PharmaEngine
智 擎 生 技 製 藥

2022
Sustainability Report

http://www.pharmaengine.com

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About the Report

Description of the Report

The Company believes environmental sustainability, social responsibility and integrity management are the basic principles and core values of an enterprise recognized by the international community. To enhance stakeholder communication, PharmaEngine published the first 2011 Corporate Social Responsibility Report in 2012 (renamed to Sustainability Report in 2021) and this year is the twelfth consecutive year of publishing such report. The Company commits to continue issuing sustainability reports to fully disclose our continuous planning and achievements in enhancing integrity management, social responsibility, and environmental sustainability.

Report Content and Guidelines for Follow-up

This report is written in accordance with the GRI Standards 2016 issued by the Global Reporting Initiative (GRI), SASB Standards by Sustainability Accounting Standards Board and Tack Force on Climate-related Financial Disclosures (TCFD). The information covers various units of the Company.

In order to implement environmental protection, only an electronic version of the announcement is available. Please download the PDF file from the official website. http://www.pharmaengine.com

Information Recompilation and Report Change

Compared with previous reports, this report has no significant changes in the scope of the categories and themes, and there is no recompilation of information.

Scope and Boundary

The reporting period is from January 1, 2022 to December 31, 2022, and the scope of the information disclosed is mainly related to the operation activities of PharmaEngine in Taiwan.

External Assurance/Assurance

The statistical data disclosed in this report were based on financial statements certified by PricewaterhouseCoopers (PwC) Taiwan. Limited assurance about the partial information of this report was conducted by PwC Taiwan in accordance with the Assurance Engagements Other than Audits or Reviews of Historical Financial Information of the ISAE3000 principles, published by the Accounting Research and Development Foundation, and the said assurance report can be found in appendix 4 of this report.

Date of Issuance

2022 Report/September 1, 2023 (2021 Report/ September 28, 2022)

Feedback

If you have any questions about the 2022 PharmaEngine Sustainability Report, you are welcome to contact us and help us continue to improve.

Contact us>>>

Contact person: Chi-Hsing, Chang, Vice President

Address: 11F, 10 Minsheng E. Road, Sec. 3, Taipei 104, Taiwan

Tel: 886-2-2515-8228

Message from the President & CEO

In the past three years, PharmaEngine has endured the adversities brought about by the COVID-19 pandemic by adopting a highly flexible and efficient operation model. We simultaneously have been focusing on corporate sustainability and social responsibility by building a pipeline that can expand our presence in the field of oncology medicine and fulfill and steadily supply the needs of medical treatment for patients around the world.

The global Phase 3 clinical trial for Onivyde® as the first-line pancreatic cancer therapy met its objectives in November 2022 and PharmaEngine is eager to work with our global partner, Ipsen, to bring this treatment option to the patients in addition to its existing indication as a second-line option. This is the most direct way for us to fulfill the commitment and meet the expectations from society with a high degree of resilience and continuous innovation. The new project PEP07 was also shown to be as a potential precision oncology treatment through a series of complex pre-clinical experiments due to the continuous efforts of PharmaEngine's R&D team and our British partner Sentinel Oncology. As a result, we decided to move forward and applied for first-in-human clinical trials for PEP07 in December of 2022 and the application has been approved by Australia HREC in March 2023.

PharmaEngine is a member of the society and an enterprise that values the relationship with our stakeholders. It is our duty to use our expertise to search for ways to bring health and happiness to mankind while adhering to the basic principles of ESG (environment, social and governance). Our core belief is CARE (creative, attitude, reliability and expansion) and it helped us achieve our 2022 sustainability goals such as conducting scope 1 and scope 2 carbon emissions inventory process, procuring office electronic equipment that has the "environmentally sustainable" certification stickers, holding "World Pancreatic Cancer Day" on November 17, 2022 to bring awareness to the disease, collaborating with medical facilities, schools and holding group meetings for patients to share important industry experiences and information on pancreatic cancer, and strengthening employee training on human rights issues, information security and insider trading prevention. In 2022, we kicked off the process of applying for ISO 27001 Information Security Management System certification. We fully adopted the requirements and successfully obtained the certification in January 2023. we have also set up a "Sustainability Promoting Taskforce" in 2022 and began to include topics related to climate change issues in board meetings.

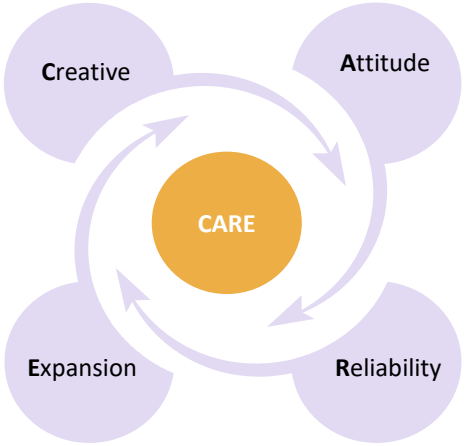
PharmaEngine will continue holding true to our vision and striving to develop new cancer drugs. We work to improve patients' well-being, enhance quality of life, and extend lives through innovation; through this, we fulfill our corporate social responsibility.

President & Chief Executive Officer of PharmaEngine, Inc.
Dr. Hong-Ren Wang

1- Sustainable Development Strategy

1.1 Sustainable Strategy Blueprint

Core Value



Stakeholders

- In-license or Out-license Partners
- Shareholders and Investors
- Suppliers and CRO
- Customers
- Government Agencies
- Employees
- Media
- Communities
- Charity Groups

Action Items

Industry Cooperation

Actively innovate in R&D and strengthen the sustainable actions of internal operations and partners

Build a Green Life

Pay attention to initiatives on environment and climate issues and improve business practices

Care for and be a Friend to Society

To drive the social change on employees and human rights issues

Key Issues

- Innovative R&D
- Information Security
- Corporate Governance
- Industry Co-Prosperity
- Environment Protection
- Social Engagement
- Talent Education

SDGs Goal

Sustainability Promotion Taskforce

Board of Directors

Supervises ESG targets and performance

Convener

Strategy drafting and execution

Executive Secretary

Job coordination

Corporate Governance

- Integrity management
- Internal audit
- Securities act compliance
- Information disclosure
- Investor relations maintenance

Environmental Sustainability

- Environmental protection
- Environmental compliance
- Green consumption

Employee Care

- Employee compensation and benefit
- Training
- Labor relations
- Occupational safety and health
- Human rights policy

Social Involvement

- Social welfare
- Customer management

Product Service

- Product safety
- Quality management
- Drug regulation management
- Supply chain management

1.2 Major Themes and Stakeholder Communication

Procedure for the Negotiation of Major Themes

1. Thematic Collection

- External issues
  - >>International covenants and regulations
  - >>Requirements of stakeholder
  - >>Guidelines for sustainability reports
- Internal issues
  - Performance indicators by sector

2. Identification of Stakeholder

- GRI Standards considerations
- Corporate social responsibility policy
- Business philosophy and vision
- Short- and long-term business plans

3. Thematic Boundaries

- Assess the boundaries of consideration

4. Response and Responsibility

- Board resolution
- Senior executive meeting resolution
- Resolutions of departmental meetings

5. Feedback and Review

- Stakeholder feedback
- Reference to benchmarking corporate practices
- Report and review at relevant meetings

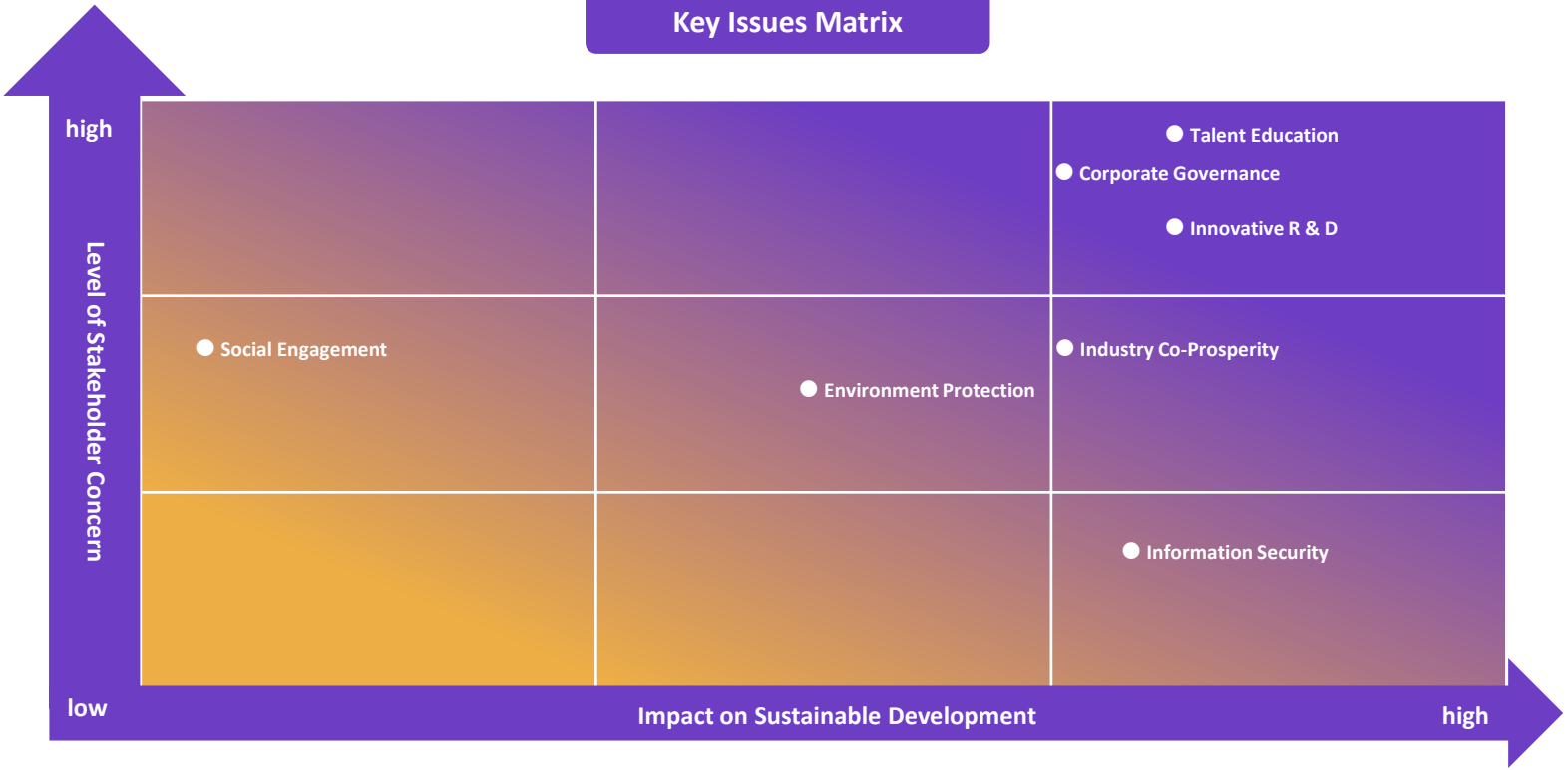
6. Improvement

- Resolving improvement measures at various meetings and as a topic for the following year

Major Themes and Boundaries

Key Issues	SDGS	Management Policy	Border Line	
			Internal	External
Innovative R&D	**SDG8** Decent Work and Economic Growth	● Continue to develop competitive and diverse unmet needs drugs ● Ensure product quality, safety and compliance	● PharmaEngine ● Employees	● Shareholders & Investors ● In-license or Out- license partner ● Customers ● Suppliers & CRO
Information Security	**SDG9** Industry, Innovation and Infrastructure	● Set up secure information security equipment and management processes	● PharmaEngine ● Employees	● Shareholders & Investors ● Customers ● Suppliers & CRO
Corporate Governance	**SDG16** Peace, Justice and Strong Institutions **SDG17** Partnerships for the Goals	● Incorporate ESG in operation policies ● Strengthen the auditing mechanism and strictly prohibit misconduct that endangers the Company ● Strengthen internal communication and operation model	● PharmaEngine ● Employees	● Shareholders & Investors ● Customers/Media ● Suppliers & CRO ● Government Agency
Industry Co-Prosperity	**SDG17** Partnerships for the Goals	● Drive suppliers or other cooperative units to actively conduct ESG actions	● PharmaEngine ● Employees	● Suppliers & CRO
Environment Protection	**SDG7** Affordable and Clean Energy **SDG12** Responsible Consumption and Production **SDG13** Climate Action	● Reduce the waste of energy resources and introduce effective energy and resource improvement equipment or policies ● Introduce circular economy to reduce waste ● Strengthen the initiatives on climate and environmental issues, and enhance awareness of colleagues and cooperative units	● PharmaEngine ● Employees	● Customers ● Suppliers & CRO ● Communities ● Government Agency
Social Engagement	**SDG3** Good Health and Well-Being	● Enhance care for social and human rights issues, and continuously track follow up results ● Care for patients and medical institutions, and construct friendly social services	● PharmaEngine ● Employees	● Customers ● Community ● Charity Group
Talent Education	**SDG4** Quality Education **SDG8** Decent Work and Economic Growth **SDG10** Reduced Inequalities	● Focus on employee career growth and plan a clear functional development blueprint ● Protect human rights and create a good working environment	● PharmaEngine ● Employees	● Customers ● Government Agency

Key Issues Matrix



Identification and Stakeholder Communication

The Company's stakeholders include shareholders (investors), employees, in-license or out-license partners, customers, suppliers & CRO, charity groups, communities, government agencies and media.

Stakeholder	 Shareholders & Investors	 Employees	 In-license or Out-license Partners	 Customers
Key Issues	● Innovative R&D ● Information Security ● Corporate Governance	● Innovative R & D ● Information Security ● Corporate Governance ● Industry Co-Prosperity ● Environment Protection ● Social Engagement ● Talent Education	● Innovative R&D	● Innovative R&D ● Information Security ● Corporate Governance ● Environment Protection ● Social Engagement ● Talent Education
Channels for Communication	● Shareholder's meeting ● Investors' conference ● MOPS ● Announce financial statements and annual report regularly ● Stock agency ● Information disclosed online ● To answer the investors by telephone or e-mail	● Labor conference ● Internal website ● Welfare committee ● Employee feedback hotline and mailbox ● Regular fire safety propaganda provided by the building management committee ● Annual health check	● By e-mail ● Regular visits ● Occasional meetings	● By telephone or e-mail ● Regular checkup on warehousing ● Regular checkup on transportation companies ● Held patient meetings ● Regular participation in medical associations ● Held academic seminars ● Information disclosed online
2022 Important Activity	● Held institutional investors' conferences and roadshows 5 times ● Held shareholders' meeting 1 time and board meetings 8 times	● Held labor-management meetings 4 times ● Promoted "Employee Leave and Travel Subsidy Program" ● Promoted "Employee Health Check Care Program" ● More than 50 pieces of information about employee benefits and training were announced internally in 2022	● Held group meetings regularly	● 6 pancreatic cancer patient meetings ● Product introduction in medical centers and hospitals ● 2022 World Pancreatic Cancer Day activities

Stakeholder	 Suppliers & CRO	 Charity Groups	 Communities	 Government Agencies	 Media
Main issues	● Innovative R & D ● Information Security ● Corporate Governance ● Industry Co-Prosperity ● Environment Protection	● Social Engagement	● Environment Protection ● Social Engagement	● Corporate Governance ● Environment Protection ● Talent Education	● Corporate Governance
Channels for Communication	● Unscheduled supplier visit and audit ● By telephone or e-mail ● Unscheduled manufacture site meetings	● Provide job opportunities for visually-impaired masseuses ● Unscheduled charity events ● Sustainability Report	● Building Management Center ● Participating in fire drills	● Advocacy of decrees and the promotion of related system ● Compliance the formulation of related specifications ● Competent authority meetings and seminars	● Press release ● Spokesperson system ● Information disclosed online ● Investor relations department
2022 Important Activity	● 4 GxP supplier capability assessments before cooperation ● Scheduled supplier audits with ESG-related issues 2 times ● Audited by email ● On-line meeting	● Visually impaired massages ● Volunteer activity of “Sanzhi Beach Cleaning” ● Held one training for GHG inventory ● A total of 35 employees participated in public welfare activities, with service hours totaled 70 hours in 2022	● Participated fire drill one time	● Contact the authority by telephone or e-mail	● Material information and press releases were published 40 times

Responses and Responsibilities to Stakeholders

To achieve sustainability, the Company constantly communicates stakeholders to understand their needs and use that information as reference of the company policy and business development. The Company listens to the opinion feedbacks of the stakeholders as a follow-up to improve the subject during the policy and plan implementation process.

The Company presented and communicated its “communication with stakeholders” during the Board of Directors meeting on October 27, 2022. It covered the purpose of communicating with stakeholders, the major topics of borders, major issues concerning stakeholders, identification of and communication with stakeholders, exchanges with stakeholders, and reflections upon and improvements of communication with stakeholders, etc.

Stakeholder Contact Information

Stakeholder	Contact Person	Telephone	E-mail
Shareholders and Investors/Customers/News Media/Government Agencies	Chi-Hsing, Chang, Vice President (Spokesperson)	(02) 2515-8228	chihsing.chang@pharmaengine.com
Employees/Communities/Non-profit Organizations	Melody Lin, Director, Human Resources	(02) 2515-8228	melodylin@pharmaengine.com
Authorized Partners	Roger Hsieh, Associate Director, Business Development	(02) 2515-8228	roger.hsieh@pharmaengine.com
Suppliers	April Chiu, Associate Director, Marketing & Sales	(02) 2515-8228	april.chiu@pharmaengine.com
Whistleblower Hotline	Tony Hong, Associate Director, Audit	(02) 2515-8228	audit@pharmaengine.com

2- Performance and Governance

2.1 Company Profile

The core of PharmaEngine's operation revolves around developing new drugs, adopting the virtual pharmaceutical company business model, achieving lightweight asset structure, lowering R&D risks, shortening the time of R&D to bring the medicine to the market and creating a win-win environment for the Company and our partners. The core competencies of the Company are new drug evaluation capabilities, negotiation of licensing introduction, formulation of new drug development strategy and execution plans, and external licensing negotiations. Through international cooperation, the R&D resources have been maximized. It has now developed into a full range of new drug R&D company. The goal is to become the most professional and innovative new drug development company in Asia.

Scale of Reporting Organization

Name	PharmaEngine, Inc. (Stock Code: 4162.TWO)
Location of organization's headquarters	11F, 10 Minsheng E. Road, Sec. 3, Taipei 104, Taiwan
Employees	36
No. of operational locations	1
Net sales	654,383 (Thousand NTD)
Paid-in capital	1,456,868 (Thousand NTD)
Product	安能得®(ONIVYDE®)

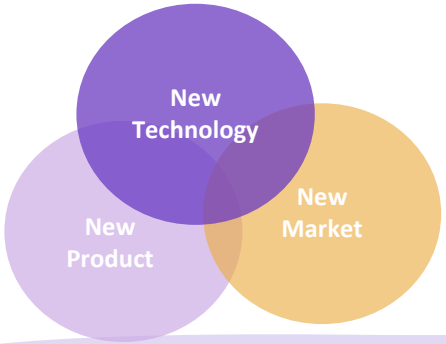
(As of Dec. 31, 2022)

Primary Brands, Products, and Services

The Company is mainly engaged in the development of new drugs. ONIVYDE® has received marketing approvals in more than 40 countries, including Taiwan, US, EU, Australia, Canada, South Korea, Japan, and China. In addition, the first-line pancreatic cancer (1L PDAC) phase II/III studies of ONIVYDE® are finished and the results of ONIVYDE® regimen (NALIRIFOX) demonstrated statistically significant improvement in overall survival in 1L PDAC. PEP07, a checkpoint kinase 1(Chk1) inhibitor, which targets the DNA Damage Response (DDR) network, is currently in the IND-ready stage and its' target is to treat hematologic cancers and solid cancer such as Acute Myeloid Leukemia (AML) and Mantle Cell Lymphoma (MCL).

Nature of Ownership

The Company is established under the laws of the Republic of China and it complies with the laws and regulations of the Republic of China on corporate governance, environmental protection, labor, human rights, products, and accounting.
The main operating activities are concentrated in Taiwan, but have been extended to Europe, the Americas, and Asia through preclinical or clinical trials of new drug development.

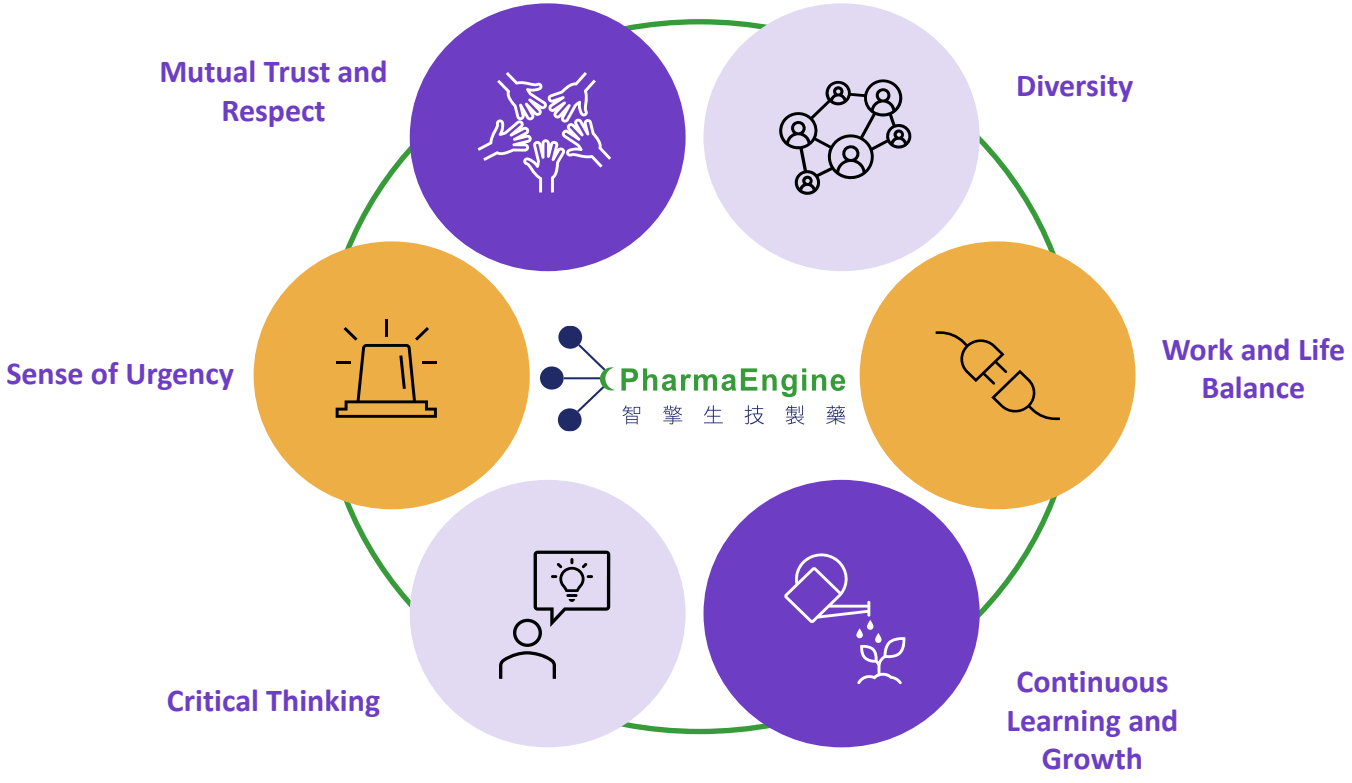


Markets

New Drug Development Project	Sales (Supply) Region	Customer and Beneficiary Type
安能得® (ONIVYDE®)	Authorized the right to develop and sell ONIVYDE® product in Asia (excluding Taiwan) and European region to Ipsen S.A.. Sales in Taiwan will be handled by the Company.	ONIVYDE® is a novel, stable encapsulated form of the marketed chemotherapy drug irinotecan in a long-circulating nanoliposome for the treatment of patients with metastatic adenocarcinoma of the pancreatic cancer who have been previously treated with gemcitabine-based therapy.
PEP07	PharmaEngine and Sentinel Oncology entered into an exclusive collaboration and license agreement for SOL-578.	PEP07 acts as a checkpoint kinase 1 inhibitor (Chk1 inhibitor) in the DDR mechanism. It could be applied in AML, MCL and metastatic solid tumor.

Note: Currently, the Company's products and services have not been prohibited in any specific markets, hence it has not been a major theme asked by stakeholders or engaged in public discussions.

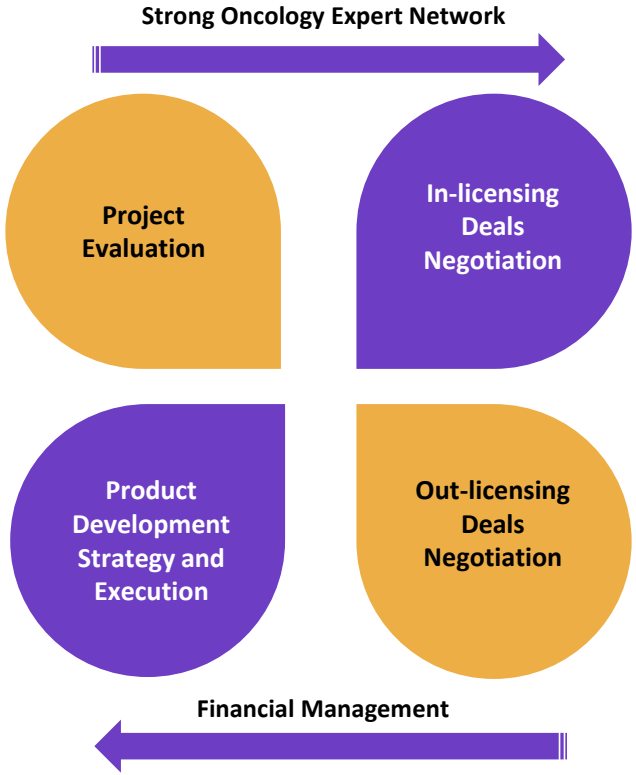
Corporate Culture



Strategy

- Focus on new drug R&D model
- Establish a new competitive and diverse drug product line
- Establish a cohesive international R&D team
- Strengthen international cooperation to tap into global new drug development resources
- Accelerate the completion of new drug development and marketing

Core Competence



Business Plan

Short-term Business Plan

Administration and Management

- Proactively recruiting international talents
- Integrating international resources and selecting eligible partners to establish a long-term collaboration for the global new drug development plan

Marketing Planning of ONIVYDE®

- Obtain the insurance pricing of new drugs in China to enlarge the market in Asia through international partners
- Accomplish marketing and sales planning in Taiwan

Project Development

- **Project of PEP07**
  >>Aggressively implement PEP07 pre-clinical efficacy testing and biomarker exploratory experiment on the hematologic cancers and solid cancers
  >>Keep implementing the clinical development plan for PEP07 project
- **Other Research Projects**
  >>Accelerate the screening of new drug candidates
- **R&D strategy**
  >>Aggressively in-licensing the new drug projects that meet our business strategy criteria and core competence
  >>Accelerate the launch of new drug product by the way of international collaboration
  >>Enhance the Company's own R&D capacity with the help of diversified and innovative drug R&D platform collaboration models.

Long-term Business Plan

- Establish a competitive and diverse drug product line
- Build a continuous global layout

Financial Performance

Unit: Thousand NTD

Item / Year	Operating Revenue	Operating Cost (Operating Cost and Expenses)	Operating Income	Non-operating Income and Expenses	Profits before Income Tax	Profits for the Year	Basic Earnings per Share (EPS) (NTD)
2021	654,835	292,146	362,689	182,706	545,395	426,031	2.95
2022	654,383	371,644	282,739	109,726	392,465	318,783	2.22

Direct Economic Value Generated and Distributed

Unit: Thousand NTD

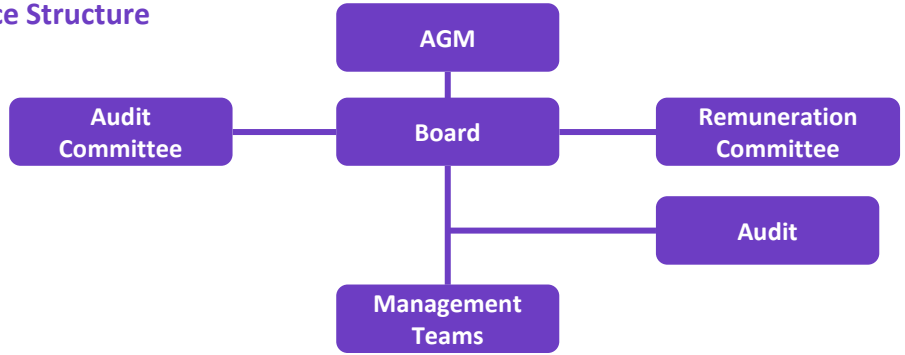
Stakeholders	Calculation of Economic Value	2021	2022
Shareholders	Cash dividend	363,992	387,711
Employees	Payroll, employee stock options, labor and health insurance, pension, directors' remuneration and other employment costs	109,381	113,815
Government	Corporate income tax	200,650	140,859
Licensors and Contract Research Organization	Drug development cost	76,551	112,080

Note: The Company did not receive government subsidies for the fiscal year of 2022.

2.2 Corporate Governance

The Company builds a corporate culture and sound development for integrity management and provides a reference framework for good business operations. It also handles regular businesses in accordance with the principles of the listed companies' corporate governance practices and maintains good corporate governance concept in its daily operations. In addition to reduce the possibility of corporate financial crisis, it also protects the rights of investors and creditors and fosters long-term quality and competitiveness of good companies.

Organizational Governance Structure



The Company passed the resolution at the board meeting on May 2, 2019 on the appointment of Vice President Chi-Hsing Chang of the Corporate Development Department as the supervisor of corporate governance, responsible for related corporate governance businesses, safeguarding shareholders' interests and strengthening the functions of the Board of Directors. Vice President Chang has the qualification of certified public accountant and has over 20 years of experience in managing matters including financial accounting and deliberation of public companies. His main duties are:

1. To provide the information required by the Directors and Independent Directors for the carrying out of business and the latest development of the laws and regulations related to the operation of the Company to assist the Directors and Independent Directors to comply with the laws and regulations;
2. To assist in the preparation of the meeting materials for the Board of Directors, Audit Committee, Remuneration Committee, and shareholders' meetings;
3. To handle the related preparation works for convening meetings and the meeting minutes for the BoD meetings and the shareholders’ meeting;
4. To handle company registration and changes thereof, to regularly review and revise various regulations related to corporate governance;
5. To handle the announcement declarations as required by the relevant regulations of listed companies and regularly report to the Board of Directors the review results of the independent directors’ qualifications in nomination, election, and during their tenure, the implementation of ESG and integrity operation, and all related operations to comply with the Company Act, Securities Trading Act, “Corporate Governance Best Practice Principles” and other relevant laws and regulations based on the spirit and requirements of corporate governance.

Implementation by the Board of Directors

Currently, there are 9 members (including 3 independent directors) of the 8th term of Board of Directors and the members each specializes in statistics, medicine, pharmacology, biotechnology, accounting, law, and corporate management. The composition of the Board of Directors meets the operational and developmental demand of the Company. There are three independent directors who are not employed by the Company or related companies and who are not operational personnel. The Board of Directors convenes meetings at least once a quarter. In 2022, the Board of Directors held 8 meetings in total.

In order to align the conduct of the Company's directors and managers with ethical standards and make the Company's stakeholders more aware of the Company's ethical standards, according to the "Guidelines for the Adoption of Codes of Ethical Conduct for TWSE/ TPEx Listed Companies", relevant guidelines are set to regulate directors and managers to prevent conflicts of interests, avoid opportunities for personal interests, maintain confidentiality, fair trade, protect and properly deploy company assets, and comply with decrees etc.

Abiding by Guidelines for Ethical Behaviors

The directors of the Company adhere to a high degree of self-discipline. When facing conference matters that are detrimental to the Company but may pose as conflicts of interests for the director and the legal entity they represent, the directors may state their opinions and answer questions but must not join the discussion and the voting. At the same time, they should not act as the proxy for other directors to exercise their voting rights.

★ In 2022, there were 2 proposals involving personal interests of 1 director and 3 independent directors, respectively. The directors involved avoided discussions and the voting.

Avoiding Conflicts of Interest

To enhance the professional knowledge of the directors and implement corporate governance, the Company introduces the management teams and the company profile to the newly elected board. The Company proactively provides information on the professional curriculum to the directors, encourages them to participate in such courses, and follows the requirements of “Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEx Listed Companies”, the further educations are arranged based on the regulated hours.

★ In 2022, the total number of training hours for all directors was 69 hours.

Director Training

Board of Directors Effectiveness Evaluation

External Evaluation

In November 2021, the Company entrusted the Taiwan Corporate Governance Association as an external organization to evaluate the efficiency (including performance) of the Board of Directors in 2021 (Dec. 1, 2020 to Nov. 30, 2021). In addition to review relevant documents provided by the Company for evaluation, the Association appointed three experts to the Company for an on-site visit on Jan. 21, 2022, in which the experts interviewed the Chairman, President, independent directors, the supervisor of corporate governance, the supervisor of Finance & Administration and Audit. The performance evaluation report of the efficiency of the Board of Directors was issued on Feb. 7, 2022. The evaluation results have been completed and reported at the board meeting on Mar. 8, 2022. The general comments and recommendations of the evaluation results are summarized as follows:

- It is recommended that the Company considers reducing one non-independent director seat and add one independent director seat for the composition of the next term of Board of Directors. It is also recommended that the Company considers setting up a non-statutory functional committee.
- It is recommended that the Company formulates an integrated "Risk Management Policy and System" that is more in line with the Company's needs.
- It is recommended that the Company optimizes the disclosure of corporate governance information on the website, sets up a corporate governance section on the official website, and regularly reviews and continuously updates it to provide more information to shareholders and stakeholders.

Internal Evaluation

Internal assessment results of the performance evaluation for the Board of Directors, the Remuneration Committee, and the Audit Committee were reported in the Board of Directors' meeting held on Mar. 2, 2023. Recommendations for improvement and reminders are compiled and reported as follows:

- Under the leadership of the new chairman, the function and power of Board of Directors is operating more comprehensively.
- The directors actively participate in the Board of Directors, implement corporate governance, and safeguard the rights and interests of shareholders.

Audit Committee Operation

In order to promote corporate governance, improve the function of audit supervision, and strengthen the management function, the Company established the “Audit Committee” in June 2016. The members of the committee consists of three independent directors, and all members selected a committee member to serve as the convener and chairperson of the meeting. According to regulations, the meeting is held at least once a quarter. In 2022, the Audit Committee held 7 meetings in total.

Audit Committee supervises the following

- Internal control system and related policies and procedure
- Audit Committee performance evaluation self-assessment
- Experience, independence, and performance evaluation of CPAs
- Corporate risk management and information security
- Audit of financial statements and the accounting policy and procedure
- Related party transactions by managers and directors, if any, questionnaires and possible conflicts of interest
- Regulation compliance
- Delegation, dismissal, or rewards of CPAs
- Fulfillment of responsibilities of Audit Committee
- Appointment and dismissal of financial supervisors

Communication with Independent Directors

- The Company's financial supervisor, internal auditor supervisor and certified accountant participate in board meetings. Independent directors can contact the Company's financial supervisor, internal audit supervisor and certified accountant at any time, and provide advice through the Board of Directors and record it in the minutes of the meeting.
- The internal audit supervisor attends the Audit Committee and reports auditing items as required. If the Audit Committee members have any questions or instructions after reviewing the audit report, he/she will contact the internal audit supervisor by e-mail or make an inquiry by phone to inform him/her for handling the matter. Certified accountants report in quarterly meetings of the Audit Committee on the results of the quarterly audit or review of financial statements, as well as other communications required by relevant laws and regulations.
- The members of the Audit Committee communicated well with the certified accountants. The communication channels between the internal audit supervisors and the certified accountants and the Audit Committee were smooth. The independent directors understood the Company's operating and auditing status through the audit reports regularly provided by the Board of Directors and the Audit Committee and auditing units. Independent directors can communicate well with certified accountants through various reports and various channels (phone, fax, and email etc.).

Remuneration Committee Operation

In order to implement corporate governance and improve the salary and remuneration system for directors and managers, the Company has established "Organizational Procedures of Salary" in accordance with Article 14(6) of the Securities Exchange Act and Regulations Governing the Appointment and Exercise of Powers by the Remuneration Committee of a Company Whose Stock is Listed on the TWSE or TPEx, and on December 29, 2011, the Board of Directors established a Remuneration Committee. In 2022, there were 3 meetings held in total.

Main Responsibilities	● Regularly review the organization rules of the Remuneration Committee and propose recommendations on amendment. ● Establish and regularly review the policies, systems, standards and structures of salary and remuneration. ● Establish and regularly review the performance evaluation standards for directors and managers, annual and long- term performance targets. ● Regularly assess the attainment of the performance goals of the directors and managers of the Company, and determine the details and amount of individual salary and remuneration based on the evaluation results obtained from the performance evaluation standard. ● The proportion of short-term performance bonuses issued to directors and senior managers and partial changes to the payment time of salary and remuneration.

Directors' Compensation Policy

Policy	When the directors of the Company perform the duties for the Company, regardless of the Company's operating profit and loss, the Company pays the remuneration regardless of the Company's operating result. The Board of Directors is delegated with the authorization to decide on the remuneration based on the extent of their participation in and contribution to the Company's operations, with reference to the level of industry peers so the pay is comparable to that of most companies in the same industry. In accordance with the provisions of Article 25 of the Articles of Incorporation, if the Company is profitable for the year, it shall be subject to a resolution of the Board of Directors and set aside no more than 2% for the compensation of directors.	**Procedure**	The compensation for executing the business is reviewed by the Remuneration Committee and submitted to the Board of Directors for approval. Annual earning distribution by the Remuneration Committee is based on the value of each director's participation in and contribution to the Company, a proposal for earning distribution will be proposed and submitted to the Board of Directors for approval.

Corporate Governance Results

Year	Evaluation Result	PharmaEngine's Score	Average Score of Top 5% Ranking TPEx Company
2021	6%-20%	87.50	95.88
2022	Top 5%	98.13	100.16

The Mechanism for Employees' Participation in Providing Suggestions to the Highest Management

The day-to-day operation and management of the Company attaches great importance to teamwork. All members of the organization have any opinions at any time can use the Company's e-mail, conference or face-to-face meeting for coordination and communication. In case of important issues, employees can also provide advice to the highest management through formal labor-management meetings, company routine conferences, attending the board meetings for reporting, and during performance appraisal interviews.

Protect Shareholders' Equity

In order to protect shareholders' equity, ensure the proceedings and increase information transparency and timeliness of disclosure, the Company follows the spirit of corporate governance, including: implementation of electronic balloting system, case-by-case voting by shareholders, uploading relevant documents to Market Observation Post System (MOPS) within a specified time, providing shareholders with diversified voting channels to fully exercise their rights and specifically improve the effectiveness of corporate governance.

★ Each year, the Company uses its resources and reference benchmarking corporate practices as the basis for improvement for the next year.

Major Improvements for 2022 and 2023

Item	Major Improvement	Progress
1	Release material information in Chinese and English at the same time.	Improved in 2022
2	Upload the English version of the annual financial report to MOPS 7 days prior to the annual shareholders' meeting.	Improved in 2022
3	Disclose the interim financial report in English within two months after the filing deadline for the Chinese version of the interim financial report.	Improved in 2022
4	The financial report should be approved by the Board of Directors or submitted to the Board of Directors 7 days before the deadline, and the financial report be announced within 1 day after the approval date or the submission date.	Improved in 2022
5	The Company's sustainability report should be verified by a third-party agency.	Improved in 2022
6	Disclose relevant information in accordance with the Task Force on Climate-Related Financial Disclosures (TCFD) framework.	Improved in 2022
7	Introduce information security management system standards such as the ISO27001 system.	Improved in 2022
8	Disclose and obtain external verification of annual greenhouse gas emissions, water consumption, and total weight of waste for the past two years.	To be improved in 2023
9	Record important content of shareholders' questions and the Company's replies in the minutes of the General Meeting of Shareholders.	To be improved in 2023
10	Upload the whole process of uninterrupted audio and video recording of the shareholders' meeting after meeting was held.	To be improved in 2023
11	The Board of Directors should regularly (at least once a year) evaluate the independence and suitability of certified accountants with reference to audit quality indicators (AQIs).	To be improved in 2023

2.3 Ethical Corporate Management and Ethical Code

In order to prevent the risk of corruption and bribery, the Company has established “Ethical Corporate Management Best Practice Principles" and "Procedures for Ethical Management and Guidelines for Conduct" as a code of conduct for directors, independent directors, senior managers and all practitioners.

Compliance

The Company complies with all statutes and regulations, and does not commit any bribery, does not make political donations and political lobbying, does not engage in unfair competition, acts of antitrust and monopoly to avoid illegal activities.

★In 2022, the Company did not violate any laws and did not receive any fines or punishments due to violation of the law.

Ethical Corporate Management Training

The HR Department organized all advocacy and education related to ethical business management for all employees. In 2022, 221 persons cumulatively received 502.5 hours of educational training related to ethical business management issues (including courses for legal compliance and ethical business management, drug safety and health management and inspections, accounting system and internal control etc.).

Precautionary Measures

- Bribe and bribery
- Provide illegal political contributions
- Inappropriate charitable donations or sponsorships
- Provide or accept unreasonable gifts, hospitality or other improper benefits
- Infringement of business secrets, trademarks, patents, copyrights and other intellectual property rights
- Engage in unfair competition
- Products and services to directly or indirectly damage the rights, health and safety of consumers or other stakeholders during any of the following phases: R&D, procurement, manufacturing, providing and selling

Specific Precautionary Regulations for Actual Business Controllers

- The criteria for determination for providing or accepting improper benefits
- The procedure of providing legal political contributions
- The procedure and amount standards when providing appropriate charitable donations or sponsorships
- Regulations for avoiding the conflict between benefits and duties related, and its declaration and processing procedures
- Regulations for confidential and sensitive information obtained through business
- Regulations and processing procedures for suppliers, customers and business transactions involving misconduct actions
- The procedures for identifying the violation of the ethical corporate management policies
- Disciplinary punishment against violators

2.4 Anti-Corruption Policy

The Company understands that the risk of corruption exists to some extent, and it may also affect the Company's business integrity. Therefore, any corruption, bribery and extortion are strictly prohibited.

Bribery Risk Analysis

Department	Bribery Risk Analysis		
	High Risk	Medium Risk	Low Risk
President & CEO Office		●	
Audit			●
Clinical & Regulatory Affairs		●	
Research & Development		●	
Corporate Development		●	
Marketing & Sales	●		
Finance & Administration		●	

Measures to Prevent Corruption and Bribery

When the Company's auditors perform internal audit duties, they will conduct thorough investigations to prevent corruption and bribery. They maintain a vigilant attitude towards possible frauds, errors, omissions, waste, and conflict of interests. Any serious illegality or violation of regulations is considered and precautions are taken. If there is any suspected or detected fraudulent situation, the auditors will promptly notify the appropriate supervisor to investigate and take measures. For related corporate governance systems, internal control systems and management practices that are more likely to have risks of corruption and bribery, they are included in annual audits. The project will focus on auditing items, and based on the annual audit plan formulated by the risk assessment management operation, the focus and frequency of audits for routine checks will be improved with reference to past findings of various units.

If there are any unlawful cases where complaints are filed, the auditors will, after careful review, report to the appropriate supervisors and the Board of Directors. The Company has done a good job in preventing the relevant fraud or corruption risk.

★Since the establishment of the Company, there have been no incidents of corruption or bribery. If any unlawful incident occurs, the facts will be immediately ascertained, and the relevant employees involved in the investigation will be dealt with according to law.

2.5 Risk Assessment and Crisis Management

The Company combines corporate operation management and risk management and follows the regulations of the competent authority and the Company's operating strategy to formulate risk management measures.

New Drug Development Risk Management

To lower risks, new drug development projects include evaluation and introduction of new projects, implementation of project management, quality management, process development control, pharmacology and toxicology research management, clinical research management, regulatory inspection and registration management, project results management, new product development, and document maintenance and preservation operations.

Risk Identification

Risk Item	Potential Risk	Probability of Occurrence	Degree of Impact
Drug research	The timeliness, stringency and innovation of the R&D process do not meet the requirements for drug approval in various countries.	Medium	High
Accidents/ disasters	Earthquake/fire/flood/blackout	Low	High
Information Security	System error	Medium	Medium
	Confidential information leakage	Low	High
	Information system hacked	Medium	High
Legal compliance	Infringement of the intellectual property rights of others, doubts about the safety of listed drugs	Medium	High
Tax/finance	Huge changes in interest rates and exchange rates	Medium	Medium
Personnel	Talent loss/poor health of employees/occupational hazards	Low	Medium
Operation management	Poor corporate image	Low	High
Politics & society	Significant changes in government regulations and economic crisis	Low	High
Business	Unstable supply of medicine/improper management of outsourced suppliers/counterfeit drugs	Low	High

Risk Management Responsibility by Department

Department	Risk Management Responsibility
President & CEO Office	Responsible for leading the Company's operating and business directions, through internal control and budget system planning with business performance audit, while participate in R&D planning and consultation. Its risk management responsibilities are mainly business decision-making risk, IP risk and product quality risk.
Audit	In charge of the internal auditing process of the Company. Its risk management responsibilities are mainly internal control and internal audit related risk.
Clinical & Regulatory Affairs	Clinical Development: Responsible for planning and implementing of clinical trials, includes trial proposal preparation and submission, the selection of test center and the host, the selection of CRO, trials followed by ICH-GCP guidance, progress reports, test drug adverse reaction reports, statistical analysis reports and test reports, etc. Regulatory Affairs: Assist new project assessment and submission regarding regulation requirements, responsible for product inspection and registration, and establish a good relationship with pharmacological organizations. Its risk management responsibilities are mainly the clinical trials, product inspection, and registration risk management of R&D projects.
Corporate Development	Responsible for the planning and recommendation of the Company's operation and development, the evaluation and introduction of the project, the planning and implementation of the external and foreign investment cases and maintaining relationship with investors. Its risk management responsibilities mainly include the risk assessment of competitors in the development of new drugs, the risk assessment of newly introduced projects, and the risk assessment and management of sales markets after product launch.
Finance & Administration	Responsible for the Company’s financial, accounting, administrative, general procurement, and computer systems and cyber security related issues. Its risk management responsibilities are mainly related to the management of financial matters, response strategy implementation, operations, and information security evaluation.
Research & Development	Responsible for the relevancy of preclinical trials, the evaluation of the new project and manufacturing, also the project's overall planning and execution controlling. Its risk management responsibilities are mainly for preclinical animal pharmacology, toxicology and pharmacokinetics test related research, external R&D resources management, project planning and execution related risk management, and risk management of new drug R&D, manufacturing, and analysis.
Marketing & Sales	Responsible for the Company's product marketing strategy and rollout. Its risk management responsibilities are mainly product-related marketing or sales and account-related risk assessment management.

Implementation of Risk Evaluation Criteria

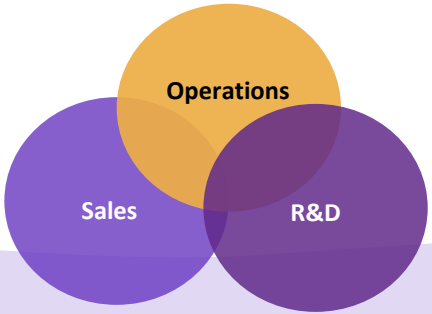
The Company's risk management operations (including information security risk management), such as risk management policies and procedures, risk management scope, risk management organizational structure, risk management operation status and so on, were reported to the Board of Directors on October 27, 2022. Besides continuing with general risk management operations, in 2022, multiple risk management projects were implemented in response to the COVID-19 pandemic, information security, and regulatory changes. The Company passed the information security management system (ISO/IEC ISO27001:2013) verification review in January 2023.

Opportunity

Taiwan's experience in clinical trials of new drugs remains an advantage among Asian countries. In addition to the extensive experience of clinicians participating in clinical trials of new drugs, the number of patients suffering from many diseases in Taiwan is also sufficient, so there is a great opportunity for attracting international cooperation. If Taiwan companies want to invest in the development of new drugs in a short period of time and enter the international market, the easiest and less risky way is to cooperate with international biotech pharmaceutical companies.

The Company continues to adopt the "Virtual Pharmaceutical Company Business Model", with a light asset structure and international strategic alliances, to carry out new drug development, reduce the risk of new drug research and development, and speed up the pace of product launch to achieve the purpose of tripartite co-prosperity, including medical treatment, patients, and enterprises.

The Company's product, ONIVYDE®, is currently on the market in the United States, Europe, Taiwan, South Korea, Japan and China. This is a proof of the Company's commitment to the development of new drugs and has been given affirmations from domestic and foreign medical institutions and experts from new drug development fields. In addition, we are committed to improving corporate governance and fulfilling our corporate social responsibilities, which bring a positive impact on corporate reputation or corporate credit worthiness.



2.6 Cyber Security

Purpose and Scope

- Target:
  employees, suppliers, customers, and operation-related information software and hardware equipment
- Scope:
  To ensure cyber security of the Company, related regulatory systems, applied technologies, and data security criteria are defined and included as part of the management operation system in order to protect the privacy of employees, suppliers, and customers and maintain information security during business contact.

Cyber Security Risk Management Framework

- The Cyber Security Risk Management Taskforce was convened and formed by the President & CEO in 2022. The Taskforce includes functional teams such as Document Management Team, Incident Response Team, Continuous Operation Team, Internal Audit Team and Risk Assessment Team.
- The Cyber Security Risk Management Taskforce is responsible for defining the cyber security management policy and periodically reflecting upon and modifying it.
- Meetings are held periodically to discuss the implementation and target achievements to ensure the operation is effective.

Note: The Company has set up a Cyber Security Manager in April 2023. The manager is responsible for promoting cyber security policies and targets, coordinating resource allocation on cyber security and monitoring safety measure implementation.

Policy

- Ensures the Company's operation is ongoing and the information technology service provided by the Company can be steadily used.
- Ensures the confidentiality, integrity, and usability of the information assets in the custody of the Company and protects the privacy of staff data.
- Constructs information security risk assessment and operating plans, executing cyber security enhancement activities that abide with related regulations and laws.

★ In 2022, the Company did not suffer any major losses due to major cyber security incidents. Regarding cyber security risks, the Company has discussed it with external cyber security technical experts and plans to improve the Company's cyber security management system by obtaining the ISO27001 certification. The Company obtained the ISO27001 certification in January 2023.

ISO27001 Certificate

TÜV NORD

證 書

管理體系依據
ISO/IEC 27001:2013

認證機構 TÜV NORD CERT GmbH 公司特此證明，依據 ISO/IEC 17021-1:2015 標準進行的審計，評估和認證決定的結果，該組織

智擎生技製藥股份有限公司
台北市民生東路三段 10 號 11 樓

將採用符合 ISO/IEC 27001 : 2013 標準要求的管理系統並且在4-認證的 3 年有效期內將對符合性進行監督，

範圍

本公司資訊安全管理活動，包含：藥物銷售流程、新藥研發專案，以及資訊機房維運與管理。

依據適用性聲明書 ISMS-1-00002，版次 1.2，發行日期 2022-12-27

證書編號: 44 121 22820012
審核報告編號: IT-360

證書有效開始 2023-01-30
證書有效期至 2025-10-31
首次認證日期 2023-01-30

Liu Teng Chang
之驗證機構
at TÜV NORD CERT GmbH

台灣德國北德技術監護顧問股份有限公司
台北市敦化南路二段 333 號 9 樓
2023-01-30

TÜV NORD CERT GmbH Am TÜV 1 45307 Essen www.tuev-nord-cert.com

IAF DAkkS Deutsche Akkreditierungsstelle D-ZM-13307-01-00

TÜV NORD

CERTIFICATE

Management system as per
ISO/IEC 27001:2013

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

PHARMAENGINE, INC.
11F, 10 Minsheng East Road, Sec. 3, Taipei 104, Taiwan

operates a management system in accordance with the requirements of ISO/IEC 27001 : 2013 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope

The information security management system for the Sales Management Process of Pharmaceutical Products and the Management Process of New Drug Development and Server room.

As per the Statement of Applicability (SOA), version 1.2, Effective date 2022-12-27

Certificate Registration No. 44 121 22820012
Audit Report No. IT-360

Valid from 2023-01-30
Valid until 2025-10-31
Initial Certification 2023-01-30

Liu Teng Chang
Certification Body
at TÜV NORD CERT GmbH

TUV NORD Taiwan Co., Ltd.
Room A1, 9F, No.333, Sec.2,
Tun Hua S. Rd.,
Taipei 10669 Taiwan, R.O.C.
2023-01-30

TÜV NORD CERT GmbH Am TÜV 1 45307 Essen www.tuev-nord-cert.com

IAF DAkkS Deutsche Akkreditierungsstelle D-ZM-13307-01-00

Cyber Security Specific Management Solution

Type of Management	Operational Measure
Authority management	Staff account management
	System privilege management
Access management	Internal data access control
	Analysis of operating records
Viral threat	Anti-virus and malware detection
System maintenance	Data backup measure
	Remote backup mechanism
	Disaster drill and data recovery

Cyber Security Control Measures

- The Company has various network security equipment (such as routers, switches and firewalls, etc.) in place to control or maintain daily operation, but still cannot guarantee the Company's network will not be hacked.
- The Company currently reviews and evaluates the security precautions each year and periodically changes security settings to ensure network security. In order to reduce the risk of confidential data leaks, the Company's individual department has identified the key processes and confidential documents of each business and adopted corresponding measure such as adequate improvement of the related processes and enhancing computer hardware and software.
- From 2021, the Company began to plan the digital transformation and information security management, and entrust external cyber security technical experts. The Company officially began the adoption of ISO27001 information management system in 2022 and successfully obtained the certification in January 2023.
  The validity period of the certificate is from January 30, 2023 to October 31, 2025.
- Implementation status for the promotion of cyber security awareness in 2022:
  The Company has completed the cyber risk assessment report and conducted related promotion and training of 151 hours with 37 participants. The Company invested in NT$1.514 million for cyber security management related issues.

★ The Company became the member of TWCERT/CC in March 2023, which can help us effectively receive and deliver cyber security information.

2.7 Customer Relations

Launched Product

Pricing Strategy

Fair and Affordable Drug Prices

The fair and reasonable price of ONIVYDE® in Taiwan is based on the benefits for all people with comprehensive consideration of the best commonly used drugs prices in the current market, pharmacoeconomics, market competition (same indications already on the market, or clinical trials), the cost of ONIVYDE®, the “National Health Insurance Drug Dispensing and Fee Schedule” announced by the National Health Insurance Administration, and the international market prices. The current price is lower than the average drug price in the top ten advanced countries listed by the National Health Insurance Administration. Afterwards, the relevant prices will be adjusted in accordance with the “Operational Procedures of National Health Insurance Drug Price Adjustment ”. In 2022, the price was reduced by 5%.

● ONIVYDE® price in the latest 2 years in Taiwan (with health insurance reimbursements for the patients):

Item	2021	2022	Difference	Difference (%)	Effective Day
Per vial (NTD)	23,734	22,547	(1,187)	(5%)	October 1, 2022

Marketing Ethics

Professional and in line with International Pharmaceutical Marketing Ethics Essence

ONIVYDE® is currently the main product of the Company. It has obtained the drug license issued by Taiwan FDA and was officially launched in Taiwan in June 2016 and was included in the health insurance benefits in August 2018. In Taiwan, as of the end of 2022, more than 3,300 pancreatic cancer patients have been treated with the drug. We strictly follow the international pharmaceutical marketing ethics standards, and the Company’s marketing colleagues have received internal education and training about the regulations Guide to the Ethics of Pharmaceutical Marketing.

★ In 2022, the Company had not been fined for violating the health and safety of products and services. There was no fine imposed for information and labeling of product and service, or for regulations related to marketing communication. Also, there was no complaint for infringement of customer privacy and loss of customer information.

Protect the Rights of Consumers and Medical Institutions

Drug Safety Surveillance Management

The Company conducts safety monitoring and risk control for the post-marketing drugs and formulates the "Medicament Recall Practice" and "Pharmacovigilance Standard Operating Procedures" in accordance with the "Regulations for Medicament Recall" and "Guidance for Good Pharmacovigilance Practice" issued by the central health authority (Ministry of Health and Welfare) respectively.
Its risk management is aimed at the safety of patients' medication, establishes a Pharmacovigilance Notification System, and implements the control and tracking of adverse reactions after the launch of new drugs to avoid serious adverse drug reactions. Reduce or avoid the risk of drug use through risk control methods, pay attention to and monitor the possible adverse reactions of drugs, provide relevant consumers and medical institutions with relevant drug information, and clearly inform the possible risks and adverse reactions that may occur during the medication process.
In the case of Serious Adverse Event, the Company must notify the central health authority within 15 calendar days. For other non-Serious Adverse Events, if they are listed in the pharmacovigilance monitoring items, they should be included in the regular safety report and be reported according to the time limit. In addition, according to the drug safety information contract signed with the authorized and cooperative partner, the Company will notify the authorized and cooperative partner within the time limit.

★In 2022, there has been no recall of any drugs sold in Taiwan due to safety issues.

Protect the Rights of Consumers and Medical Institutions

Counterfeit Drug Management

● The product from the original manufacturer is directly dispatched through a locked container from end-to-end to our contracted warehouse for an incoming check with confirming the integrity of the container through a visual check and document check to prevent counterfeiting. The handling of the supply chain and distribution to the customers is also through a GMP/GDP certified contractor which is a professional distribution service provider focusing on healthcare products.
● There is a specific item code assigned to each product, specific batch number will be assigned to each batch incorporating the information of the manufacturer. The above unique numbers will be entered into the SAP system for identification and tracking of every procurement order, sales and shipping document, and other associated campaigns. The SAP system is validated according to a GAMP5 or equivalent standard.
● When we are aware of a potential risk of counterfeit products, we would immediately suspend the distribution of the concerning batch of the product and quarantine them in an isolated area. The related work will be completed together with the contracted vendor for domestic distribution. Meanwhile, colleagues from the vendor would also check the SAP system to identify which customers received the concerning batch of product in order to alert them to hold the sales and conduct quarantine. When a product recall is deemed necessary, we would initiate the activities and prepare a recall plan, and the related documents for recall would be submitted to the regulatory authority.

Supply Chain Quality Management

The Company does not participate in the Rx-360 International Pharmaceutical Supply Chain Consortium audit program. We have an internal procedure to regulate the evaluation of and collaboration with the entities involved in the supply chain of a commercial product. To ensure the quality of the products as well as the operations in compliance with the GMP/GDP standard, we would mutually sign a quality agreement with these critical vendors associated with the supplies of products, global shipping, warehousing, secondary packaging, and domestic shipping to our clients, and we would also create an approved vendors list accordingly. Additionally, a regular audit would also be carried out for each vendor to ensure the quality status.

★ In 2022, the Company has been executing 4 GxP supplier capability assessments before cooperation.

Drug Injury Relief and Complaint Channel

● The Company joined the Drug Relief Foundation System, and each year, 0.05% of the sales of the Company in the previous year is allocated as the drug damage relief to the Drug Relief Foundation. In addition, a product liability insurance of US$10 million is insured to protect patients from damages caused by drug defects or unknown adverse reactions.
● The Company has established a stakeholders' area on the website to provide relevant contact windows and complaint hotlines, which is responsible for consumer protection policies and complaints.

Clinical Trial Drug

Protecting Subjects in Clinical Trials to ensure their Rights, Safety and Well-being

The Company conducts clinical trials in accordance with the "Guidelines for Good Clinical Practice (GCP)" of ICH and upholds the ethical principles of medical research in the Declaration of Helsinki to ensure the rights, safety and well-being of subjects.
We set up monitoring and auditing mechanisms at each stage.
Each participant in the human clinical trials will be fully informed and protected. In addition, the Company provides relevant insurance for the clinical trials. If there is any physical harm due to participation in the trial, there will be clinical trial insurance to compensate the subject for damage.

Quality Policy

The Company upholds the spirit of innovation, manages new drug research and development projects, adheres to quality and focuses on total quality management. The Company also complies with GMP, GDP, GLP, GCP and international regulations, and achieves new drug development research that meets the goals of safety, effectiveness, and consistent quality to enhance the development level of new drugs, promote the development of medicine and continuously improve the quality of medicines.

Notification for Adverse Drug Reaction on Clinical Trial

For the Company's clinical trials, if there is any serious adverse reactions caused to the subjects due to the drugs, regardless of the location in Taiwan or other regions, the Company will notify Ministry of Health and Welfare or Taiwan National Adverse Drug Reaction Reporting System of Taiwan Drug Relief Foundation in accordance with the regulations.

Checkpoints for Clinical Trial Execution

Example: a Safety Monitoring Board, SAB or an Independent data Monitoring Committee, IDMC is set up in the trial to review the trial data and confirm the safety of patients before deciding whether to continue the trial.

★ The Company conducted human clinical trials in 2022. There were no cases of clinical trials discontinued with CRO due to GCP violations.

2.8 Investor Relations

Shareholders' equities are valued by the Company. The Company has a full-time service team including spokespersons and stock registrar to ensure smooth communication with investors. Investor inputs are included in the quarterly reports for the Board of Directors. The Company regularly reports to shareholders through annual shareholders' meeting on business results, annual business plans, future development strategies and impact on industrial environment, and actively responds to shareholders' suggestions. Up to now, the relationship with shareholders has been good and there has been no disputes.

The disclosure of information is also an important part of investor services. In recent years, the Company has invested a lot of resources to meet the principles of completeness, promptness, fairness and transparency of information disclosure. In addition to the timely disclosure of relevant information on the Market Observation Post System (MOPS), we also set up an investor section on the Company's website to provide relevant, timely and material information about the Company's governance thereby enhancing corporate image and safeguarding shareholders' equities.

★ In 2022, the Company participated in 5 investor conferences organized by local and foreign securities and posted 35 announcements on MOPS . In such conferences and press releases, the Company reported the latest company operations, financial business status, and R&D progress to deliver clear information and messages transparently, promptly and correctly to all investors.

3- Happy and Friendly Workplace

3.1 Human Resources Overview

The Company seeks sustainable development and growth by adopting an open-minded style of management and giving full respect and attention to its colleagues since establishment. The Company provides group insurance, regular health checks for employees, employees' on-the-job training, employees' study abroad, and rewards senior employees and well-performed employees, etc. The Company has formulated a complete welfare practice, implemented various welfare measures, and strengthened the overall care of employees to provide a happy and high-quality work environment.

Item		Total Number of Employees (person)				No.of Employees_ Beginning	No. of Employees_ New Recruitment	New Recruitment %	Staff Turnover	Staff Turnover %
		Managerial Officers	R&D Employees	Other Employees	Total					
Male	2021	4	8	5	17	17	4	23.53	4	23.53
	2022	4	9	6	19	17	4	21.05	2	10.52
Female	2021	1	4	10	15	14	2	13.33	1	6.67
	2022	1	7	9	17	15	6	35.29	4	23.53

Item		No. of Employees_ Year End	Average Age	Average Job Tenure	Education level (%)				
					PhD	Master	College or Equivalent	Senior High School	Below High School
Male	2021	17	47.54	9.08	4	7	5	0	1
	2022	19	46.10	7.14	5	8	6	0	0
Female	2021	15	41.55	4.85	1	5	8	0	0
	2022	17	40.61	4.43	1	8	8	0	0

Note 1: The data only include full time employees.
Note 2: All employees are Taiwan nationals, and their work sites are in Taiwan.
Note 3: The Company has not yet established a labor union organization, so the group agreement is not applicable.
Note 4: When the Company terminates a labor contract or an indefinite contract worker resigns, abiding by Article 16 of Labor Standards Act, the Company needs to provide advance notice regarding the contract termination date based on the tenure of the labor listed in Item 1-3. In 2022, the Company did not lay off any employee.

Talent Retention

In order to meet the global operation strategy and continuous new drug research and development, the Company goes deeper into various professional fields to recruit talents in the biomedical, R&D talents, pharmacy, clinical and global management fields. The talent recruitment adheres to the spirit of non-discrimination and fair treatment, and through diverse and open recruitment channels. In 2022, the retention rate of high-level managers was 100% , the retention rate of R&D employees was 91% and the retention rate of other employees was 75%.

The Company has built a diverse workplace and provided employment opportunities as female employees accounted for 47% of the total workforce by the end of 2022. The managers are required to conduct interviews with each departing employee to understand their reasons for leaving and understand the room for improvement. We also provide talent retention programs to reduce staff turnover and stabilize the retention of outstanding talents.

Talent Selection, Cultivation and Reward

Selection

- Talent screening
- Internal referral /recruitment
- Evaluation tools

Appointment

- Job description
- New recruits' orientation

Cultivation

- Knowledge sharing session
- On-the-job training

Appraisal

- Performance appraisal
- KPI system
- Promotion system

Reward

- Employee compensation
- Performance bonus

3.2 Manpower Training and Development

In PharmaEngine, a full range of learning is not an empty slogan but a deep-rooted culture for the organization. The Company has established “Education and Training Procedures”. The comprehensive training includes the whole series of education and training courses regarding the Company's organizational strategies and work needs in order to enhance the employees’ skills.

According to the Company‘s education and training procedures, each department sets a budget every year, carries out education and training during the year, strengthens the professional knowledge of colleagues, and improves work efficiency and quality. Training courses include expatriate training, internal training and on-the-job training. The Company organizes a “Reading Club” for colleagues who received training to have an opportunity to share what they learned in a timely manner.

Corporate Education and Training System

Expatriate Training

Domestic

Each department or employee prepares an annual budget for education and training. Employees can choose to participate in training courses held by domestic institutions. Those who exceed the budget limit may be subsidized by the Company after the approval by the general manager on project basis.

International

In order to absorb foreign advanced professional knowledge, skills and training talents, the Company will, depending on practical needs, assign personnel to participate in education and training courses organized by foreign institutions.

Internal Training

Pre-service

The course content includes company vision and operational strategy, company operating model, company organization and function, introduction of technique, status quo of domestic and international pharmaceutical industry, clinical development research, pharmaceutical regulations, document management, R&D achievements management measures, intellectual property rights, administrative accounting process, information resources, benefits and obligations, ESG, insider-trading prevention, and the main duties of each department.

Language

The Company employs professional foreign teachers for in-house English classes, and regularly arranges courses of writing and daily conversations.

Other Training (in-house)

We hold in-house education and training in the forms of holistic lecture and seminar based on actual needs.

On-the-Job Training

The goal is to cultivate high-level professional and managerial talents with international perspective and all-round strategic thinking. Employees who have officially worked for more than one year may voluntarily participate in relevant training courses such as medical related research institutes, MBAs or EMBAs established by domestic and foreign university research institutions (including supplementary education institutions).

Training Implementation

Implementation of 2022 Training Courses

- Course Name
  ESMO 2022, Statistical Design of Clinical Trial Research Lecture Series, GHG Protocol, Greenhouse Gas Emissions Inventory Training Course, The New Revolution of Drug Discovery: Big Data and Artificial Intelligence Innovation, Practical Measures to Improve and Implement the Three Lines of Defense in Effective Risk Management and Internal Control, Operational System Audit Focus and Integration of Cross-Cycle Operations, Foreign Business Negotiation Law Course (2022), Powerful Leadership Training, Enterprise Fraud Detection and Prevention Practice, ISO27001 Introduction Summary and Content, Trade Secret Protection Regulatory Compliance and General Basic Knowledge of Cyber Security (38 courses in total)
- Annual education and training costs: NT$669 thousand dollars
- Total trainees: 254 people
- Total training time: 875.5 hours

2022 Training Statistics Based on Employee Job Type and Gender

Items		Male	Female
Average Training Time (hour)	Managerial Officers	23.9	25.0
	R&D Employees	22.9	21.9
	Other Employees	20.7	29.3

3.3 Performance Review and Career Development

The Company's annual performance and development review is mainly aimed at supporting, encouraging, and assisting employees. Employees with outstanding performance can be affirmed with salary increase or promotion. The Company further communicates with employees who perform poorly to enable them to understand and coach them to improve their work efficiency, so that all employees can adapt to their capabilities, give full play to their strengths, successfully complete the Company's overall goals, and achieve the win-win objective for the Company and the employees. All employees of the Company participate in regular performance and development reviews at the end of the fiscal year.

Supervisor Evaluation

Annual Target

- The achieved annual target, accounting for 75% of the total.

Competency Adequacy

- The appraisal of competency adequacy, accounting for 25% of the total.

Annual Self-Evaluation by Employees

- The annual employee self-evaluation includes the following seven items: performance of work results, degree of due diligence, knowledge and skills, degree of team cooperation, positive thinking, communication and coordination skills, and degree of job willingness. In addition, employees with supervisor roles are charged with self-evaluation of their leadership and management capabilities.
- Review and development of the current post
- Establishment of the individual's goals for next year

3.4 Employee Welfare Programs

Salary Policy

The salary policy of the Company is based on the Company's overall salary in the market positioning, the results of industry salary surveys, the growth cycle of the industry in which the Company operates, and consideration of the internal fairness of the Company. The salary level of the Company is based on the level of the job, the job attributes, and the difficulty of substitution to make different market salary positioning. Since the work of R&D supervisors requires a high level of professionalism and considerable work experience, the salary levels of R&D supervisors are located at P75 in the same industry, and the remaining positions are at P50. The level of salary payment is comparable to that of most enterprises in the same industry, and not varies by employees' race, religion, gender, nationality, age, or any legally warranted status, and the current salary of all PharmaEngine employees exceeds the legal basic salary.

Comparison of current standard minimum salary for men and women with the minimum salary in the place of operation

Unit: NTD

Title	Grade	Minimum Monthly Pay	Taiwan Minimum Monthly Pay (implemented on Jan. 1, 2023)
Specialist	3	30,000	26,400

Salary Statistics of Non-supervisor Full-Time Employees

Unit: Person

Item \ Year	2022	2021	Difference
Number of Full-Time Employees	26	26	-
Average Salary/Year	NT$2.061M	NT$2.034M	NT$27,000
Median Salary/Year	NT$2.038M	NT$1.829M	NT$209,000

Retirement System

- The Company has fully settled its employees' seniority in the old system in 2014.
- Since the commencement of the Labor Pension Ordinance (hereinafter referred to as the new system) on July 1, 2005, the employees who has decided to adopt the new system or carry out the new system within the next 5 years, or new employees after the new system, the retirement pension will be calculated with the new system, that is, the provision of the pension system, the payment of its pension is categorized by scale of its monthly salary, allocated by the Company on a monthly basis with no less than 6% of the monthly salary as retirement pension, deposit at labor pension personal accounts.

Employee Reinstatement Rate and Retention Rate after the Completion of Parental Leave

Item	Number of parental leave without pay applicants in 2022	Number of employees that should reinstate from unpaid parental leave in 2022 (A)	Number of employees that actually reinstated from unpaid parental leave in 2022 (B)	Reinstate-ment rate (B/A)	Number of employees that actually reinstated from unpaid parental leave in 2021 (C)	Number of employees that actually reinstated from unpaid parental leave in 2021 and has been in service for one year by the end of 2022 (D)	Retention rate (D/C)
Female	0	0	0	-	1	1	100%
Male	0	0	0	-	0	0	-
Total	0	0	0	-	1	1	100%

Employees Welfare Measures

Competitive Bonus

- Annual Bonus
- Dragon Boat Festival and mid-Autumn Festival Bonus
- Employee Compensation
- Performance Bonus

Allowance

- Birthday gift
- Wedding gift
- Fertility gift
- Disease and hospitalization condolence money
- Disaster salvage subsidy
- Health inspection subsidy
- Domestic and international travel subsidy

Comprehensive Leave System

- Annual leave
- Family care leave
- Menstrual leave
- Paid sick leave
- Maternity leave
- Maternity exam leave
- Paternity leave

Complete Insurance Plan

- Labor insurance
- Health insurance
- Group insurance

Diverse Employee Activities

- Birthday party
- Domestic and international travel
- Family day
- New Year party
- Reading Club
- Massage therapy

▼PharmaEngine Joins World Pancreatic Cancer Day

▼ Company Retreat in Kenting, Taiwan (2022)

3.5 Friendly Workplace

The Company organizes employee safety and health education training from time to time to avoid accidents caused by ignorance. In addition, the Company also strengthens related workplace environmental safety management, environmental sanitation maintenance, fire safety management, and employee health management to safeguard employees' personal safety.

Workplace Safety Management

- Stipulate "Employee Regulations“ to specify safety management items for employees to follow.
- Implementation of access control, employees or visitors are required to swipe access card or obtain validation.
- General health checkup allowance for every employee every two years.

Environmental Cleaning

- Office cleaning task: 3 times a week
- Pest disinfection task: 2 times a year
- Drinking water inspection: Once every month
- Air conditioning filter replacement: Once every 3 months

Safe Working Environment

- The building where the Company is located is completely set up with fire hazard prevention systems in accordance with laws and regulations.
- The fire protection equipment of the building of the company office is commissioned by qualified professional inspection company to carry out system function testing.
- The building of the company office is regularly disinfected and cleaned. Other safety measures are randomly conducted such as fire drill rehearsals, the proper way to use fire extinguishers and the fire hose. Moreover, professionals provided lessons on CPR and AED. A total of 3 employees participated in the training course for disaster prevention, including fire and earthquake in 2022.

★ In 2022, the Company has not experienced any occupational injury, occupational disease or fatal accident among its employees.
★ In 2022, the Company did not have duties with staff engaged in high risk or high incidence of specific disease.

3.6 Human Rights Protection

Human Rights Policy

The Company set its “Human Rights Policy” and disclosed it on the corporate in compliance with the spirit of the International Human Rights Instruments and based on the characteristics in the biotech sector and follows international human rights treaties, such as the “Universal Declaration of Human Rights”, “United Nations Global Compact”, and “International Labor Organization Convention” as well as applicable requirements under the “Labor Standards Act” of Taiwan, which covers compliance with labor laws and regulations, the freedom of association, creation of an equal and friendly workplace, reasonable utilization of working hours, creation of a healthy and safe workplace, harmonious labor-management communication, and privacy protection. The Company also has the Attendance Management Regulations and Sexual Harassment Prevention and Control Measures as well as the Complaint-filing and Discipline Management Regulations, among other related management regulations, in place. The Company communicated on its human rights policy in 2022, which was attended by a headcount of 26 people in total.

★In 2022, the Company did not receive complaints related to human rights through formal channels.

Labor Relations

The Company sets up labor meetings, which are held at least once every quarter. The topics of the meeting include labor welfare, safety and health, labor health, and agreement between labor and employer. The participating members include two representatives from the employee side and two from the employer side. The labor share of the meeting is one-half.

The Welfare Committees and the Director of Human Resources are also invited to attend the meeting.

Any new or revised measures of the Company concerning labor relations are finalized after the two parties have fully communicated and reached an agreement. Therefore, there is no dispute and the relationship between the employer and employees is harmonious.

Workplace Sexual Harassment Prevention

The Company has set the ”Harassment Prevention and Control, Complaint and Punishment Management Measures“ and has established a sexual harassment report channel to safeguard the complainant’s personal information rights.

★ In 2022, The Company did not receive complaints related to sexual harassment.

4- Build a Green Life

The greenhouse effect has caused global warming, and the issue of environmental protection has received considerable attention year after year. The Company is working hard to reduce energy consumption and prevent pollution in order to achieve energy conservation and environmental protection.

4.1 Energy Consumption

The Company's main energy consumption consists of the following areas:

Energy Consumption for Drug Development (indirect)

- The energy consumption needed to develop the new drug including the energy used for the manufacturing facilities.
- The energy consumption for relevant preclinical trials, animal experiments and human clinical trials during the new drug test process.

Energy Consumption of Logistics Operations (indirect)

It is mainly the energy consumption of transporting medicines via various ways, such as aviation, railways, highways, etc., as well as storage, custody, loading and unloading, and handling during the transportation.

Energy Consumption of Corporate Internal Operating Processes (indirect)

It is mainly the consumption of water (municipal water supply), electricity, paper, and personnel travel. These energy consumption are related to daily management, information and operation.

Staff Commuter Transport (indirect)

More than half of the employees commute to work by means of public transportation or riding a bicycle.

4.2 Green Operation

Greenhouse Gas

Due to the specific operational characteristics of the business model, the Company currently has office space only and does not have its own production sites or laboratories. The main direct GHG emission (scope 1) comes from the gasoline for official vehicles and the emissions of refrigerants from freezers and refrigerators . The indirect GHG emissions (scope 2) mainly comes from purchased electricity. The statistics of greenhouse gas emissions for the past two years are as follow:

unit: tCO_2e

Operating Base	Scope	2021	2022
Head Office	1	≈64	≈56
	2	≈75	≈73
Total		≈139	≈129

Note: The above table is based on GHG Protocol

Management Policy

In addition to the certified computers and printers carrying the “Energy-saving Stamp” to reduce the consumption of electricity and to minimize emissions of carbon dioxide, the Company continues to hold educational trainings and communications that help raise environmental protection awareness for the sake of fulfilling sustainable development goals. The Company counts greenhouse gas emissions in the past two years and formulates greenhouse gas emission reduction policies, in which the goal is to reduce carbon dioxide emissions per capita by more than 5% per year.

★ The Company’s office is located in Taipei City, which is not an ecological reserve or endangered habitat. Also, the Company has no manufacturing facilities. The Company and its operations do not affect the ecological conservation and do not violate the environmental protection laws nor cause major leakages. There is no hazardous waste output as defined by the Basel Convention.

Water and Waste

The main source of pollution in the Company's operations is general domestic wastewater discharge and waste. In terms of the discharge of general domestic wastewater, there is no recycling and reuse. Instead, the domestic wastewater is discharged into the sewages in Taipei City, and then discharged into the sewage treatment plant. Based on the data provided by the Taipei Water Department, the Company calculated the amount of water used over the past two years (2021-2022); it was 841.21 and 962.7 metric tons, respectively; and the amount of water consumed per capita was 26.28 and 26.74 metric tons, respectively. Accordingly, the corporate water reduction policy was defined. Through continued involvement in the “Do One Thing for Tamsui River” campaign, colleagues are given ideas about environmental protection in water conservation; an annual reduction of at least 0.5% of water consumed per capita is set to be the goal.

Since 2021, the Company started to record its total weight of waste. The total weight of garbage and recycled items in 2021 and 2022 were 135.75kg and 111.2kg. The Company sets the target of reducing its total weight of waste by at least 2% each year.

Domestic Waste Management Policy

Recyclable

- Paper wastes (newspapers, photocopying papers, magazines, etc.) and solid wastes (all types of bottles, glass, iron, aluminum, etc.) are centralized by the building and commissioned to recycling companies for handling.
- Wastes with reuse value, such as scrapped computer equipment, are collected and sent to the recycling companies for disposal or commissioned to public welfare units to be donated to groups in need.
- Food wastes are centralized by the building and commissioned to recycling companies for handling.

Non-recyclable

- The general household wastes are centralized by the building and transported for disposal.

★In 2022, the Company was not penalized by environmental agencies or involved in pollution disputes due to environmental pollution.

Water Consumption

Item	Unit	2021	2022
Annual water consumption	Ton	841.21	962.7
Number of employees at the end of the year	Person	32	36
Water consumed per capital	Ton/Person	26.28	26.74

Weight of Waste

Item	Unit	2021	2022
Annual total weight of waste	KG	135.75	111.2
Number of employees at the end of the year	Person	32	36
Weight of waste per capita	KG/Person	4.24	3.08

Note: The data in the above two table are collected by the Company.

4.3 Climate Change Strategy and Action

Task Force on Climate-Related Financial Disclosures (TCFD)

TCFD Domain	Climate Management Key Results	Developmental Goal
Governance	The Board of Directors of PharmaEngine is the highest-ranking governance unit overseeing issues concerning climate change risks and opportunities and is responsible for decision-making and overseeing the climate-related issues and matters. The Sustainability Promotion Taskforce is responsible for climate change management and for preparing strategies, evaluating, supervising, and enforcing climate-related issues and matters. It reports to the Board of Directors at least once a year on ESG implementation status of the Company, reviews the effectiveness, and revises the strategic goals and the related regulatory systems.	● Continue to broaden and enhance the Board's and the management team's knowledge regarding low-carbon medications, climate change-related scientific issues and global initiatives, etc. ● The Board and the management team continues to strengthen the supervision of the Company's continuous low-carbon implementation plans.
Strategy	PharmaEngine is devoted to realizing and promoting the combination of AI-assisted research and development of new drugs and build a green supply chain to hopefully drive the environmental protection awareness in the biopharmaceutical industry and to effectively accomplish the goal to reduce greenhouse gas emissions and the provision of low-carbon products and services.	● Continue promoting low-carbon drugs and services ● Include net zero emissions as a long-term development goal for the Company
Risk Management	The Sustainability Promotion Taskforce identifies and weighs the transformational and physical risks, stipulates corresponding countermeasures and opportunities, and defines material risk/opportunity indicators and the control mechanism in order to achieve sustainability goals.	● Strengthen the engagement mechanism with customers in upstream and downstream in order to reinforce the impacts the Company has on low-carbon transformation in the biotech industry.
Metrics and Targets	● Define and fulfill the carbon reduction goal of corporate operations. ● Increase the ratio of green packaging of the Company's products. ● Create a new experimental model of energy conservation and carbon reduction in order to provide low-carbon emission density medicines to the public.	● Plan to complete Scope 1 and Scope 2 greenhouse gas inventory checks in 2023. ● Set greenhouse gas carbon reduction goals for the Company and periodically disclose phased results. ● Gradually improve existing experiment design and define the low-carbon experimental model according to the strategic planning.

Climate Change-related Risk Identification and Countermeasures

Type of Risk		Impact of Risk	Countermeasure and Potential Financial Impact
Trans-formational Risk	Policy and Regulatory Risk	Continuing climate change-related policy actions. Activate greenhouse gas emission cap control such as implementation of the carbon pricing mechanism to reduce greenhouse gas emissions and encouraging improved water consumption efficiency in the future. As the climate change-related loss continues to grow, the climate-related lawsuit risk might also increase.	● PharmaEngine continues to promote low-carbon drugs and services, and to enhance energy efficiency, the Company will continue to build a low-carbon experimental model according to strategic planning plus the gradual improvement of the existing experimental design and reduce environmental impacts. ● Based on TaiPower data, if nuclear power is replaced by renewable energy and coal is replaced by natural gas in the future, the power generation cost per kWh in Taiwan will increase by 45.45% in 2025, which, when calculated by a mean price of electricity of NT$2.6/kWh in 2018, it will increase by NT$1.182 per kWh in 2025. When calculated by the mean expenditure of about 145,048 kWh on the Company's externally purchased electricity over the past 2 years, it is estimated an additional NT$170,000 will be spent on electricity each year in the future.
	Technological Risk	While the global economy gradually turns towards low-carbon and high-performing technological improvements and innovations, competitive advantages of the Company will be impacted. As such, the timing of when new technologies are developed and used will be the primary uncertainty in the Company's risk evaluation.	PharmaEngine evaluates the impacts of climate change-related policies and plans operations for the short-term, mid-term and long-term. It is now devoted to promoting the combination of AI-assisted research and development of new drugs and the green supply chain to hopefully improve the Company's competitive advantages applying the said new technology and drive the environmental protection awareness in the biopharmaceutical industry and to effectively accomplish the goal of reducing greenhouse gas emissions.

Climate Change-related Risk Identification and Countermeasures

Type of Risk		Impact of Risk	Countermeasure and Potential Financial Impact
Trans-formational Risk	Market Risk	Climate change may impact the supply and demand structure and change the product and service mechanisms.	PharmaEngine hopes to enhance its capabilities to undertake climate change risks by becoming a low-carbon enterprise and adopting environmental protection measures and carbon emissions control to create opportunities for generating revenue and expanding market presence. Climate change, however, may impact the stability of the Company's product supply. As such, the safe inventory level may rise to result in an increase in inventory cost. The estimated cost of inventory was about NT$34 million at the end of 2022, for each 1% of increase in inventory, the cost will climb by about NT$340,000.
	Reputation Risk	Climate change may affect our customers' or the society's view on the Company's effort in low-carbon transformation, which is closely related to the Company's image.	PharmaEngine is devoted to reinforcing its engagement mechanism with upstream and downstream customers in order to reinforce the impacts the Company has on low-carbon transformation in the biotech industry.
Physical Risk	Immediate Risk	Climate change can trigger extreme weather events such as typhoons, floods, and droughts, resulting in damaged assets of the Company or disruption of the supply chain, among other immediate financial impacts.	Extreme weather events caused by climate change can result in disruption of the Company's supply chain of drug products and cause inability to ship, among other immediate financial impacts, which, when estimated by the operations of 2022, will cause revenue loss of about NT$280 million a year. In order to prevent against such incidents, PharmaEngine has already included the supply of drugs as a key operational item in its Business Continuity Plan and has defined the emergency response procedure in case of disrupted drug supply.
	Long-term Risk	Long-term changes of global weather and climate, such as the possible elevated sea level or long-term heat waves that may be triggered by persistent high temperatures, can drive up the operational cost.	In order to cope with the gradual shortage in resources as a result of climate change, which may drive up the operational cost for the Company, among other long-term financial impacts. In order to prevent against such situation, PharmaEngine has introduced green packaging material ideas and created a new experimental model of energy conservation and carbon reduction in production process test design, so that drugs of low-carbon emission densities may be provided to the public.

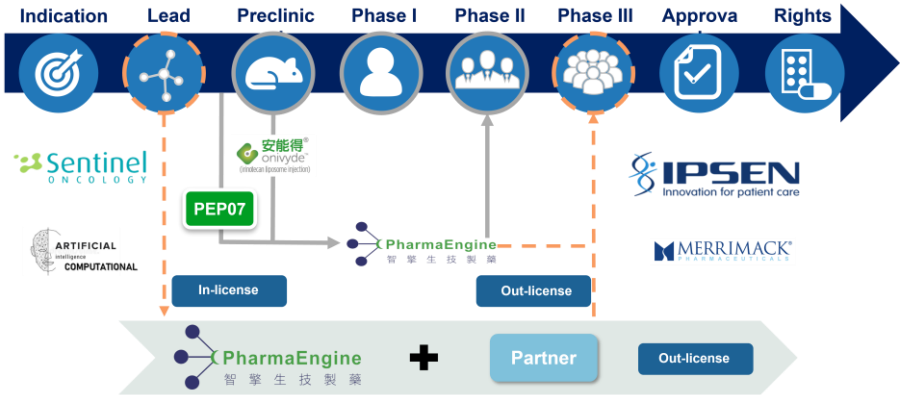
Climate Change-related Opportunities and Countermeasures

Type of Opportunity	Description of Opportunity	Countermeasure and Potential Financial Impact
Resource Utilization Efficiency	●Enhance resource utilization efficiency can bring down mid-term to long-term operational costs of the Company, it can also fulfill the purpose of energy conservation and carbon reduction.	●Promote green consumption and focus mainly on products carrying the green “Energy-saving Stamp” electronics. ●The establishment or replacement of low-energy consumption equipment and set reduction goals for electricity and water usage to enhance resource utilization efficiency.
Energy Source	●Promote the electronic management system. ●When adding the new equipment, follow the government’s subsidy policy and apply for related energy-saving subsidies.	●Colleagues are encouraged to commute using public transportation or drive electric cars to work or have green plants in the office in order to bring down carbon emissions. ●Create the electronic quality management system to ensure the occurrence of GxP activities in respective stages and enhance the effectiveness. ●While making purchases for a self-owned office space, choose HVAC, illumination, and water-saving equipment qualified for energy-saving subsidies or consider the construction of self-owned equipment powered by solar or water recycling systems and apply for government-related subsidies.
Products and Services	●Promote low-carbon products and services in response to climate change.	●Introduce the green packaging material for the Company product when designing the production process testing. ●Create a new experimental model of energy conservation and carbon reduction in order to provide drugs of low-carbon emission densities to the public.
Market	●International society continues to value environmental protection awareness and care for lives on Earth while searching for new business opportunities.	●AI is applied to the research and development of new drugs in order to find targets more precisely and reduce unnecessary animal experiments. ●Reduce unnecessary animal experiments in honor of animal ethics and to fulfill the 3R essence for laboratory animals.
Resilience	●Enhance the ability to adapt to climate change in order to accurately manage climate change-related risks and keep track of opportunities.	●The Sustainability Promotion Taskforce gathers respective teams for the identification of climate change-related risks and opportunities and stipulation of climate change risk management strategies in order to reinforce the Company’s ability to cope with these risks.

4.4 Supplier Management

Value Chain of New Drug Development

PharmaEngine is concentrating on new drugs development that has market projections, by using the Virtual Pharmaceutical Company Business Model, conducting preclinical trials, phase one, phase two and human clinical trials in phase three, lowering the cost of early period R&D and shorten the development timing, to connect the exploration stage of drug development until the completion of the product inspection and registration. Through numerous preclinical trials, the Company explores the value of new drugs and strictly follows the US FDA/EU EMA standards throughout clinical trials from phase one to phase three, acquire certification of each country and carry out product manufacturing, marketing and external licensing. New drugs development chart of PharmaEngine is as follows:



Supplier Relations

ONIVYDE®, which the Company sells in the Taiwan market now is supplied 100% by the US IPSEN Cambridge. The plant has been relocated recently and hence will be supplied 100% by France Ipsen Signes in the future. Suppliers of general purchases are local ones. In addition, depending on the needs for different research stages in the development of new drugs, domestic and international CDMOs (Contract Development and Manufacturing Organizations) and CROs (Contract Research Organizations) are authorized to conduct related trials and studies. We have been maintaining optimal interactive relationships with suppliers, CDMOs and CROs.
The Company, since 2022, has gradually included key suppliers, suppliers of labor service, and new suppliers in the evaluation. Results of evaluations have revealed that all suppliers agree to work with the Company and devote themselves to improve environmental protection measures in terms of energy, waste, water and electricity, and to reduce GHG emissions. As far as society is concerned, some suppliers are aware of the possibility of their risk management impacting the operations of the Company. A total of 5 qualified suppliers was evaluated in 2022 and the results mainly ranged from A to C; they fulfilled quality, service, and lead time requirements. The additional 4 suppliers completed the evaluation and were rated A+ and A; all of them are included in the roster of qualified suppliers.

Renting or Outsourcing Business and Entities that have a Significant Impact on the Organization

- Renting: The Company currently rents office in Taipei City and the lease expenses are in line with the general market price.
- Outsourcing business: The Company's sales of Onivyde® in the Taiwan market are produced by Ipsen. The preclinical trials and some clinical trials of the ongoing projects are entrusted to CRO companies to execute.

★ In 2022, there were no major changes to the organization and its supply chain.

5- Care for and be a Friend to Society

5.1 Social Service Activities

Health Education Seminars Held in Collaboration with Medical Institutions

Knowledge can be transformed into power and hope. By sharing experiences, patients and their families can hopefully find comfort and support. PharmaEngine has been collaborating with medical facilities to host health education seminars and pancreatic cancer patient support groups. The Company hopes by having medical professionals provide knowledge and updates, which include accurate information regarding the disease and the latest treatment trend, patients, their families and the society can gain a deeper understanding in order to build a mutually supportive, encouraging and experience-sharing platform. We Race With You! We support patients to actively seek out treatments and not give up!

In 2022, PharmaEngine hosted 6 seminars:

Date	Location	# of Participants
Sep. 2022	Kaohsiung Veterans General	10
Oct. 2022	Tri-Service General	14
Nov. 2022	NCKU Hospital	20
Nov. 2022	Linkou CGMH	5
Nov. 2022	Taipei Veterans General	39
Nov. 2022	KMU Chung-Ho Memorial	25

▲Seminar for Patients in Kaohsiung Veterans General Hospital in 2022

▼Seminar for Patients in KMU Chung-Ho Memorial Hospital in 2022

Sustainability Activity – Sanzhi Beach Cleaning

PharmaEngine hopes to put in effort to help achieve UN's Goal 14: Life Below Water. In 2022, the Company proactively applied to the North Coast & Guanyinshan National Scenic Area in Taiwan to host a beach cleaning event to be held on November 10, 2022. Taiwan is an island surrounded by oceans and the health of the ocean is directly related to the health of Taiwanese people. A cleaner beach means a cleaner ocean, and this will allow people on the island to enjoy marine resources and beach activities. PharmaEngine holds the 3R core belief (replacement, reduction and refinement). Reduction is not confined to reducing wastes and pollutants during the R&D process but also to reduce unnecessary wastes and consumption of natural resources. This event allowed PharmaEngine employees to understand more about the importance of marine resources and the negative impact on the ocean caused by wastes, and to treasure the beautiful sunset.

1. Learned about the importance of marine resources.
2. Removed all the wastes on the beach.
3. Used self-owned water bottles to reduce plastic use.

Social Service Activities

Year	Activity
2011	CSR Report, Street Invoice Raising - Hope Foundation for Cancer Care
2012	CSR Report, 2012 Clean Up The World - Clean the Earth and and Protect Taiwan's Environment
2013	CSR Report, Jinshan Guoshengpu Beach - Clean up the Beach Activity
2014	CSR Report, Support for Visually Impaired Care Foundation, Farmland Consolidation and Habitat Maintenance, by Sankeng Friendly Farming
2015	CSR Report, Support for Visually Impaired Care Foundation, engaged in coastal cleanup activity "North Coast and Guanyinshan National Scenic Area – Linshanbi"
2016	CSR Report, Support for Visually Impaired Care Foundation, Street Invoice Raising - Sunshine Social Welfare Foundation
2017	CSR Report, Support for Visually Impaired Care Foundation, supply donation and volunteer service - China Andrew Charity Association
2018	CSR Report, Support for Visually Impaired Care Foundation, coastal cleanup activity in Jinshuiao, Keelung
2019	CSR Report, Support for Visually Impaired Care Foundation, the volunteer activities of the Genesis Social Welfare Foundation
2020	ESG Report, Support for Visually Impaired Care Foundation, supplies raising and food box packaging activities for the China Andrew Charity Association
2021	ESG Report, Support for Visually Impaired Care Foundation, participated in the “Do One Thing for the Tamsui River” initiative hosted by the Commonwealth Magazine
2022	ESG Report, Support for Visually Impaired Care Foundation, Sanzhi Beach Cleaning

▲Charity work in 2020 and environmental activity in 2021

5.2 Participation of Public Associations and External Initiatives

Public Association

Taiwan	● Taiwan Clinical Research Association (TCRA): The Company is an association member and a member of the Supervisory Board. Apart from regularly participating in monthly meetings organized by the Association, we also shares our experiences with others in the Association. The goal is to further implement R&D of clinical trials of new drugs in Taiwan and connect Taiwan with the international development for global testing. ● BioTaiwan: The Company is a member, and besides regularly attending its exhibits, forums, and training, the Company also receives the latest daily updates in the biotech industry and occasionally participates in industry seminars to jointly work toward the development of Taiwan's biotech industry.
Overseas	The Company has participated in the annual seminars organized by the American Society of Clinical Oncology (ASCO), European Society For Medical Oncology (ESMO) and American Association for Cancer Research (AACR) Symposium and published our briefing and clinical trial data. By participating in these international conferences, not only the Company can conduct academic exchanges with professionals and share important medical information, our international visibility can also be enhanced.

External Initiatives

The Company has been actively publishing clinical trial results in international medical associations or well-known journals since 2011, allowing physicians and scholars with the focus on pancreatic cancer and small cell lung cancer around the world to continue to obtain the latest research progress of ONIVYDE®.

Publications in International Medical Associations or Well-Known Journals

Year	Contents
2011	● PEP02 met the primary endpoints in phase II studies in gastric cancer and pancreatic cancer; results were presented as an oral presentation at the 2011 Gastrointestinal Cancers Symposium of the American Society of Clinical Oncology (ASCO). ● Presented "Phase II study of PEP02 for patients with gemcitabine-refractory metastatic pancreatic cancer" as poster presentation at 2011 ASCO Annual Meeting.
2013	● Published studies of nanoliposomal irinotecan (PEP02, MM-398) in gastric cancer in Annals of Oncology. ● Published studies of nanoliposomal irinotecan (PEP02, MM-398) in late-stage pancreatic cancer in British Journal of Cancer.
2014	● Global phase III (NAPOLI-1) full data of MM-398 (PEP02) for metastasis pancreatic cancer study was presented orally at ESMO World Congress on Gastrointestinal Cancer.
2015	● Presented expanded analysis of Phase III MM-398 NAPOLI-1 study at the 2015 ASCO GI, substantiated the positive results of MM-398 in combination with 5-FU/LV. ● Published the ONIVYDE® phase III NAPOLI-1 study data in The Lancet.
2019	● PharmaEngine's partners Ipsen and Servier announced positive initial results for ONIVYDE® as a second-line treatment for phase II/III small cell lung cancer, and announced that the trial had entered phase II patient enrollment.
2021	● PharmaEngine released the data of Phase II clinical studies of ONIVYDE® combination therapy in squamous cell carcinoma of the head and neck and the esophagus that has failed prior platinum-based chemotherapy or concurrent chemoradiotherapy in 2021 ASCO symposium (2021 ASCO).
2022	● PharmaEngine released the preliminary data of Phase I clinical studies of ONIVYDE® in combination with LONSURF® in treating multiple solid tumors in ASCO-GI 2022.
2023	● Published studies of ONIVYDE® regimen (NALIRIFOX) in 1L PDAC in ASCO-GI 2023

5.3 Industry-University Alliance

Since 2021, PharmaEngine has launched the "Share Industry-Related Experience Program" for senior students in pharmaceutical-related universities in Taiwan. The program includes courses such as Preclinical Development, From Lab to the Real World: Challenges, Introduction to Drug and Cancer Clinical Trials, Marketing, Sales and Brand Management, Valuation of New Drug, and Regulatory Essentials & Introduction of Patent Linkage, etc. The goal is to allow students to understand the internal operations and the actual work of a biotech company.
PharmaEngine partnered with Taipei Medical University, National Cheng Kung University and Fu Jen Catholic University in 2022, benefiting more than 100 students.
The Company looks forward to cooperating with more universities to build a strong relationship with the academic community and allow students to jumpstart their planning for a career in the biotech industry.

5.4 Influence on Cultural Inheritance

The main goal of biotech development is hoping to find solutions by R&D to enhance health, extend life, and allow people to face diseases without fear. Using culture as a medium, the biotech industry can build a supportive community with patients and their families by sharing knowledge and experience, so the latter can face hardships with strong courage.

PharmaEngine cooperated with Health Care Industry Department of United Daily to publish the book, *I am a doctor, I have cancer,* which consists of 12 medical doctors and public health experts sharing their own journey in battling with cancer and their knowledge about cancer.

To support domestic cultural events and understand the importance of culture, PharmaEngine plans to encourage employees to visit museums and theaters to experience more cultural activities and exhibitions.

Planned Activities

- Tamsui Historical Museum, New Taipei City
- Puppetry Art Center of Taipei
- Book donation
- The Lin Family Mansion and Garden

Appendix 1: GRI Standards Content Index

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
GRI 102: 2016 General Disclosures				
Organizational Profile				
102-1	Name of the organization	2.1 Company Profile	●	12
102-2	Activities, brands, products, and services	2.1 Company Profile	●	12
102-3	Location of headquarters	2.1 Company Profile	●	12
102-4	Location of operations	2.1 Company Profile	●	12
102-5	Ownership and legal form	2.1 Company Profile	●	12
102-6	Markets served	2.1 Company Profile	●	12
102-7	Scale of the organization	2.1 Company Profile	●	12
102-8	Information on employees and other workers	3.1 Human Resources Overview	●	38
102-9	Supply chain	4.4 Supplier Management	●	56
102-10	Significant changes to the organization and its supply chain	4.4 Supplier Management	●	56
102-11	Precautionary Principle or approach	2.5 Risk Assessment and Crisis Management	●	27
102-12	External initiatives	5.2 Participation of Public Associations and External Initiatives	●	60

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
102-13	Membership of associations	5.2 Participation of Public Associations and External Initiatives	●	60
Strategy				
102-14	Statement from senior decision-maker	Messages from the President & CEO	●	3
102-15	Key impacts, risks, and opportunities	2.5 Risk Assessment and Crisis Management	●	27
Ethics and Integrity				
102-16	Values, principles, standards, and norms of behavior	2.1 Company Profile 2.3 Ethical Corporate Management and Ethical Code	●	12 25
102-17	Mechanisms for advice and concerns about ethics	2.3 Ethical Corporate Management and Ethical Code	●	25
Governance				
102-18	Governance structure	2.2 Corporate Governance	●	18
102-19	Delegating authority	2.2 Corporate Governance	●	18
102-20	Executive-level responsibility for economic, environmental, and social topics	Messages from the President & CEO	●	3
102-21	Consulting stakeholders on economic, environmental, and social topics	1.2 Major Themes and Stakeholder Communication	●	6

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
102-22	Composition of the highest governance body and its committees	2.2 Corporate Governance	●	18
102-23	Chair of the highest governance body	Please refer to 2022 Annual Report III. Corporate Governance Report P10	●	
102-24	Nominating and selecting the highest governance body	Please refer to 2022 Annual Report III. Corporate Governance Report P33	●	
102-25	Conflicts of interest	2.2 Corporate Governance	●	18
102-26	Role of highest governance body in setting purpose, values, and strategy	2.2 Corporate Governance	●	18
102-27	Collective knowledge of highest governance body	2.2 Corporate Governance	●	18
102-28	Evaluating the highest governance body's performance	2.2 Corporate Governance	●	18
102-29	Identifying and managing economic, environmental, and social impacts	1.2 Major Themes and Stakeholder Communication	●	6
102-30	Effectiveness of risk management processes	2.5 Risk Assessment and Crisis Management	●	27
102-31	Review of economic, environmental, and social topics	1.2 Major Themes and Stakeholder Communication	●	6
102-32	Highest governance body's role in sustainability reporting	2.2 Corporate Governance	●	18
102-33	Communicating critical concerns	1.2 Major Themes and Stakeholder Communication	●	6
102-34	Nature and total number of critical concerns	1.2 Major Themes and Stakeholder Communication	●	6

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
102-35	Remuneration policies	3.4 Employee Welfare Programs	●	44
102-36	Process for determining remuneration	2.2 Corporate Governance	●	18
102-37	Stakeholders' involvement in remuneration	1.2 Major Themes and Stakeholder Communication	●	6
102-38	Annual total compensation ratio	3.4 Employee Welfare Programs	●	44
102-39	Percentage increase in annual total compensation ratio	3.4 Employee Welfare Programs	●	44
Stakeholder Engagement				
102-40	List of stakeholder groups	1.2 Major Themes and Stakeholder Communication	●	6
102-41	Collective bargaining agreements	3.6 Human Rights Protection	●	48
102-42	Identifying and selecting stakeholders	1.2 Major Themes and Stakeholder Communication	●	6
102-43	Approach to stakeholder engagement	1.2 Major Themes and Stakeholder Communication	●	6
102-44	Key topics and concerns raised	1.2 Major Themes and Stakeholder Communication	●	6

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
Reporting Practice				
102-45	Entities included in the consolidated financial statements	About the Report	●	2
102-46	Defining report content and topic boundaries	1.2 Major Themes and Stakeholder Communication	●	6
102-47	List of material topics	1.2 Major Themes and Stakeholder Communication	●	6
102-48	Restatements of information	About the Report	●	2
102-49	Changes in reporting	About the Report	●	2
102-50	Reporting period	About the Report	●	2
102-51	Date of most recent report	About the Report	●	2
102-52	Reporting cycle	About the Report	●	2
102-53	Contact point for questions regarding the report	About the Report	●	2
102-54	Claims of reporting in accordance with the GRI Standards	About the Report	●	2
102-55	GRI content index	About the Report	●	2
102-56	External assurance	About the Report	●	2

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
GRI 103: 2016 Management Approach				
103-1	Explanation of the material topic and its boundary	1.2 Major Themes and Stakeholder Communication	●	6
103-2	The management approach and its components	1.2 Major Themes and Stakeholder Communication	●	6
103-3	Evaluation of the management approach	1.2 Major Themes and Stakeholder Communication	●	6
GRI 201-206: 2016 Economic				
Economic Performance				
201-1	Direct economic value generated and distributed	2.1 Company Profile	●	12
201-2	Financial implications and other risks and opportunities due to climate change	4.3 Climate Change Strategy and Action	●	52
201-3	Defined benefit plan obligations and other retirement plans	3.4 Employee Welfare Programs	●	44
201-4	Financial assistance received from government	2.1 Company Profile	●	12

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
Market Presence				
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	3.4 Employee Welfare Programs	●	44
202-2	Proportion of senior management hired from the local community	3.1 Human Resources Overview	●	38
Indirect Economic Impacts				
203-1	Infrastructure investments and services supported	The Company didn't perform relevant inspections during the year, it is not applicable		
203-2	Significant indirect economic impacts	The Company didn't perform relevant inspections during the year, it is not applicable		
Procurement Practices				
204-1	Proportion of spending on local suppliers	4.4 Supplier Management	●	56
Anti-corruption				
205-1	Operations assessed for risks related to corruption	2.4 Anti-Corruption Policy	●	26
205-2	Communication and training about anti-corruption policies and procedures	2.3 Ethical Corporate Management and Ethical Code	●	25
205-3	Confirmed incidents of corruption and actions taken	2.4 Anti-Corruption Policy	●	26
Anti-competitive Behavior				
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	2.3 Ethical Corporate Management and Ethical Code	●	25

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
GRI 301-308: 2016 Environment				
Materials				
301-1	Materials used by weight or volume	The Company has no manufacturing facilities, it is not applicable		
301-2	Recycled input materials used	The Company has no manufacturing facilities, it is not applicable		
301-3	Reclaimed products and their packaging materials	No such incident occurred during the year		
Energy				
302-1	Energy consumption within the organization	4.2 Green Operation	●	50
302-2	Energy consumption outside of the organization	4.2 Green Operation	●	50
302-3	Energy intensity	The Company didn't perform relevant inspections during the year, it is not applicable		
302-4	Reduction of energy consumption	4.3 Climate Change Strategy and Action	●	52
302-5	Reduction in energy requirements of products and services	4.3 Climate Change Strategy and Action	●	52
Water				
303-1	Interactions with water as a shared resource	4.2 Green Operation	●	50
303-2	Management of water discharge-related impacts	4.2 Green Operation	●	50

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
303-3	Water withdrawal	4.2 Green Operation	●	50
303-4	Water discharge	4.2 Green Operation	●	50
303-5	Water consumption	4.2 Green Operation	●	50
Biodiversity				
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	4.0 Build a Green Life	●	49
304-2	Significant impacts of activities, products, and services on biodiversity	4.0 Build a Green Life	●	49
304-3	Habitats protected or restored	4.0 Build a Green Life	●	49
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	4.0 Build a Green Life	●	49
Emissions				
305-1	Direct (Scope 1) GHG emissions	4.2 Green Operation	●	50
305-2	Energy indirect (Scope 2) GHG emissions	4.2 Green Operation	●	50
305-3	Other indirect (Scope 3) GHG emissions	The Company didn't perform relevant inspections during the year, it is not applicable		
305-4	GHG emissions intensity	The Company didn't perform relevant inspections during the year, it is not applicable		
305-5	Reduction of GHG emissions	4.2 Green Operation	●	50

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
305-6	Emissions of ozone-depleting substances (ODS)	The Company didn't perform relevant inspections during the year, it is not applicable		
305-7	Nitrogen oxides (NO_X), sulfur oxides (SO_X), and other significant air emissions	The Company didn't perform relevant inspections during the year, it is not applicable		
Effluents and Waste				
306-1	Water discharge by quality and destination	4.2 Green Operation	●	50
306-2	Waste by type and disposal method	4.2 Green Operation	●	50
306-3	Significant spills	4.2 Green Operation	●	50
306-4	Transport of hazardous waste	4.2 Green Operation	●	50
306-5	Water bodies affected by water discharges and/or runoff	4.2 Green Operation	●	50
Environmental Compliance				
307-1	Non-compliance with environmental laws and regulations	4.2 Green Operation	●	50
Supplier Environmental Assessment				
308-1	New suppliers that were screened using environmental criteria	4.4 Supplier Management	●	56
308-2	Negative environmental impacts in the supply chain and actions taken	4.4 Supplier Management	●	56

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
GRI 401-419: 2016 Social				
Employment				
401-1	New employee hires and employee turnover	3.1 Human Resources Overview	●	38
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	3.4 Employee Welfare Programs	●	44
401-3	Parental leave	3.4 Employee Welfare Programs	●	44
Labor/Management Relations				
402-1	Minimum notice periods regarding operational changes	3.1 Human Resources Overview	●	38
Occupational Health and Safety				
403-1	Workers representation in formal joint management– worker health and safety committees	The Company only has a general office, this is not applicable		
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	3.5 Friendly Workplace	●	47
403-3	Workers with high incidence or high risk of diseases related to their occupation	3.5 Friendly Workplace	●	47
403-4	Health and safety topics covered in formal agreements with trade unions	3.6 Human Rights Protection	●	48
403-5	Worker training on occupational health and safety	3.5 Friendly Workplace	●	47
403-6	Promotion of worker health	3.5 Friendly Workplace	●	47

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
403-7	Prevention and mitigation of occupational health and safety impacts directly linked to business operations	3.5 Friendly Workplace	●	47
403-8	Workers covered by an occupational health and safety management system	The Company only has a general office, this is not applicable		
403-9	Work-related injuries	3.5 Friendly Workplace	●	47
403-10	Work-related ill health	3.5 Friendly Workplace	●	47
Training and Education				
404-1	Average hours of training per year per employee	3.2 Manpower Training and Development	●	41
404-2	Programs for upgrading employee skills and transition assistance programs	3.2 Manpower Training and Development 3.4 Employee Welfare Programs	●	41 44
404-3	Percentage of employees receiving regular performance and career development reviews	3.3 Performance Review and Career Development	●	43
Diversity and Equal Opportunity				
405-1	Diversity of governance bodies and employees	3.1 Human Resources Overview	●	38
405-2	Ratio of basic salary and remuneration of women to men	3.4 Employee Welfare Programs	●	44
Non-discrimination				
406-1	Incidents of discrimination and corrective actions taken	3.6 Human Rights Protection	●	48

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
Freedom of Association and Collective Bargaining				
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	No such incident occurred during the year		
Child Labor				
408-1	Operations and suppliers at significant risk for incidents of child labor	3.6 Human Rights Protection	●	48
Forced or Compulsory Labor				
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	No such incident occurred during the year		
Security Practices				
410-1	Security personnel trained in human rights policies or procedures	3.6 Human Rights Protection	●	48
Rights of Indigenous Peoples				
411-1	Incidents of violations involving rights of indigenous peoples	No such incident occurred during the year		
Human Rights Assessment				
412-1	Operations that have been subject to human rights reviews or impact assessments	No such incident occurred during the year		
412-2	Employee training on human rights policies or procedures	3.6 Human Rights Protection	●	48
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	No such incident occurred during the year		

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
Local Communities				
413-1	Operations with local community engagement, impact assessments, and development programs	No such incident occurred during the year		
413-2	Operations with significant actual and potential negative impacts on local communities	No such incident occurred during the year		
Supplier Social Assessment				
414-1	New suppliers that were screened using social criteria	4.4 Supplier Management	●	56
414-2	Negative social impacts in the supply chain and actions taken	No such incident occurred during the year		
Public Policy				
415-1	Political contributions	No such incident occurred during the year		
Customer Health and Safety				
416-1	Assessment of the health and safety impacts of product and service categories	2.7 Customer Relations	●	33
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	2.7 Customer Relations	●	33

●Disclosed

GRI Guideline Titles	Disclosed Item Number	Disclosed Item Title	Status	Section Index
Marketing and Labeling				
417-1	Requirements for product and service information and labeling	2.7 Customer Relations	●	33
417-2	Incidents of non-compliance concerning product and service information and labeling	2.7 Customer Relations	●	33
417-3	Incidents of non-compliance concerning marketing communication	2.7 Customer Relations	●	33
Customer Privacy				
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	2.7 Customer Relations	●	33
Socioeconomic Compliance				
419-1	Non-compliance with laws and regulations in the social and economic area	2.3 Ethical Corporate Management and Ethical Code	●	25

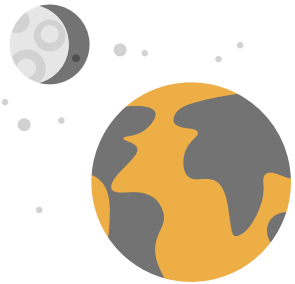
Appendix 2: SASB Index Table

Code	Accounting Metric	Nature	Referenced Chapter/Disclosure	Page
Topic: Safety of Clinical Trial Participants				
HC-BP-210a.1	Discussion, by world region, of management process for ensuring quality and patient safety during clinical trials	qualitative	2.7 Customer Relations	33
HC-BP-210a.2	Number of FDA Sponsor Inspections related to clinical trial management and pharmacovigilance that resulted in: (1) Voluntary Action Indicated (VAI) and (2) Official Action Indicated (OAI)	quantitative	No such information is available during the year	
HC-BP-210a.3	Total amount of monetary losses as a result of legal proceedings associated with clinical trials in developing countries	quantitative	The Company conducts human clinical trials in Taiwan only and there was no monetary losses as a result of legal proceedings associated with clinical trials in any country during the year	
Topic: Access to Medicines				
HC-BP-240a.1	Description of actions and initiatives to promote access to health care products for priority diseases and in priority countries as defined by the Access to Medicine Index	qualitative	The Company currently has no such drug	
HC-BP-240a.2	List of products on the WHO List of Prequalified Medicinal Products as part of its Prequalification of Medicines Programmed (PQP)	qualitative	The Company currently has no such drug	
Topic: Affordability & Pricing				
HC-BP-240b.1	Number of settlements of Abbreviated New Drug Application (ANDA) litigation that involved payments and/or provisions to delay bringing an authorized generic product to market for a defined time period	quantitative	The Company currently has no such drug	

Code	Accounting Metric	Nature	Referenced Chapter / Disclosure	Page
HC-BP-240b.2	Percentage change in: (1) average list price and (2) average net price across U.S. product portfolio compared to previous year	quantitative	The Company does not sell drugs in the U.S. (The U.S. market for Onivyde® is owned by Ipsen)	
HC-BP-240b.3	Percentage change in: (1) list price and (2) net price of product with largest increase compared to previous year	quantitative	2.7 Customer Relations	33
Topic: Drug Safety				
HC-BP-250a.1	List of products listed in the Food and Drug Administration's (FDA) MedWatch Safety Alerts for Human Medical Products database	qualitative	2.7 Customer Relations	33
HC-BP-250a.2	Number of fatalities associated with products as reported in the FDA Adverse Event Reporting System	quantitative	No such information is available during the year	
HC-BP-250a.3	Number of recalls issued, total units recalled	quantitative	No such information is available during the year	
HC-BP-250a.4	Total amount of product accepted for take back, reuse, or disposal	quantitative	No such information is available during the year	
HC-BP-250a.5	Number of FDA enforcement actions taken in response to violations of current Good Manufacturing Practices (cGMP), by type	quantitative	No such information is available during the year	
Topic: Counterfeit Drugs				
HC-BP-260a.1	Description of methods and technologies used to maintain traceability of products throughout the supply chain and prevent counterfeiting	qualitative	2.7 Customer Relations	33
HC-BP-260a.2	Discussion of process for alerting customers and business partners of potential or known risks associated with counterfeit products	quantitative	2.7 Customer Relations	33
HC-BP-260a.3	Number of actions that led to raids, seizure, arrests, and/or filing of criminal charges related to counterfeit products	quantitative	No such information is available during the year	

Code	Accounting Metric	Nature	Referenced Chapter / Disclosure	Page
Topic: Ethical Marketing				
HC-BP-270a.1	Total amount of monetary losses as a result of legal proceedings associated with false marketing claims	quantitative	No such information is available during the year	
HC-BP-270a.2	Description of code of ethics governing promotion of off-label use of products	qualitative	2.7 Customer Relations	33
Topic: Employee Recruitment, Development & Retention				
HC-BP-330a.1	Discussion of talent recruitment and retention efforts for scientists and research and development personnel	qualitative	3.1 Human Resources Overview	38
HC-BP-330a.2	(1) Voluntary and (2) involuntary turnover rate for: (a) executives/senior managers, (b) mid level managers, (c) professionals, and (d) all others	quantitative	3.1 Human Resources Overview	38
Topic: Supply Chain Management				
HC-BP-430a.1	Percentage of (1) entity's facilities and (2) Tier I suppliers' facilities participating in the Rx-360 International Pharmaceutical Supply Chain Consortium audit program or equivalent third-party audit programs for integrity of supply chain and ingredients	quantitative	2.7 Customer Relations	33
Topic: Business Ethics				
HC-BP-510a.1	Total amount of monetary losses as a result of legal proceedings associated with corruption and bribery	quantitative	No such information is available during the year	
HC-BP-510a.2	Description of code of ethics governing interactions with health care professionals	qualitative	2.7 Customer Relations	33

Code	Accounting Metric	Nature	Referenced Chapter / Disclosure	Page
Activity Metrics				
HC-BP-000.A	Number of patients treated	quantitative	2.7 Customer Relations	33
HC-BP-000.B	Number of drugs (1) in portfolio and (2) in research and development (Phases 1-3)	quantitative	2.1 Company Profile	12



Appendix 3: Summary of Assured Items

<table>
<tr><th>Assured Items</th><th>Applicable Criteria</th><th>Page</th></tr>
<tr><td>The Company has conducted related promotion and training for 151 hours, which was participated by at least 37 people, including managers and employees.</td><td>The total number of hours of education and training completed in 2022 according to the Company’s S.O.P. and the definition of cyber security.</td><td>32</td></tr>
<tr><td>In 2022, 221 persons cumulatively received 502.5 hours of educational training related to ethical business management issues (including courses for legal compliance for ethical business management, drug safety and health management and inspections, accounting system and internal control etc.).</td><td>The total number of hours of education and training completed in 2022 according to the Company’s S.O.P. and the definition of ethical business management.</td><td>25</td></tr>
<tr><td>In 2022, the Company has executed 4 GxP supplier assessments.</td><td>In 2022, the total number of suppliers audited according to the Company's S.O.P..</td><td>35</td></tr>
<tr><td>The Training situation based on employee job type and gender statistics in 2022.
<table>
<tr><th colspan="2">Items</th><th>Male</th><th>Female</th></tr>
<tr><td rowspan="3">Average Training Time (hour)</td><td>Managerial Officers</td><td>23.9</td><td>25.0</td></tr>
<tr><td>R&D Employees</td><td>22.9</td><td>21.9</td></tr>
<tr><td>Other Employees</td><td>20.7</td><td>29.3</td></tr>
</table></td><td>The total number of hours of education and training completed in 2022 in accordance with the Company’s S.O.P., classified by employee position and gender</td><td>42</td></tr>
<tr><td>The retention rate of R&D employees was 91%.</td><td>The proportion of incumbent R&D personnel employed in 2022 to the employed R&D personnel at the end of 2022.</td><td>40</td></tr>
</table>

Appendix 4: Independent Limited Assurance Report 【Translation】

Independent Limited Assurance Report

To PharmaEngine, Inc.

We have been engaged by PharmaEngine, Inc. (“Company”) to perform assurance procedures on the sustainability performance information identified by the Company and reported in the 2022 Sustainability Report, and have issued a limited assurance report based on the result of our work performed.

Subject Matter Information and Applicable Criteria

The sustainability performance information identified by the Company (hereinafter referred to as the “Subject Matter Information”) and the respective applicable criteria are stated in the “Summary of Assured Items” on page 83 of the Sustainability Report. The scope of the aforementioned Subject Matter Information is set out in the “Scope and Boundary” on page 2 of the Sustainability Report.

Management’s Responsibilities

The Management of the Company is responsible for the preparation of the sustainability performance information disclosed in the Sustainability Report in accordance with the respective applicable criteria, and for such internal control as management determines is necessary to enable the preparation of the sustainability performance information that is free from material misstatement, whether due to fraud or error.

Our Responsibilities

We conducted our assurance work on the Subject Matter Information disclosed in the Sustainability Report in accordance with the Standard on Assurance Engagements 3000, “Assurance Engagements other than Audits or Reviews of Historical Financial Information” of the Republic of China, to identify whether any amendment is required of the Subject Matter Information to be prepared, in all material respects, in accordance with the respective applicable criteria, and issue a limited assurance report.

We conducted our assurance work in accordance with the aforementioned standards including identifying the areas where there may be risks of material misstatement of the Subject Matter Information, and designing and performing procedures to address the identified areas. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

The extent of the assurance work we performed were based on the identified risk areas and determined materiality, and given the circumstances of the engagement, we designed and performed the following procedures:

- Made inquiries of the persons responsible for the Subject Matter Information to understand the processes, and the relevant internal controls relating to the preparation of the aforementioned information to identify the areas where there may be risks of material misstatement; and
- Based on the above understanding and the areas identified, performed analytical procedures on the Subject Matter Information and performed selective testing including inquiry, inspection, and reperformance to obtain evidence for limited assurance.

We do not provide any assurance on the Sustainability Report as a whole or on the design or operating effectiveness of the relevant internal controls. Our assurance does not extend to information in respect of earlier periods or to any other information disclosed in the Sustainability Report for 2020.

Compliance of Independence and Quality Management Requirement

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies Standard on Quality Management 1, “Quality Management for Public Accounting Firms” of the Republic of China and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Inherent Limitations

Certain Subject Matter Information involves non-financial data which is subject to more inherent limitations than financial data. Qualitative interpretations of the relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, we are not aware of any amendment that is required of Subject Matter Information to be prepared, in all material respects, in accordance with the respective applicable criteria.“

Other Matter

The Management of the Company is responsible for maintaining the Company’s website. If the Subject Matter Information or the applicable criteria are modified after this limited assurance report is issued, we are not obliged to re-perform the assurance work.

Yu, Shu-Fen

For and on behalf of PricewaterhouseCoopers, Taiwan
August 31, 2023