throughout its establishment in order for directors, executives, employees, subsidiary, joint venture, controlling person of HARN, including business representatives (if any) to adhere when performing their duties to express intention to develop and improve our good corporate governance to be rated excellence in accordance with international standard. HARN has reviewed and revised the handbook so as to keep them up-to-date, and to keep them abreast of any changes be in line with business strategies including related regulations. Also, comprehensively communicated to all Directors, Executives and Employees, who have acknowledged and understood it entirely, and implement as a guideline for executing their duties.

For information disclosed on HARN website, be in the links below, shall be deemed to be part of Form 56-1 One Report.

<https://www.harn.co.th/corporate-governance/corporate-governance-policy/>

Attachment 6

Report of the Audit Committee

The details are reported under **Section 2 “8.2 (Report of the Audit Committee)”** page153-155, and disclosed on HARN website, be in the links below, shall be deemed to be part of Form 56-1 One Report.

<https://www.harn.co.th/corporate-governance/board-committee-directors/>

Quality Living Through Sustainable Engineering



Fire Protection & Safety



Air Conditioning & Sanitary



Refrigeration



Digital Printing



Harn 3DMed



Internet of Things

Quality Living Through
Sustainable Engineering



บริษัท หาญ เอ็นจิเนียริง โซลูชั่นส์ จำกัด (มหาชน)

559 ซอยศูนย์วิจัย 4 ถนนพระราม 9 แขวงบางกะปิ เขตห้วยขวาง กรุงเทพฯ 10310

Harn Engineering Solutions Public Company Limited

559 Soi Soonvijai 4, Rama 9 Road, Bangkapi, Huaykwang, Bangkok 10310, Thailand

 02 318 9744  02 318 9744 ต่อ 4000  Harn Engineering Solutions



www.harn.co.th