PharmaEssentia

2024

ESG永續報告書

CONTENTS

PharmaEssentia Corporation · 2024 Sustainability Report

Forward

About This Report

This Report is the sixth Sustainability Report released by PharmaEssentia Corporation (hereinafter PharmaEssentia, we, or the Company), and discloses PharmaEssentia's commitments and actions towards sustainable development, including corporate governance, access to medicine, environmental protection, employee care, and social participation.

Reporting Boundary GRI 2-2

The reporting boundary encompasses PharmaEssentia's headquarters in Taiwan (including our Taipei Office and Taichung Plant), subsidiary Panco Healthcare (hereinafter Panco), PharmaEssentia USA, and PharmaEssentia Japan, which are all companies in the biotechnology industry. As our subsidiaries are at different stages of development, additional notes are provided for inconsistencies in reporting boundaries: Some operational data only encompass our headquarters in Taiwan and some featured highlights only included information from our PharmaEssentia Innovation Research Center (PIRC). Data from other subsidiaries such as PharmaEssentia Korea, PharmaEssentia Singapore, PharmaEssentia Beijing, PharmaEssentia Hong Kong, and the United States PIRC may be included in future depending on the Company's operational status.

Reporting Principles and Information Compilation

This Report was prepared in accordance with the Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed and Over-the-Counter Companies and the GRI Standards 2021 published by the Global Reporting Initiative (GRI), and references the Sustainability Accounting Standards Board (SASB) Biotechnology & Pharmaceuticals Standards and Task Force on Climate-related Financial Disclosures (TCFD) recommendations. Relevant indexes have been provided as appendices for stakeholder reference and review. The Company also adopted the Access to Medicine Index (ATMI) when disclosing information in the sections on drug quality & safety management and access to medicine management.

Restatements of Information GRI 2-4

Reinstatements of information in this Report include: Adjustments to 2023 greenhouse gas inventories and energy consumption data for 2022 and 2023, updates to ISO 14064-1 data following third-party verification, and corrections made to water discharge and consumption volumes in statistics on water resources for 2022-2023. Please refer to 4.3 Energy Management and 4.4 Water Stewardship.

Independent Assurance GRI 2-5

The content of this Report was consolidated and compiled by PharmaEssentia's Executive Center for Corporate Sustainability, reviewed by various functional teams and the Company, approved by management executives before presentation to the Board, and was verified by international third-party institute AFNOR Asia Ltd. in accordance with AA1000 AS v3 standards, providing Type 1 Moderate level assurance that our 2024 Sustainability Report complies with GRI principles and AA1000 AccountAbility Principles (2018); the Statement of Independent Assurance Opinion is provided in the Appendix. All financial data in this Report cites annual financial reports that have been audited by Ernst & Young. Greenhouse gas inventory information for 2023 have been verified by AFNOR Asia Ltd. in accordance with ISO 14064-1:2018 standards.

Reporting Period, Frequency, and Contact GRI 2-3

The information in this Report is mainly taken from January 1, 2024 to December 31, 2024. To ensure information integrity and comparability, some information from 2022 and 2023, as well as statements on future strategies, have been included. The Company issues a Sustainability Report annually. This Report was released in August 2025 and the next report is scheduled to be released in August 2026.

PharmaEssentia welcomes your suggestions and opinions on this Report. Please feel free to contact us at:

PharmaEssentia Sustainability Engagement Unit:
PharmaEssentia Executive Center for Corporate Sustainability

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- **Phone:** +886-2-2655-7688
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- **Company Website:** www.pharmaessentia-esg.com

Message from the Management Team

GRI 2-22

A Message from the Chairperson

At PharmaEssentia, we have been committed to development of new drugs in the field of hematological diseases since our establishment. We are actively developing additional indications and investing in research across different disease domains to promote global patient access to medication and enhance patient health and well-being. Thanks to continuous growth in global sales of Ropeg, PharmaEssentia achieved significant operational breakthroughs in 2024, with annual revenue reaching NT$9.73 billion, a year-on-year increase of 91%. Operating profit was NT$1.74 billion, net profit was NT$2.97 billion, and earnings per share was NT$8.96; operating profit, net profit, and earnings per share all reached record heights.

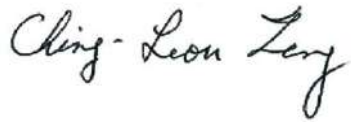
PharmaEssentia also delivered excellent environmental, social, and governance sustainability performance in 2024:

Environmental (E): In 2024, we introduced the ISO 14001:2015 Environmental Management System at our Taichung Plant for the first time; formed an implementation team to conduct risk assessments, adopt response measures, and execute management system procedures; and obtained third-party verification at the end of the year. We also conducted our first greenhouse gas inventory of our Taipei Headquarters in 2024, expanding inventory scope beyond existing greenhouse inventories already carried out at our Taichung Plant, and completed ISO 14064-1 verification for 2023. In future, we will continue to conduct greenhouse gas inventories, expand inventory scope, and set carbon reduction targets aligned with our sustainability commitments. To improve energy efficiency in production processes, PharmaEssentia invested NT$5,500,000 in energy-saving machinery and equipment, replacing air compressors and introducing energy-saving water chillers, reducing energy usage by 158,000 kWh from 2023-2024, equivalent to 78.073 tCO_2e.

Social (S): PharmaEssentia's mission is to promote access to medicine and improve patient health and well-being. In 2024, 54 patients benefited from compassionate use and 1,448 patients were enrolled in clinical trials around the globe. We continued to implement patient support programs in Taiwan, Japan, and the US, and also participated in international myeloproliferative neoplasms (MPN) academic exchange activities and local MPN community empowerment activities to enhance disease knowledge of healthcare professionals, strengthen doctor-patient relationships, and help patients use medications appropriately, leveraging industrial empowerment activities to help more patients obtain high-quality drugs.

Governance (G): A new board of directors with three female directors took office in 2024, and the number of independent directors were increased from three to four to strengthen board diversity and independence. PharmaEssentia enhanced information security protection capabilities, established a comprehensive information security management framework, and officially obtained ISO 27001:2022 Information Security Management System verification in 2024. We also strengthened intellectual property and trademark protections of our pharmaceutical R&D achievements by regularly monitoring similar trademarks worldwide throughout 2024 and using "Invention Mining" methods to supplement our R&D achievements. Products under development are protected in the US by provisional patents which safeguard emerging technologies.

We stand ready to embark on a new chapter and have formulated a five-year sustainable development roadmap encompassing environmental, social, and governance aspects based on our sustainability performance in recent years. We actively integrate departmental resources to achieve sustainability targets and exert positive corporate influence on stakeholders. PharmaEssentia's significant growth in 2024 will benefit our corporate governance, pharmaceutical R&D, product safety, environmental protection, and social participation performance; fuel our continued growth in the biopharmaceutical industry; and enable us to become a benchmark enterprise.



Chairperson **ChingLeou Teng**

A Message from the CEO

The world entered a post-pandemic era in 2024, but the Russo-Ukrainian War, Israeli-Palestinian conflicts, persistent global inflation, and extreme climate events continue to pose significant challenges to the international landscape.

Despite global turmoil, we at PharmaEssentia have continued to uphold our founding mission. We invested substantial amounts of resources and manpower in new drug development by adding R&D personnel at operational sites and establishing the PharmaEssentia Innovation Research Center in Boston, USA. In 2024, we made significant progress on expanding indications for our independently developed drug Ropeg. All participants in the SURPASS ET Phase III global clinical trial for essential thrombocythemia (ET) completed trial procedures in November (LPLV) with impressive results. We plan to begin submitting marketing authorization applications in Taiwan, the US, China, Korea, and Japan starting in 2025, and expect to obtain marketing authorizations in 2026. PharmaEssentia aims to continue diversifying product pipelines and increasing indications for related disease areas to effectively meet the needs of patients worldwide. Ropeg has already obtained marketing authorizations in over 40 countries. In 2024, we also submitted marketing authorization applications for treatment of polycythemia vera (PV) in Hong Kong and some South American regions, and expect to obtain marketing authorizations in Brazil and Argentina by mid-2025. We look forward to strengthening collaborations with local medical institutions and patient organizations to increase Ropeg's market share. In 2022, we initiated construction on our Taichung Houli Plant and Hsinchu Zhubei Plant, and plan to commence mass production and commercial sales in 2026, which will increase our production capacity and drive corporate growth.

PharmaEssentia has also made impressive progress on sustainable development. Internally, we emphasize employee compensation, welfare, and career developments, striving to create a diverse, equal, and inclusive workplace with human rights protections. We also amended our human rights policies, strengthened our human rights commitments, conducted assessments on human rights risks to identify potential human rights risks in the biopharmaceutical industry, and formulated corresponding mitigation and remediation measures. Externally, PharmaEssentia has invested corporate resources and manpower in caring for patients, the elderly, schoolchildren, women, and other socially marginalized groups. We have long supported a variety of public welfare activities, including health promotion activities in rural communities, biodiversity education for schoolchildren, and sponsorships for local classical music activities. Additionally, PharmaEssentia Japan extended our social influence in 2024 by providing disaster relief donations for the Noto Peninsula earthquake.

PharmaEssentia's sustainability efforts in 2024 received great acclaim from external organizations. We were awarded the Corporate Sustainability Report Platinum Award in Healthcare for the third consecutive year. US National Comprehensive Cancer Network treatment guidelines continue to recommend Ropeg as the first-choice of treatment for PV patients of all risk levels, and CSCO treatment guidelines also recommend Ropeg as the first-line, first-choice cytoreductive drug for PV. We also received the Taiwan BIO Awards Outstanding Company of the Year Gold Award in 2024. Following our first inclusion in S&P Global's Corporate Sustainability Assessment (CSA) in 2023, we made further advancements in 2024 by being included in the CSA again, ranking in the top 5% of global biotechnology companies for the first time, and receiving the "Industry Mover" award. In December 2024, we became the first Taiwanese biopharmaceutical company to be included in the Dow Jones Sustainability Index (DJSI) Emerging Market Index, demonstrating international recognition of our sustainability commitments.

CEO **KoChung Lin**

About PharmaEssentia

GRI 2-1

Company name	PharmaEssentia Corporation
Company status	Publicly listed company
Date of establishment	May 2000
Industry category	Biotechnology and medical care industry
Business focus	Research, development, production, and sales of new biotechnology drugs
GICS sector	Biotechnology
Chairperson	ChingLeou Teng
Paid-in capital	NT$3.417 billion
Consolidated turnover	NT$9.734 billion
Number of employees	600 employees
Operational locations	Taipei Head Office: 13th Floor, No. 3, Park Street, Nangang District, Taipei City Taichung Plant: 3rd Floor, No. 6, Zhongke Road, Daya District, Taichung City Panco (wholly-owned subsidiary): No. 177-10, Zhongzhen Street, Luzhu District, Taoyuan City Overseas subsidiaries: PharmaEssentia USA , PharmaEssentia Innovation Research Center Corporation, PharmaEssentia Japan, PharmaEssentia Korea, PharmaEssentia Singapore, PharmaEssentia Hong Kong, PharmaEssentia Beijing

Mission Statement

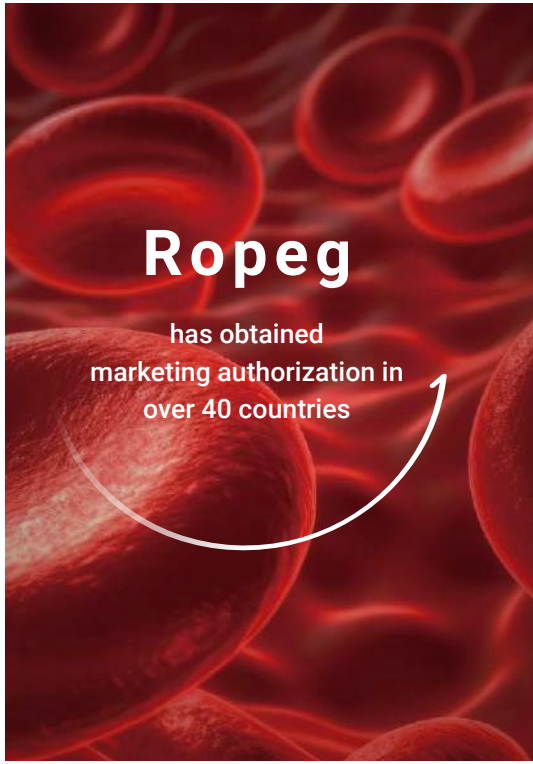
PharmaEssentia is focused on research and development of new drugs. We work to expand indications, invest in research for different diseases, and proactively promote access to medicine for global patients while enhancing patient health and well-being. The Company is attentive of environmental, economic, and human rights impacts from operational activities, and enables sustainable development by regularly responding to stakeholder expectations and building a comprehensive sustainable governance framework to achieve our mission of "Better Science, Better Lives," thereby fulfilling our corporate social responsibilities and creating long-term shared values for society while increasing revenues.

Primary Products and Developments

GRI 2-6

PharmaEssentia has been dedicated to research in the field of blood disorders for many years. We utilized our unique and patented PEGylation platform to independently develop BESREMi® (generic name Ropeginterferon alfa-2b, also known as Ropeg or P1101), the first long-acting interferon approved by the FDA for treating all severities of PV. We continued to make progress on new indications for Ropeg in 2024; all trial subjects for SURPASS-ET, the global Phase 3 clinical trial investigating treatment for ET, completed treatment (LPLV) in October. In 2025, we began submitting applications for drug licenses in the US, China, and Japan, and expect to obtain said licenses in 2026.

Ropeg has obtained marketing authorization in over 40 countries around the world. In 2024, PharmaEssentia applied for marketing authorization to use Ropeg for PV treatment in Brazil, Mexico, Argentina, and Columbia, and we are working with medical institutions and patient organizations all around the globe to expand our market share. We aim to steadily increase the diversification of our product lines and expand the indications of our current products into other disease areas to effectively solve unmet patient needs. We also established the PharmaEssentia Innovation Research Center in Boston to attract local outstanding biotechnology talents, and we aim to expand our R&D and innovation momentum by introducing/combining artificial intelligence (AI) and machine learning (ML) to effectively identify research targets at an early stage, thereby reducing development times and costs while accelerating R&D and time to market for new drugs.



Operational Developments

Access to Medicine

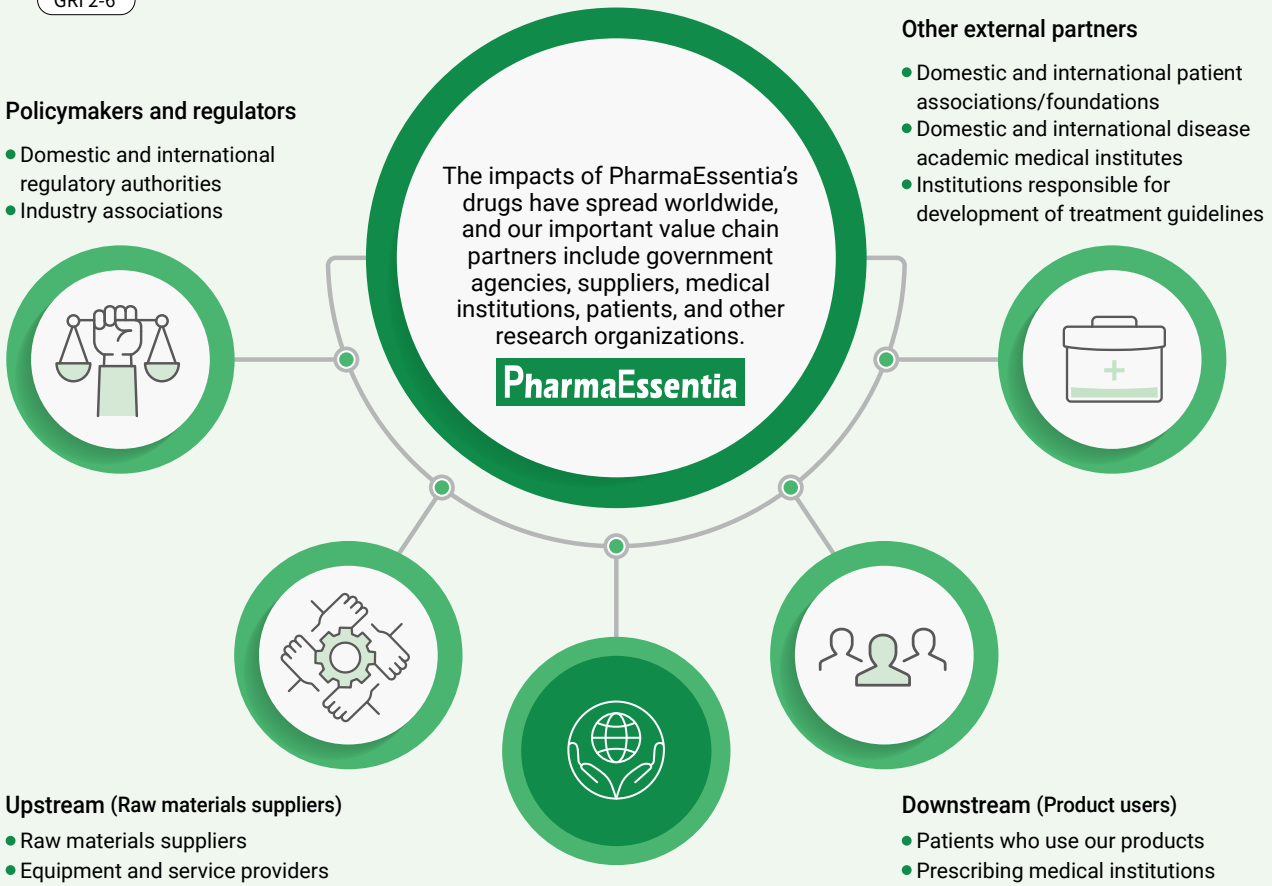
PharmaEssentia aligns with the Access to Medicine Index(ATMI) and places significant emphasis on drug accessibility, affordability, and availability. We launched a PV patient support program (PSP) and a PV education and consultation website where qualified professionals provide information on the disease, self-injections, and medical expenses to help PV patients and their families take a proactive stance toward the disease and its treatment, thereby ensuring treatment continuity and effectiveness. Ropeg was included in Japanese National Health Insurance coverage starting from June 2024. Patients were allowed to administer self-injections and prescription durations were extended, significantly reducing the frequency of patient visits as well as the burden of medical expenses.

Business Development

PharmaEssentia has developed two main business models: “Establishing multinational subsidiaries” and “Authorizing collaboration alliances.” We authorized international drug manufacturer Pint-Pharma GMbH to apply for drug licenses and handle commercial sales in Latin America, and further signed an authorization agreement for Canada with international drug manufacturer FORUS Therapeutics Inc. in 2024 to expand our global reach. We utilize the local market resources and professional networks of our partners to accelerate and strengthen business developments in the North American market so more patients can have access to high-quality drugs that improve their quality of life.

Sustainable Value Chain

GRI 2-6



Policymakers and regulators

- Domestic and international regulatory authorities
- Industry associations

Other external partners

- Domestic and international patient associations/foundations
- Domestic and international disease academic medical institutes
- Institutions responsible for development of treatment guidelines

Upstream (Raw materials suppliers)

- Raw materials suppliers
- Equipment and service providers
- Contractors/subcontractors

PharmaEssentia operational activities

- New drug R&D
- Clinical trials
- Production and manufacturing
- Drug license application
- Pharmaceutical marketing
- Patient safety monitoring
- Patient services

Downstream (Product users)

- Patients who use our products
- Prescribing medical institutions
- Pharmacies that fill prescriptions
- Entities overseeing the disposal of medication-related waste

Important Milestones

R&D

2003
PharmaEssentia was founded by a group of returning scientists with extensive overseas expertise in biotechnology in line with governmental biotechnology industrial development policies

2005
Developed flagship drug ropeginterferon alfa-2b (Ropeg)

2009
Ropeg obtained US FDA approval and entered Phase 1 clinical trials for PV

2019
- Received Gold Award in the Pharmaceuticals category of the TFDA and Ministry of Economic Affairs National Pharmaceutical Technology & Research Development Award
- PharmaEssentia-developed Ropeg received a Central Taiwan Science Park Innovative Product Award

Clinical Trials

2009
Ropeg obtained US FDA approval and entered Phase 1 clinical trials for PV

2010
Ropeg entered Phase 2 clinical trials for PV

2013
Initiated Ropeg Phase 3 clinical trials for PV

2016
Completed Ropeg Phase 3 clinical trials for PV

2020
Added first patient from Taiwan to global Phase 3 clinical trial for ET

2021
- Entered the MPN domain and received approval for prefibrotic myelofibrosis (pre-PMF) investigator-initiated trial
- TFDA approved five hospitals in Taiwan to commence recruiting patients for Ropeg coronavirus Phase 3 clinical trial

2024
- Concluded Phase 3 clinical trial for ET
- TFDA approved IND application of Phase 1 clinical trial for long-acting granulocyte colony-stimulating factor P2203

Production

2013
Taichung Plant initiated production of active pharmaceutical ingredients

2018
Taichung Plant obtained EMA GMP certification

2020
New preparations plant at Taichung Branch Office obtained GMP and GDP certifications from TFDA

2021
- Taichung Plant obtained US FDA GMP certification
- Taichung Plant obtained Korean GMP certification

2023
Taichung API Plant and filling plant both received Japan PMDA GMP certification

2024
Taichung Plant passed Brazil ANVISA GMP factory inspection

Marketing

2019
Ropeg obtained marketing authorization for EU

2020
- Ropeg obtained Korean orphan drug designation (ODD) certification
- Ropeg approved in Taiwan
- Ropeg obtained marketing authorization for Switzerland
- Ropeg approved in Liechtenstein

2021
- Ropeg approved in Israel
- Ropeg obtained marketing authorization for Korea
- Ropeg granted drug license by US FDA

2022
- Ropeg approved for health insurance coverage by TFDA
- Ropeg received pre-approval in Macao

2023
- Ropeg listed as first-line treatment for PV patients in NCCN treatment guidelines
- Ropeg obtained marketing authorization for Japan
- Ropeg approved for health insurance coverage in Japan
- Ropeg approved in Bahrain
- Ropeg obtained marketing authorization for Qatar
- Ropeg approved in United Arab Emirates

2024
- Launched Ropeg home-delivery service in Japan
- Ropeg recommended as first-choice of cytoreductive therapy and first-line treatment for PV patients by CSCO guidelines
- Ropeg obtained marketing authorization for Oman
- Ropeg approved in Singapore
- Ropeg obtained marketing authorization for Malaysia
- Ropeg approved in China
- Continued to be recommended as the first choice drug for high- and low-risk patients with polycythemia vera (PV) by US NCCN treatment guidelines

Operations

2016
Publicly listed on Taipei Exchange

2022
- Joined forces with Chiayi Chang Gung Memorial Hospital to establish the first MPN center in Taiwan
- Groundbreaking ceremony for new Zhubei Plant in Hsinchu Biomedical Science Park established a new milestone for the biotechnology industry
- Received “Therapeutics Solution of the Year” award at the 2022 BioTech Breakthrough Awards
- Sustainability report received Taiwan Corporate Sustainability Award and Global Corporate Sustainability Award
- Received “Corporate Innovation Award” in Biopharmaceuticals and Precision Medicine category at 19th National Innovation Award

2023
- Recognized by the 2022 Taiwan Bio Industry Organization Awards
- Signed Ropeg commercial license agreement with Pint-Pharma GmbH for 7 countries in Latin America
- Opening ceremony for PharmaEssentia Innovation Research Center (PIRC) and launch of new ADC R&D project
- Impressive research data for the new Ropeg dosing regimen was published in renowned international journal British Journal of Clinical Pharmacology, demonstrating high efficacy and good tolerability at higher doses
- Ribbon-cutting ceremony for PharmaEssentia subsidiary Panco logistics center expansions, which extended our warehousing and logistics businesses
- PharmaEssentia joined forces with American company VIZURO to use causal AI for precision marketing
- PharmaEssentia included in FTSE Global Equity Index Series
- Received Corporate Excellence Award at 2023 Asia Pacific Enterprise Awards
- PharmaEssentia’s resilient multinational supply chain was reported in Financial Times, a renowned international media outlet
- Received Corporate Team Award at 25th Science Management Awards

2024
- Publicly listed on Taiwan Stock Exchange
- PharmaEssentia was included in the S&P Global Sustainability Yearbook and selected as a component of the Dow Jones Sustainability Emerging Markets Index (DJSI) for the first time, making it the only Taiwanese biotechnology and pharmaceutical company to be included in the DJSI
- PharmaEssentia Japan launched PV patient support program
- Launched Ropeg home-delivery service in Japan
- Received 2024 Taiwan Bio Industry Organization Awards-Outstanding Company of the Year
- Enhanced information security and received international ISO 27001 certification
- Chief Scientific Officer Dr. Lih-Ling Lin was voted one of the top 25 scientists in 2024 by “Women We Admire”
- Ranked in top 5% and designated “Industry Mover” by international rating agency S&P Global’s Corporate Sustainability Assessment (CSA)
- MSCI ESG rating rose from “Average” (BBB) to A
- Sustainability report received Platinum Award in Healthcare Category from Taiwan Corporate Sustainability Award for three consecutive years

Future Operational Plans

Operational locations

Taipei Head Office

We formulated four short, medium, and long-term plans for our Head Office:

1. Lead global developments in MPN treatment
   - Ropeg has obtained PV drug licenses and marketing authorizations in many countries
   - Essential thrombocythemia (ET): Completed collection of data for main efficacy indicators in early 2025
   - Myelofibrosis (MF): Prefibrotic myelofibrosis or overt primary myelofibrosis at low or intermediate-1 risk
2. Expand indications for Ropeg
   - Other blood disorders and solid tumors
   - Monotherapies or combination therapies with other molecules, such as use of Ropeg + Anti-PD-1[1] for preventing post-surgery recurrence in hepatocellular carcinoma (HCC)
3. Utilize PharmaEssentia's innovative, independently developed PEG platform to develop long-acting cytokines
   - Develop other BiC/FiC PEGylated cytokines such as GCSF, IL-2, or IFN-g
   - Target solid tumors with low response rates such as renal cancer, pancreatic cancer, or immune-mediated diseases
4. PIRC: Develop BiC/FiC therapies and actively seek out strategic partners
   - Use novel BiC/FiC immune checkpoint molecules for treatment of solid tumors and hematologic diseases
   - TCR-T cell therapy: TCR-T targets cancer antigens on the cell membrane as well as intracellular cancer antigens
   - Actively explore collaboration projects to expand product lines

Operational locations

Taichung Plant

In response to continued growth in global PV markets, we established a second product line at our Taichung Plant and completed process verifications in November 2024, doubling future production capacity to respond to medication needs of more patients.

Panco Healthcare

Operations have begun generating profits, and we plan to expand warehousing space and add equipment to ensure that all operational activities comply with GDP requirements.

PharmaEssentia USA/Japan

Conducts clinical trials in accordance with head office needs and strengthens Ropeg marketing activities.

Hsinchu Zhubei Plant

- PharmaEssentia established the Hsinchu Zhubei Plant and Taichung Houli Plant to expand PEG and Ropeg drug substance (DS) production capacity. Both facilities are scheduled to be completed in 2026-2027
- Currently under construction and will be responsible for Ropeg bioprocessing, as well as strengthening collaborations with National Taiwan University Hospital Hsin-Chu Branch to develop medium and long-term cell therapies

Taichung Houli Plant

- PharmaEssentia established the Hsinchu Zhubei Plant and Taichung Houli Plant to expand PEG and Ropeg drug substance (DS) production capacity. Both facilities are scheduled to be completed in 2026-2027
- Currently under construction and will be responsible for Ropeg chemical processes used for producing PEG

Note1: PD-1 is a human antibody that can block PD-1 messaging pathways

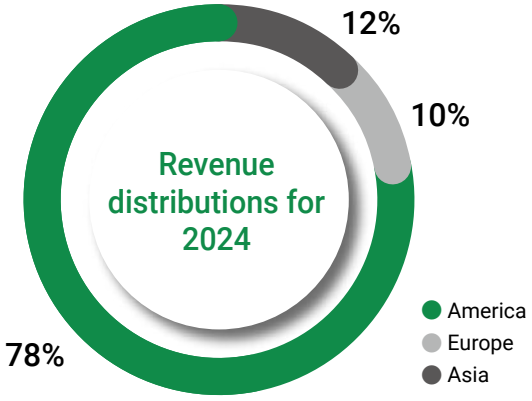
Operational Performance

GRI 201-1 GRI 201-4 GRI 415-1

We benefited from strong and continued growth in global sales for our new PV drug, Ropeg. In 2024, our revenues reached NT$9.73 billion, achieving operational profitability and growth of 91% compared with 2023. Most (78%) of our revenues were from the US.

Events (Unit: NT$ '000)		2022	2023	2024
Direct Economic Value (A)	Revenue	2,882,042	5,105,615	9,734,814
Economic Value Distributed (B)	Operating costs	812,288	610,544	1,177,225
	Employee salaries and benefits	1,600,415	2,639,160	2,404,030
	Government tax payments (income tax)	5,675	76,872	297,902
	Payments to capital providers (interest)	10,261	34,555	2,206
	Community investments (charitable contributions)	1,310	1,565	2,308
	Total	2,429,949	3,362,696	3,883,671
Retained Economic Value (A-B)		452,093	1,742,919	5,851,143

Note: In 2024, PharmaEssentia made no government contributions and received NT$10,428,000 in government-funded scientific and technological research grants for Phase 3 ET clinical trials (please refer to 3.1 New Drug Research & Development and Innovation Management)



Recognition and Honors

Continued recommendation as low-risk and first-line treatment for PV patients by National Comprehensive Cancer Network (NCCN) treatment guidelines

Our drug Ropeg has accumulated extensive high-quality clinical trial data which have been published in a number of national academic journals and international medical seminars such as the annual conferences of hematology associations in Europe and the US, and received great acclaim from physicians in the MPN domain. Ropeg received continued recognition and upgrading from NCCN, and also benefited more low-risk and high-risk PV patients.

Ranked in top 5% and designated “Industry Mover” by international rating agency S&P Global’s Corporate Sustainability Assessment (CSA)

PharmaEssentia’s Executive Center for Corporate Sustainability continues to actively participate in S&P Global CSA evaluations. In 2024, our evaluation results were ranked in the top 5% of the biotechnology industry for the first time and we were designated an “Industry Mover”; we were also selected as a component of the Dow Jones Sustainability Emerging Markets Index (DJSI) for the first time, making us the only Taiwanese biotechnology and pharmaceutical company to be included in the DJSI.

Chief Scientific Officer Dr. Lih-Ling Lin was nominated one of the top 25 scientists in 2024 by “Women We Admire”

Our Chief Scientific Officer is responsible for promoting innovation, facilitating R&D, supervising scientific activities in our Company and organization, managing and applying research results to promote development of cutting-edge technologies, leading PharmaEssentia in global R&D activities, focusing on expanding and enriching Group product lines, and actively participating in R&D activities in key global markets.

Ropeg recommended as first-choice cytoreductive therapy and first-line treatment for PV patients by CSCO guidelines

Our drug Ropeg was recommended as first-line and first-choice cytoreductive therapy for high-risk and low-risk PV patients by the latest Chinese Society of Clinical Oncology (CSCO) guidelines.

MSCI

Completed MSCI ESG evaluations

Rating rose from BBB (“Average”) to A

Received 2024 Taiwan Bio Industry Organization Awards-Outstanding Company of the Year

The Taiwan Bio Industry Organization Awards are organized by the Taiwan Bio Industry Organization to recognize biotechnology companies or research institutes with outstanding performance for the year or outstanding potential. PharmaEssentia received the 2024 Taiwan Bio Industry Organization Awards Industry Gold Award in recognition of our outstanding performance in operations, development strategies, and technological innovations, as well as our R&D capabilities, operational potential, and social contributions.

Enhanced information security and received international ISO 27001 certification

PharmaEssentia comprehensively enhanced information security management systems and successfully passed third-party verifications conducted by SGS, obtaining the latest and highest-quality information security international certification (ISO/IEC 27001:2022).

Sustainability report received Platinum Award in Healthcare Category from TCSA Taiwan Corporate Sustainability Awards from three consecutive years

PharmaEssentia’s sustainability reports have received the highest Platinum level award in the Healthcare Category for three consecutive years, demonstrating the integrity, credibility, and communication effectiveness of the information disclosed in our sustainability reports.

01

Sustainable Management and Development

1.1 Sustainable Development Goals and Blueprint

PharmaEssentia formulated a five-year sustainable development blueprint after considering biopharmaceutical industry characteristics, sustainability trends, and stakeholder needs. We hope to continue improving our sustainability actions on environmental, social, and governance aspects to exert positive corporate impacts.

STAGE 1 2025

E
- Conduct greenhouse gas inventories for all PharmaEssentia parent company operational sites

S
- Continue to be included in Bloomberg GEI
- Strengthen management of human rights and expand scope of stakeholder surveys

G
- Incorporate sustainable supply chain management frameworks (such as ISO 20400) and strengthen supply chain management
- Improve Corporate Governance Evaluation ranking to 6-20%
- Maintain top 5% S&P Global CSA Score and be selected as a constituent of the Dow Jones Sustainability Index

STAGE 2 2026

E
- Disclose greenhouse gas inventory information for all PharmaEssentia parent company operational sites
- Conduct consolidated greenhouse gas inventories
- Incorporate TNFD framework and disclose preliminary information

S
- Promote social participation plans and projects that leverage PharmaEssentia's core expertise, and incorporate impact measurement and management frameworks
- Establish comprehensive talent cultivation system and strengthen talent training at all levels and in all departments

G
- Expand sustainability report disclosure boundaries to encompass 100% of consolidated operational sites
- Maintain 6-20% ranking in Corporate Governance Evaluation
- Maintain top 5% S&P Global CSA Score and be selected as a constituent of the Dow Jones Sustainability Index
- Link director and senior executive salaries and remuneration with ESG performance indicators

STAGE 3 2027

E
- Formulate SBTi-based annual greenhouse gas reduction targets, strategies, and specific action plans
- Disclose consolidated greenhouse gas inventory information
- Join Carbon Disclosure Project (CDP)

S
- Incorporate TISFD(Taskforce on Inequality and Social-related Financial Disclosures) framework and disclose inequality and social-related financial information
- Incorporate CSDDD framework and conduct due diligence on activity chain
- Strengthen social participation projects and issue impact reports

G
- Raise Corporate Governance Evaluation ranking to top 5%
- Maintain top 5% S&P Global CSA Score and be selected as a constituent of the Dow Jones Sustainability Index
- Participate in FTSE Russell ESG Score evaluations and raise score to 3.0
- Participate in Taiwan Corporate Sustainability Awards (TCSA) Best Sustainability Practice Award
- Incorporate IFRS Sustainability Disclosure Standards and draft sustainability information for annual report
- Join Pharmaceutical Supply Chain Initiative (PSCI) initiative and promote sustainable biopharmaceutical supply chains
- Raise ratio of female directors to 1/3 of the board

STAGE 4 2028

E
- Disclose greenhouse gas inventory and assurance information for all PharmaEssentia parent company operational sites

S
- Continue to issue impact reports

G
- Maintain top 5% ranking in Corporate Governance Evaluation
- Improve top 1% S&P Global CSA Score and be selected as a constituent of the Dow Jones Sustainability Index
- Raise FTSE Russell ESG Score to 3.5
- Officially compile sustainability information in annual reports in accordance with IFRS Sustainability Disclosure Standards

STAGE 5 2029

E
- Disclose consolidated greenhouse gas inventory and assurance information
- Strengthen disclosures of TNFD achievements

S
- Continue to issue impact reports

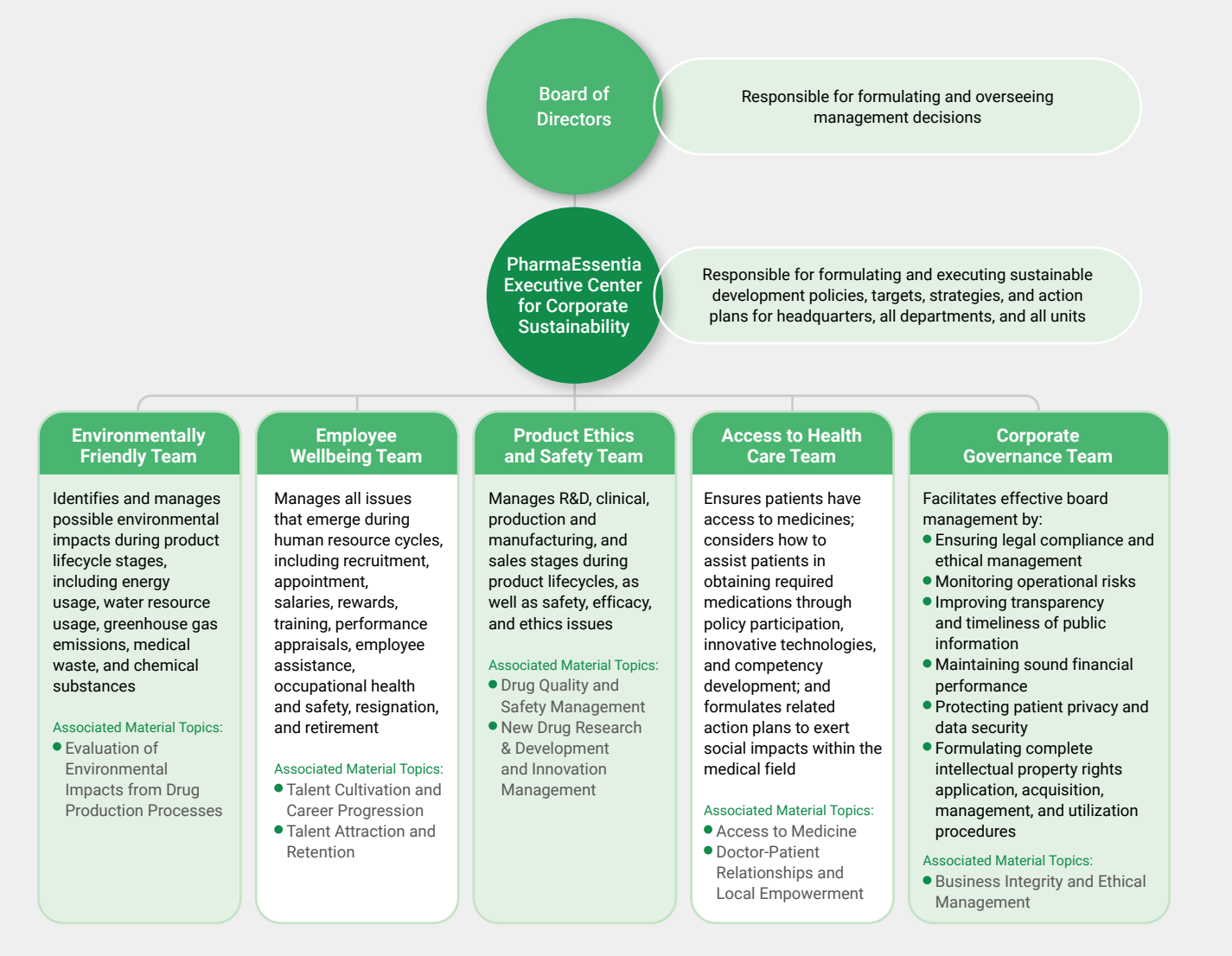
G
- Disclose 2028 IFRS Sustainability Disclosure Standards information in annual reports and simultaneously file said information along with financial reports
- Maintain top 5% ranking in Corporate Governance Evaluation
- Maintain top 1% S&P Global CSA Score and be selected as a constituent of the Dow Jones Sustainability Index
- Continue to maintain FTSE Russell ESG Score of 3.5

1.2 Sustainable Governance Organizational Structure

The Board of Directors is the highest governance unit at PharmaEssentia, and is responsible for formulating and overseeing management decisions. In 2019, we established the Executive Center for Corporate Sustainability and five functional teams to execute sustainable development projects. Relevant achievements are directly reported to the CEO (who is responsible for management of sustainability impacts), promotion progress and results for all projects are reported to the board every quarter, and sustainability reports are also submitted to the board every year.

Date submitted to the board	Item
2024/2/26	• ESG plans scheduled from 2023-2024, update on progress for 2023 Sustainability Report, and list of material topics • Latest S&P Global CSA evaluation results
2024/5/13	• Update on progress for 2023 Sustainability Report and analysis results for 2023 material topics • Summary of TCFD climate-related financial disclosures
2024/8/13	• Official release of 2023 Sustainability Report • Sustainability highlights for 2023 • Domestic and foreign regulatory changes and impacts on the company and the board • PharmaEssentia stakeholder engagement results for 2023
2024/11/14	• Progress updates on 2024 targets and projects • Latest S&P Global CSA evaluation results

Main responsibilities of Executive Center for Corporate Sustainability and five functional groups:



Sustainability Achievements in 2024

Environmental

- Environmental cost investment growth rate in 2024: 71%
- Reduction in greenhouse gas emission intensity: 43%
- Reduction in energy consumption intensity: 32%
- Invested in energy-saving machinery and equipment, including replacing air compressors and introducing energy-saving water chillers, reducing energy usage by 158,000 kWh from 2023-2024, equivalent to 78.073 tCO_2e
- Taichung Plant recycled 9.72 million liters of waters in 2024, an increase of 46.8%
- Taipei Headquarters and Taichung Plant completed ISO 14064-1 verifications for 2023
- Taichung Plant completed ISO 14001 verifications
- Continued to promote TCFD climate-related financial disclosures

Social

- Total number of clinical trial patients worldwide: 1,448
- Number of patients benefiting from compassionate treatment: 54
- Invited to participate in 3 local community MPN empowerment activities in Taiwan
- Our remote health promotion rural area charity project for the elderly was incorporated into SROI assessments for 2024; each NT$1 invested generated NT$6.34 in social benefits
- Hosted 7th Annual MPN Asia in Osaka Japan to promote academic exchanges between MPN experts

Governance

- 3 female directors and 1 US director
- 100% attendance at Audit Committee and Remuneration Committee meetings
- Launched Electronic Lab Note (ELN) system
- Obtained ISO 27001 Information Management System certification
- Regularly monitored similar trademarks around the globe
- 66 hours of platform incorporation and operation training for intellectual property rights cloud management platform
- 242 valid patents
- 173 value trademarks
- Added 148 new suppliers/contractors, including 99 local suppliers
- NT$2.59 billion in R&D expenditures, an increase of 16% compared to 2023
- 14,794 hours of GMP/GDP training
- 12 global pharmacovigilance seminars
- 0 post-marketing recalls of defective drugs
- 3 new second-source suppliers
- Completed establishment of second DS (Drug Substance) production line, increasing production capacity by 100%
- Completed establishment of scaled up PEG production line, increasing production capacity by 4-8 times
- Ropeg Phase III clinical trial for ET indication LPLV
- Obtained PV drug approvals in China, Singapore, and Malaysia
- Taichung Plant passed EMA and ANVISA factory inspections

1.3 Management of Materiality Assessment

PharmaEssentia referenced the GRI 3: Material Topics 2021 of the GRI Universal Standards 2021 released by the Global Sustainability Standards Board (GSSB) in 2021 as well as the Double Materiality principle proposed by the European Union to analyze and confirm material topics. Materiality analysis was conducted to understand the most important sustainability topics of concern for internal and external stakeholders, and we formulated corresponding management targets and stakeholder engagement actions to respond to stakeholder expectations. PharmaEssentia identified no major changes to internal operations and external environments in 2024; we therefore continued to use the analysis results for 2023 and updated related indicators and targets with results achieved in 2024. We plan to re-identify material topics in 2025.

Materiality determination, processes for identifying material topics, and identified material topics are described as follows:

Determination of materiality at PharmaEssentia

According to GRI 3 Material Topics guidelines

According to GRI 3 Material Topics guidelines, "Material Topics" refer to an organization's operational activities that impact the economy, environment, people, and human rights. These impacts may be actual or potential, passive or active, short-term or long-term, expected or unexpected, reversible or irreversible, and positive or negative. For example:

- Economic impacts from operational activities may include taxes or procurement behaviors generated for local regions/markets
- Environmental impacts from operational activities may include impacts on environmental protection or biodiversity maintenance from emissions, water resource consumption, or other environmental impacts from natural resource consumption
- Social/human rights impacts from operational activities may include investments in community activities and social participation, as well as social/human rights impacts from employment, supply chain collaborations, drug safety, and access to medicine

Double Materiality

The Double Materiality principle was first proposed in the Guidelines on Non-financial Reporting: Supplement on Reporting Climate-related Information issued by the European Commission in June 2019, which encouraged enterprises to determine materiality from the following two perspectives, emphasizing that corporate organizations should carefully consider the interactions between these two aspects. PharmaEssentia assessed materiality using these two aspects:

1. Level of impact on sustainable development:
   Economic, environmental, social/human rights impacts from corporate operational activities
2. Level of impact on organizational operations:
   Impacts on corporate development and corporate value from sustainability topics

Criteria for Determining Material Topics

PharmaEssentia also considered the following aspects when determining material topics:

1. Stakeholder perspective:
   High concern for said sustainability topic
2. Level of impact on organizational operations:
   Impacts on corporate development and corporate value from said sustainability topic
3. Level of impact on sustainable development:
   Economic, environmental, social/human rights impacts from corporate operational activities
4. Manageable metrics and targets can be formulated for said topic:
   Facilitates annual review of target achievements after implementation by responsible units

Process for identifying material topics GRI 2-16 GRI 3-1

PharmaEssentia implemented the following steps in accordance with GRI 3 material topic identification procedures:

Step 1: Understand organizational context

Identify stakeholders

PharmaEssentia operations in Taiwan span several stages including R&D, clinical trials, production and manufacturing, warehousing logistics, drug registration, pharmaceutical marketing, and patient services. Each stage has different positive & negative and actual & potential environment, economic, social/human rights impacts. We analyzed the10 stakeholders identified in 2022 using the AA1000 Stakeholder Engagement Standards and department interviews, and determined the stakeholders that are highly relevant to our corporate operations, as shown in the table below:

	Stakeholder Category	Significance to PharmaEssentia	Product Lifecycle Management						
			New drug R&D	Clinical trials	Production and manufacturing	Drug registration	Marketing and sales	Patient services	Drug disposal
1	Patients/patient organizations	Direct benefits from drug efficacy						●	
2	PharmaEssentia employees and factory non-employees	PharmaEssentia manages and executes various operational activities	●	●	●	●	●	●	●
3	Healthcare professionals (HCPs)	Oversee clinical trials and assist patients with frontline medication usage	●	●				●	
	Clinical trial hospitals	Conduct clinical trials and provide empirical data	●	●				●	
4	Commissioned research/ experiment units	Industry-academia collaborations and joint development of new drugs	●	●					
5	Suppliers and business partners	Provide raw materials/equipment/services and contract projects	●	●	●				●
	Domestic and overseas biotechnology companies	Authorized partners for joint promotion and marketing				●	●		
6	PharmaEssentia shareholders/ investors	Provide capital and own shares in PharmaEssentia	●	●	●	●	●	●	●
7	Local communities	Direct environmental and social/human rights impacts on residents and communities surrounding PharmaEssentia production sites			●				●
8	Government and competent authorities	Formulate drug quality/production/marketing regulations Determine drug indications and prices Determine production environmental and social indicators and standards	●	●	●	●	●	●	●
9	Media	Review and promote PharmaEssentia achievements					●	●	
10	Associations/foundations/NPOs/ NGOs	Joint promotion of various initiatives and health education activities related to different diseases					●	●	

● represents direct impacts and ● represents indirect impacts

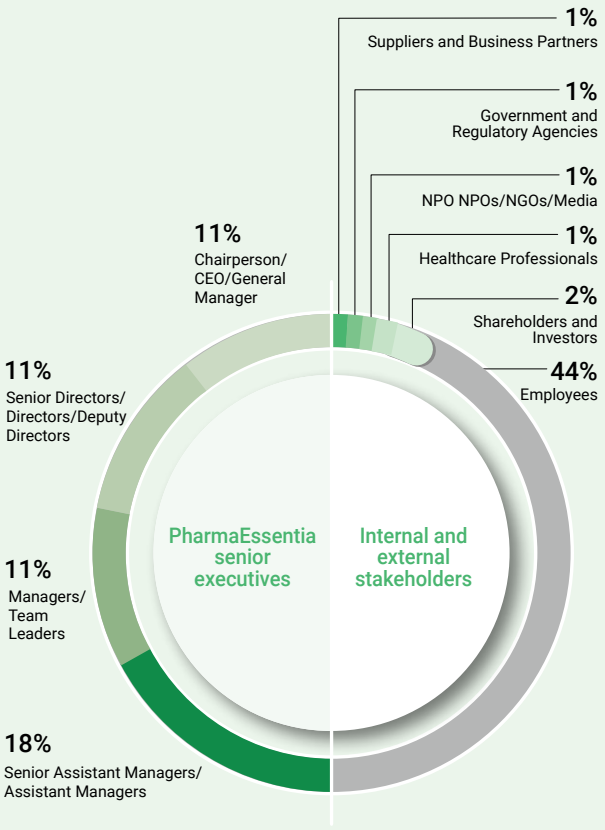
Sources for Material Topics List

PharmaEssentia listed and collected product lifecycle and value chain topics of stakeholder concern by referencing the following sources: 2018 COSO Enterprise Risk Management (ERM) Framework; international sustainability standards such as GRI 2021 Standards, UN Global Compact, RBA, SDGs, SASB, and TCFD; and international rating agencies such as DJSI, MSCI, and Sustainalytics. We referenced the sustainability trends and developments emphasized by these frameworks to determine topics of concern. We obtained a total of 39 sustainability topics which were divided into six categories based on PharmaEssentia strategies after considering product lifecycle and value chain topics of stakeholder concern. The six categories were: (1) Corporate Operations and Governance, (2) Human Resources Management and Development, (3) Product Quality and Safety, (4) Medical Access and Contributions, (5) Climate and Environmental Protection, and (6) Risks from Emerging Trends.

▶ Step 2: Identify actual and potential impacts

During this step, we surveyed stakeholders, managers, and employees to assess levels of impact from various sustainability topics. Survey participants included 14 PharmaEssentia senior executives and 316 internal and external stakeholders.

Stakeholders involved in the impact assessment

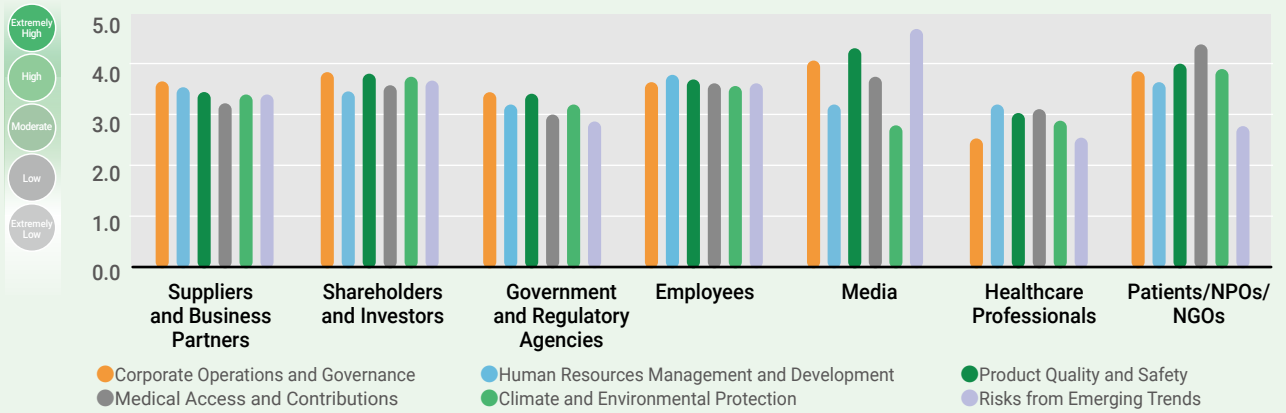


Surveyed stakeholders, managers, and employees to assess levels of impact from various sustainability topics on three aspects:

Stakeholder concern toward material topics

We use surveys to collect stakeholder feedback, and began including stakeholder feedback from PharmaEssentia US and PharmaEssentia Japan in 2023. This year, we collected surveys from 316 stakeholders for subsequent analysis. Stakeholders from different categories showed distinct preferences towards specific topics. For example, shareholders were concerned by topics associated with corporate operations and governance, while employees were concerned by topics associated with human resources management and development.

Stakeholder Material Topics of Concern



Level of impact on sustainable development: Identify actual and potential economic, environmental, social/human rights impacts from PharmaEssentia's operational activities

We invite managers from all departments to participate in assessments. We surveyed and interviewed 14 managers and asked them to assess PharmaEssentia "economic, environmental, and social/human rights impacts" from various topics based on actual operational achievements in 2023. All topics may generate both positive and negative impacts.

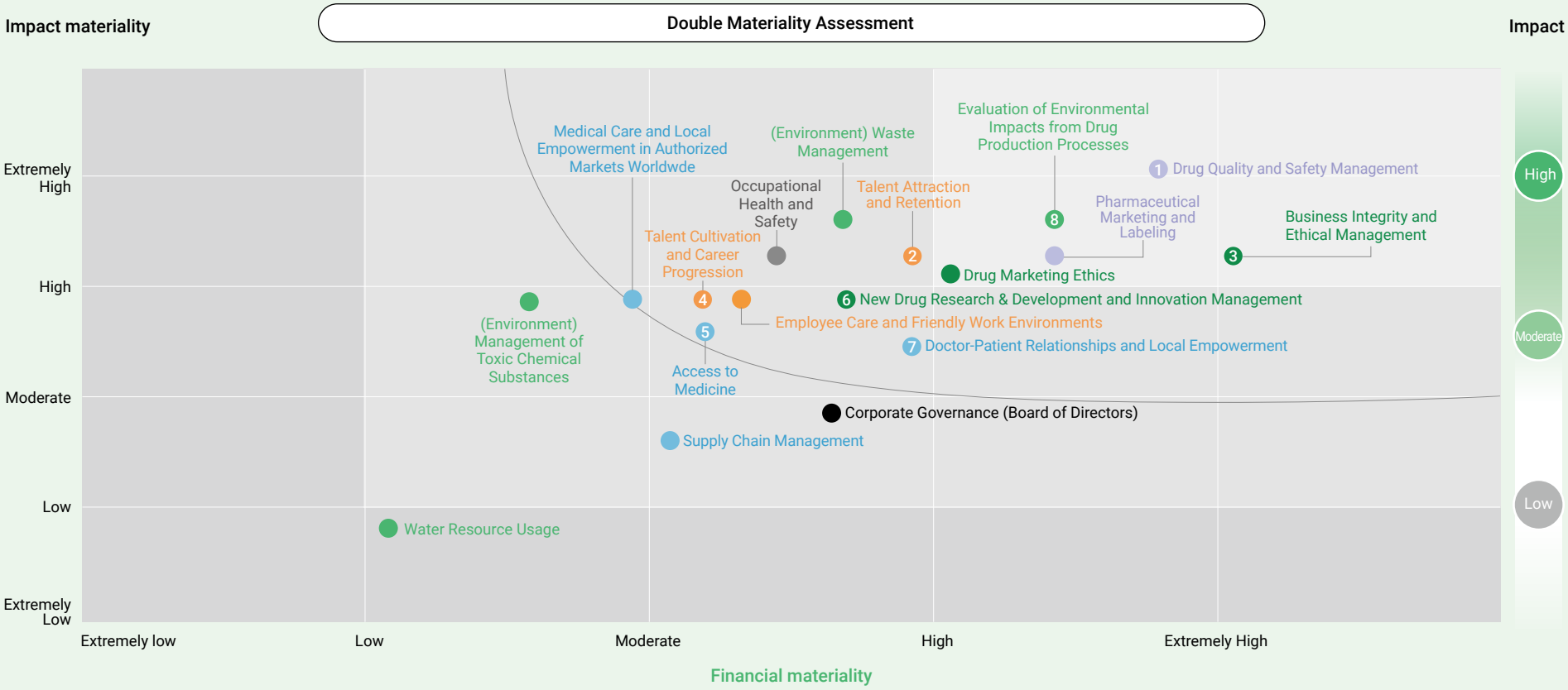
Level of impact on organizational operations: Identify impacts on PharmaEssentia developments from different topics

We also asked managers to assess the operational impacts on PharmaEssentia from different topics using actual achievements in 2023 based on scope of impact and likelihood. We defined operational impacts as impacts that increased or decreased PharmaEssentia tangible and intangible assets:

Positive impacts on corporate operations	Negative impacts on corporate operations
Increases in tangible assets/income and enhancements of intangible assets/brand reputation	Increases in operational costs and damages to intangible assets/brand reputation

▶ Step 3: Assess significance of impacts

Materiality Matrix We used levels of impact from sustainability topics and levels of impact on organizational operations to draw a materiality matrix.



List of material topics

1 Drug Quality and Safety Management
2 Talent Attraction and Retention
3 Business Integrity and Ethical Management
4 Talent Cultivation and Career Progression
5 Access to Medicine
6 New Drug Research & Development and Innovation Management
7 Doctor-Patient Relationships and Local Empowerment
8 Evaluation of Environmental Impacts from Drug Production Processes

Step 4: Rank reporting priorities based on significance of impacts

Confirm material topics

We adopted the Double Materiality principle, referenced stakeholder feedback, conducted discussions with the Executive Center for Corporate Sustainability and associated executives, and combined related topics before finally confirming eight material topics.

Assessment, PDCA, and Disclosure Management Mechanisms

We formulated management metrics and targets for all material topics, review achievements on indicators/targets each year, and implement timely tracking and management of various sustainability indicators to ensure target achievement rates and implementation progress by responsible units.

List of Material Topics GRI 3-2

Material Topics	Related Topics	Management Metrics & Targets	Sustainability Management Unit	Achievements in 2024	Target for 2025
❶ Drug Quality and Safety Management	Drug Quality and Safety Management	• Ensure that reporting processes for drug side effects 100% comply with internal standard operating procedures	Executive Center for Corporate Sustainability-Product Ethics and Safety Team	• 100% compliance	• 100% compliance
		• 100% annual training rate (employees)		• 100% compliance	• 100% compliance
	Pharmaceutical Marketing and Labeling	• 0 violations		• 0 violations	• 0 violations
❷ Talent Attraction and Retention	Talent Attraction and Retention	• PharmaEssentia (Taiwan) turnover rate	Executive Center for Corporate Sustainability-Employee Wellbeing Team	• 9%	• Lower than 10%
	Employee Care and Friendly Work Environments	• 0 violations		• 0 violations	• 0 violations
	Occupational Health and Safety	• 100% annual coverage rate (employees)		• 100% compliance	• 100% compliance
	Wages and Benefits	• Maintain at levels exceeding industry standards		• Maintained at levels exceeding industry standards	• Maintain at levels exceeding industry standards
❸ Business Integrity and Ethical Management	Drug Marketing Ethics	• 0 violations • 100% annual training rate	Executive Center for Corporate Sustainability-Corporate Governance Team	• 0 violations • 100% compliance	• 0 violations • 100% compliance
	Business Integrity and Ethical Management	• 0 violations • 0 complaints		• 0 violations • 0 complaints	• 0 violations • 0 complaints
	International Arbitration/ Legal Litigation	• 0 violations		• 1 (AOP international arbitration ongoing)	• 0 violations

List of Material Topics GRI 3-2

Material Topics	Related Topics	Management Metrics & Targets	Sustainability Management Unit	Achievements in 2024	Target for 2025
4 Talent Cultivation and Career Progression	Talent Cultivation and Development	• Education and training hours • Invested education and training costs	Executive Center for Corporate Sustainability-Employee Wellbeing Team	• Average training hours per person amounted to 27 hours • NT$7.5 million	• Average training hours per person exceed 28 hours
	Succession Planning	• Manager retention rate >80% • Key talent cultivation program • Internal promotion rate		• >86% • Initiated in 2024	• Manager retention rate >80% • Continue to implement key talent cultivation program
5 Access to Medicine	Doctor-Patient Relationships and Patient Support	• Patient numbers	Executive Center for Corporate Sustainability-Access to Health Care Team	• >10,000	• Exceed 2024 levels
	Access to Medicine	• Number of drug licenses obtained		• >40 countries	• Exceed 2024 levels
6 New Drug Research & Development and Innovation Management	Innovation and Business Models	• R&D expenses as a percentage of revenues >25%	Executive Center for Corporate Sustainability-Access to Health Care Team	• 26.58%	• R&D expenses as a percentage of revenues >25%
7 Doctor-Patient Relationships and Local Empowerment	Medical Care and Local Empowerment in Authorized Markets Worldwide	• Health education activities >10 events	Executive Center for Corporate Sustainability-Access to Health Care Team	• 25 events	• >10 events
8 Evaluation of Environmental Impacts from Drug Production Processes	Management of Toxic Chemical Substances	• 0 penalties	Executive Center for Corporate Sustainability-Environmentally Friendly Team	• 0 penalties	• 0 penalties
	Waste Management	• 0 penalties		• 0 penalties	• 0 penalties
	Evaluation of Environmental Impacts from Drug Production Processes	• 0 penalties		• 0 penalties	• 0 penalties

1.4 Stakeholder Engagement

In 2024, PharmaEssentia continued to respond to sustainability topics of stakeholder concern using diverse stakeholder communication channels.

Stakeholder Category	Patients	Healthcare Professionals
Material Topics of Concern	• Drug Quality and Safety Management • Access to Medicine • Doctor-Patient Relationships and Patient Support • Innovation and Business Models • Data Privacy and Security	• Data Privacy and Security • Doctor-Patient Relationships and Patient Support • Access to Medicine • Drug Quality and Safety Management • Innovation and Business Models
Communication Channels and Frequencies in 2024	• Corporate website: Anytime • Phone calls or emails: Anytime • Visits or video conferences: As needed • Seminars: Non-periodic	• Official correspondences: As needed • Seminars: Non-periodic • Phone calls or emails: Anytime • Video conferences: As needed
Communication Highlights and Results in 2024	• No record of adverse drug recalls; Taichung Plant passed EMA and ANVISA factory inspections • Utilized public information, HCPs, and health education for patient organizations to ensure access to medicine • Continued to be recommended as low-risk and first-line treatment for PV patients by National Comprehensive Cancer Network (NCCN) treatment guidelines • Ropeg recommended as first-choice of cytoreductive therapy and first-line treatment for PV patients by CSCO guidelines • After launch, PSURs for P1101 were submitted in accordance with regulations and a total of 132 serious adverse events were reported from February 2023 to February 2024; there were no incidents that violated product and safety health and safety regulations[1] • A total of 1,448 global clinical trial participants • More than 10,000 patients benefited from BESREMi	• Taiwan Headquarters and subsidiaries PharmaEssentia US and PharmaEssentia Japan regularly communicated with MPN experts in authorized markets • Continued to invest in “MPN Companionship and Care Journey” and “Clinical Trial and Care Knowledge Exchange” to communicate with HCPs • In 2024, PharmaEssentia and Panco jointly supported 25 large and small seminars to help HCPs and patients enhance their understanding of professional medical knowledge, disease knowledge, and drug treatment options

Note1: P1101 post-launch PSURs were submitted in accordance with law; this Sustainability Report referenced data from the latest PSUR (February 2023 to February 2024), which adheres to a time period that differs from the reporting time period used throughout this Sustainability Report

Stakeholder Category	Employees	Commissioned Research/ Experiment Units	Shareholders and Investors
Material Topics of Concern	• Wages and Benefits • Employee Care and Friendly Work Environments • Talent Attraction and Retention • Talent Cultivation and Development • International Arbitration/Legal Litigation • Human Rights Policies • Business Integrity and Ethical Management • Data Privacy and Security	• Drug Quality and Safety Management • Innovation and Business Models • Business Integrity and Ethical Management • Access to Medicine • Management of Toxic Chemical Substances	• Innovation and Business Models • Business Integrity and Ethical Management • Talent Cultivation and Development • Attract Sustainability Investments • Evaluation of Environmental Impacts from Drug Production Processes • Access to Medicine
Communication Channels and Frequencies in 2024	• Employee Welfare Committee meetings: Quarterly • Labor-management meetings: Quarterly • Employee performance appraisals: Every six months • On-site medical services: Monthly • Health promotion services: Annually • Phone calls or interviews: As needed • Internal websites: Anytime • Website grievance channels and mailbox: Anytime • Corporate website: Anytime • Chinese and English sustainability reports: Annually	• Official correspondences: As needed • Seminars: Non-periodic • Phone calls or emails: Anytime • Video conferences: As needed • Commissioned R&D contracts: As needed	• Shareholders general meetings: Annually • Extraordinary general meetings: Non-periodic • Board meetings: Quarterly • Extraordinary board meetings: Non-periodic • Investor conferences: As needed • Press conferences: As needed • Spokesperson statements: Anytime • Corporate website: Anytime • Market Observation Post System: As needed • Chinese and English sustainability reports: Annually
Communication Highlights and Results in 2024	• Issued annual Chinese and English sustainability reports • PharmaEssentia salaries included basic salaries and bonuses, as well as project milestone bonuses • Convened 4 employee welfare committee meetings and 4 labor-management meetings in 2024 • Conducted 2 periodic performance appraisals • Doctors/nurses provided 39 on-site service sessions at Taichung and Taipei factories to 189 people	• Completed ET clinical trial • TFDA approved IND application of Phase 1 clinical trial for long-acting granulocyte-colony stimulating factor P2203 • Ropeg received marketing authorizations for Oman, Singapore, Malaysia, and China	• Convened shareholders meeting in May • Issued annual Chinese and English sustainability reports • Established investor relations section; convened shareholders general meeting; and disclosed financial, business, and operational information in accordance with law • Issued monthly revenue statements and press releases on Market Observation Post System and corporate website • Released important updates on international arbitrations and litigation disputes with external authorized partner AOP as needed • Listed in 2025 S&P Global Sustainability Yearbook and selected as a component of the Dow Jones Sustainability Emerging Markets Index (DJSI) • Received A rating from MSCI ESG ratings

Stakeholder Category	Suppliers and Business Partners	Local Communities	Government and Competent Authorities
Material Topics of Concern	• Business Integrity and Ethical Management • Drug Quality and Safety Management • Innovation and Business Models • Occupational Health and Safety • Data Privacy and Security • Human Rights Policies	• Business Integrity and Ethical Management • Evaluation of Environmental Impacts from Drug Production Processes • Access to Medicine • Doctor-Patient Relationships and Patient Support	• Data Privacy and Security • Human Rights Policies • Business Integrity and Ethical Management • Drug Quality and Safety Management • Doctor-Patient Relationships and Patient Support • Evaluation of Environmental Impacts from Drug Production Processes
Communication Channels and Frequencies in 2024	• Production and sales meetings: Biweekly • Visits: As needed • On-site audits: Annually • Phone calls or emails: Anytime • Video conferences: As needed • Corporate website: Anytime	• Official correspondences: As needed • Seminars and lectures: Non-periodic • Phone calls or emails: Anytime • Video conferences, charity activities, or cooperative education collaborations: As needed • Corporate website: Anytime • Market Observation Post System: As needed	• Official correspondences: As needed • Seminars: Non-periodic • Phone calls or emails: Anytime • Video conferences, charity activities, or cooperative education collaborations: As needed • Corporate website: Anytime • Market Observation Post System: As needed • Chinese and English sustainability reports: Annually
Communication Highlights and Results in 2024	• Added suppliers and collaborating vendors, accelerated subsidiary market expansion, and increased number of authorized partners in line with global strategies • Instantly communicated the latest ESG regulatory requirements with suppliers, amended the Supplier Code of Conduct, and helped suppliers complete compliance actions • In 2024, 55 vendors were required to sign quality agreements, and we achieved a signing rate of 98.18% • Completed internal audits of 183 domestic and foreign suppliers • Completed on-site audits for 7 domestic and foreign suppliers	• PharmaEssentia's production base is located in the Taichung Industrial Park, and environmental impacts generated during drug production processes weremanaged in accordance with regulations; no violations occurred in 2024 • PharmaEssentia US participated in Rosie's Place volunteer activities and helped with meal preparation	• Issued annual Chinese and English sustainability reports • Assigned legal professionals to manage correspondences with government agencies • Disclosed information through the Market Observation Post System • Complied with the Financial Supervisory Commission Sustainable Development Roadmap and continued to incorporate TCFD framework guidelines and related information disclosures in response to climate change

Stakeholder Category	Media	NPOs/NGOs
Material Topics of Concern	• Business Integrity and Ethical Management • Drug Quality and Safety Management • Doctor-Patient Relationships and Patient Support • Evaluation of Environmental Impacts from Drug Production Processes	• Business Integrity and Ethical Management • Drug Quality and Safety Management • Access to Medicine • Doctor-Patient Relationships and Patient Support • Evaluation of Environmental Impacts from Drug Production Processes
Communication Channels and Frequencies in 2024	• Media banquets: Annually • Press conferences: As needed • Press releases: Non-periodic • Interviews: As needed • Spokesperson statements: Anytime • Corporate website: Anytime • Market Observation Post System: As needed • Chinese and English sustainability reports: Annually	• Official correspondences: As needed • Seminars: Non-periodic • Phone calls or emails: Anytime • Video conferences: As needed
Communication Highlights and Results in 2024	• Assigned PR personnel to interact and communicate with the media • Chinese and English news feed established on corporate website to provide timely updates • Issued annual Chinese and English sustainability reports • Media reports and interviews	• PharmaEssentia responded to initiatives and implemented practical actions by working with NPOs/NGOs to jointly engage in social welfare • Worked with Taiwan Myeloproliferative Neoplasms Association (TMPNA) to host “MPN health education lectures” in Taichung (May) and Kaohsiung (November) • Worked with NPO Digital Humanitarian Association and invested NT$600,000 to support a charity project promoting remote health for elderly people in rural areas • Sponsored Jane Goodall Institute Hope Box plant diversity charity project as part of our contributions to biodiversity protection and sustainable use • Sponsored the OneSong Orchestra New Year Concert for 6 consecutive years to support local music, culture, and arts developments, and invited 32 PharmaEssentia employees, family members, and stakeholders to attend the concert

Highlight

Paper-Free Promotions

In 2024, PharmaEssentia introduced multiple digital systems for various operational aspects to minimize paper and resource consumption, thereby making strides toward paper-free operations. PharmaEssentia plans to continue expanding digital systems in future. For example, the information department will explore the feasibility of developing electronic business process management (BPM) forms, and the intellectual property department is developing cloud intellectual property management systems and applications. We hope to strengthen analysis and reporting on targeted indicators to gain a better understanding of associated information which can be used to support operational judgments and decisions. We also expanded application scope of our digital intellectual property management system to include preliminary achievements by the R&D team to enable timely and comprehensive intellectual property protections.

▶ In 2024, we implemented ten digital systems and our achievements are summarized below:

Electronic Lab Note system

We officially launched the Electronic Lab Note (ELN) system in May 2024 to enable rapid and easy storage and sharing of multinational R&D data for effective progress tracking and experience transfer while reducing work hours and manpower required for our colleagues to record information on paper, as well as costs for glue, ink, and printing paper. We further reduced costs from document management and storage, enhancing convenience for all departments. For example, R&D lab records often need to be stored as legal documents to serve as evidence for intellectual property litigations.
After launching the ELN system in 2024, printer and paper usage dropped significantly, reducing use of 150 sheets of A4 printing paper and 50 lab notebooks over the year, equivalent to an estimated NT$23,145 in operational cost savings.

Digital cloud intellectual property management system

This system enhanced work efficiency and data accuracy. In the past, our intellectual property department colleagues at Taipei Headquarters had to print all information from external intellectual property agents and organize paper documents for each project, generating an average of 1,000 sheets of A4 printing paper each year.
After incorporating this cloud intellectual property management system, documents from agents and local intellectual property authorities was directly synchronized to the PharmaEssentia cloud database, which reduced errors caused by manual processes and enhanced accuracy of synchronized patent and trademark data. Our colleagues no longer need to print and store correspondence documents from intellectual property agents, apart from power of attorney (POA) and declaration documents that need to be signed by responsible personnel. This effectively reduced paper and printer usage by 90%, and annual paper consumption is now less than 100 sheets, equivalent to carbon reductions of 6.9 $kgCO_2e$[1].

Education and training system

In 2024, we digitalized our education and training resources by incorporating an education and training system which reduced manual operations and paper processes. This system not only enhanced operational efficiency, but also strengthened management of internal employee education and training records and related processes, enabling constant improvement of education and training systems.

Digitalization of internal signature procedures

The information department at our Taipei Headquarters continues to develop new forms for the BPM system and officially launched the “Information System Request Form” and “Application/Transfer Form for Fixed Assets” in 2024 to simplify internal executive signature processes and signature times.

Digital contract review system

The legal department at our Taipei Headquarters incorporated a digital contract review system in internal processes to maintain consistency of contract reviews and record all contract review processes. Contract versions are coded accordingly to ensure the correct version is printed for signing. The system also eliminates the need for paper applications to print contracts, facilitating administrative efficiency when reviewing and printing contracts.

Note1: Calculated using the carbon footprint database emissions factor “Paper Star printing paper A4 3.8 $kgCO_2e$/500 sheets

SAP S4 HANA and Ariba system

The system was incorporated to digitalize procurement processes; assist procurement colleagues in establishing electronic purchasing requisitions, purchasing orders, contracts, and other purchase-related documents; simplify manual signature processes; improve internal administrative procedures and supplier communication efficiency; and reduce storage space, delivery costs, and risks of data losses for future reviews.

Taipei Headquarters

The system was launched in December 2024 and 285 purchasing requisitions (PR), 267 purchasing orders (PO), 128 acceptance forms, and 129 invoices were issued on Ariba within a month; we estimate the system saved 9,720 sheets of printed paper and signature forms over the year, equivalent to 73.9 $kgCO_2e$[2].

PharmaEssentia USA

In the fourth quarter of 2024, PharmaEssentia US issued 547 electronic purchasing requisitions (PR) and 269 purchasing orders (PO) on SAP S4 HANA and Ariba. The digital procurement system Cobblestone was also used to issue electronic contracts, supplier applications, and confidential disclosure agreements (CDAs).

PharmaEssentia Japan

In the fourth quarter of 2024, PharmaEssentia Japan issued 106 purchasing requisition (PR) on SAP S4 HANA and Ariba.

Clinical trial system

We incorporated the Clinical Trial Management System (CTMS), electronic data collection (EDC) system, and electronic Trial Master File (eTMF) system into R&D related departments to effectively track trial progress and manage trial drugs while ensuring integrity of collected clinical trial information and related documents to prevent data omissions.

Drug quality and product safety management system: Blue Mountain equipment calibration system

PharmaEssentia incorporated this system in October 2024 to coordinate equipment calibration and verification management, and to help our colleagues with online management and notifications, effectively enhancing calibration/verification efficiency.

Drug quality and product safety management system: Trackwise

Incorporated GMP management and document digitalization system to align our drug production processes with GMP management requirements while also enhancing work efficiency, strengthening monitoring of product lifecycles, and reducing paper consumption for related documents.

Digital supply chain management system

To make strides toward our paper-free goals, we actively introduced digital systems in 2024 for routine business requisition, procurement, and acceptance procedures that require large amounts of paper. We also launched a globally synchronized digital procurement platform project for the Group.

PharmaEssentia actively promoted incorporation of digital systems in 2024 where three types of paper processes were converted to paper-free systems (supplier evaluations, supplier additions, and manufacturer additions), moving requisition/procurement processes that required large amounts of paper onto digital procurement platforms, and converting all acceptance and prepayment application processes to digital processes. We estimated that our innovative digital systems and platforms can reduce paper usage by 27,750 sheets each year[3], lowering carbon emissions by 210.9 $kgCO_2e$[4] (equivalent to felling 3.36 trees[5]).

Note2: Calculated using the carbon footprint database emissions factor "Paper Star printing paper A4 3.8 $kgCO_2e$/500 sheets"

Note3: From 2023 to 2024, an average of 3,000 purchasing requisitions, 3,000 purchasing orders, 4,550 acceptance forms, and 16,000 attachments were issued per year (the number of electronic invoices was calculated as one half the number of acceptance forms; 240 clinical cases/year × 8 sheets, 980 Taichung purchasing orders/year × 10 sheets, and 400 test report cases/year × 5 sheets). From 2023 to 2024, we added 200 new suppliers, changed 50 applications, and generated 500 applications for new assets and asset changes, amounting to an estimated total of 1,200 sheets of paper over the year

Note4: Calculated using the carbon footprint database emissions factor "Paper Star printing paper A3 3.8 $kgCO_2e$/500 sheets"

Note5: Referenced information from Environmental Quality Protection Foundation and Ministry of the Interior Construction & Planning Agency; 1 sheet of A4 paper weighs around 4-6 g, and each box of A4 paper weighs around 25 kg (5,000 sheets). Approximately 24 trees with an average height of 12 meters and a diameter of 15-20 cm have to be felled to make one ton of paper pulp, which can be used to produce 40 boxes of paper. Therefore, 24/40 = 0.6 trees need to be felled to make each box of paper

02
Corporate Governance

Achievement Highlights

3 female directors **1** US director

100% attendance at Audit Committee and Numeration Committee meetings

Introduced Electronic Lab Note
ELN system

ISO 27001
Information Management obtained

Regularly monitored
similar trademarks around the globe

66 hours
of platform incorporation and operation training for intellectual property rights cloud management platform

242 valid patents **173** valid trademarks

+148 new suppliers/contractors, including 99 local suppliers

PharmaEssentia strives to improve its corporate governance mechanisms and pursue sustainable operations. We continue to strengthen Board functions and governance structures, and actively optimize risk controls to prevent negative impacts from affecting corporate operations. We also attach great importance to information security and protection of personal information, and work to maintain corporate information security and personal information of patients. We actively protect drug patents and trademarks through comprehensive management of global intellectual property management, ensuring full and effective legal protections for our drugs around the world, and also implement sound supply chain management mechanisms by managing policy documents, appraisals, risk assessments, and other measures. We work with our suppliers to ensure that there no interruptions in our supply chain, and we hope to strengthen sustainability concepts along with our supply chain partners to exert positive influence on society, the economy, and the environment to enhance our corporate resilience and brand image as we jointly build stable business models and create outstanding operational achievements.

Main Stakeholders

- Patients
- Employees
- Medical Personnel
- Commissioned Research/ Experiment Units
- Shareholders and Investors
- Suppliers and Business Partners
- Local Communities
- Government and Competent Authorities
- Media
- NPOs/NGOs

2.1 Corporate Governance Framework

Director Election and Responsibilities GRI 2-9 GRI 2-10

The Board of Directors is the highest governance unit at PharmaEssentia and adopts a single-track model with each term lasting for 3 years. Board directors are nominated and elected in accordance with the Regulations Governing Director Elections, which incorporate shareholder interests, diversity, independence, and director management capabilities.

The current Board directors were elected at the shareholders general meeting held on May 27, 2024. Following the election, the number of independent directors was increased from 3 to 4, including one female independent director. The number of independent directors exceeded one-third of all directors on the Board, and consecutive terms of office should not exceed 3 terms. The election was conducted in accordance with Financial Supervisory Commission requirements to strengthen Board function and independence. The Board was maintained at 11 directors, and the number of female directors increased from 2 to 3. The current Board will remain in office from May 27, 2024 to May 26, 2027. Board responsibilities include formulating corporate sustainability strategies, supervising managers, and playing an important role in responding to company and shareholder needs.

The Audit Committee and Numeration Committee have been established under the Board, and the Executive Center for Corporate Sustainability reports directly to the Chief Executive Officer. Board functions are shown in the image below.

Corporate Governance Structure

PharmaEssentia and all subsidiaries convene 1 board meeting every quarter. All managers and financial directors are required to be present at board meetings, and audit directors report audit results to the Board. For more information on subsidiary directors, please refer to the information on related enterprises in our annual report.

Board Meetings in 2024

	PharmaEssentia	Panco Healthcare	PharmaEssentia USA	PharmaEssentia Japan
Number of board meetings	10	5	6	7
Director attendance rates	98%	100%	100%	93.88%

Board Composition and Diversity

GRI 2-9 GRI 2-10 GRI 2-11 GRI 2-15 GRI 405-1

To strengthen corporate governance and promote stable developments in board structure, Paragraph 2, Article 20 of our "Corporate Governance Best Practice Principles" stipulates that board composition should consider corporate business developments and scale, shares held by major shareholders, and actual operational needs when establishing an appropriate number of directors. Director assessments should encompass a variety of aspects such as basic conditions and values (including gender, age, nationality, culture) as well as professional expertise and skills (such as expertise in law, accounting, industrial knowledge, finance, marketing, and technology).

Board of Directors Responsibilities

The Board directs corporate strategies, supervises managers, and answers to shareholders. All operations and decisions are exercised in accordance with law, the Articles of Incorporation, and resolutions of shareholders meetings. Director candidates are nominated in accordance with related regulations, and are submitted to shareholders meetings for election after being approved by the Board.

In response to corporate business development needs, our Board is composed of experts and scholars with backgrounds in industrial expertise, finance and accounting, management, and law, with at least 1 director possessing skills respectively associated with operational judgment, accounting and analysis, business management, industrial knowledge, climate change responses, and international markets, to effectively supervise management and provide professional guidance.

Diversity of Board Members

PharmaEssentia currently has 11 directors (7 directors and 4 independent directors), aged between 50-83 years old. We have 3 female directors and 3 directors who are concurrently serving as company employees. The average tenure of our directors is 7.91 years. Board members possess rich expertise and professional knowledge in biotechnology, finance, education, and other industries, and possess the knowledge, skills, and literacy required to carry out their duties. One of our directors is a representative from the National Development Fund and works to enhance industrial growth momentum. Of our 4 independent directors, 1 has served for more than 5 years; has experience encompassing industry, government, and academia fields; and has global biotechnology production and manufacturing expertise. We therefore continue to rely on their professional expertise, board supervision capabilities, and professional opinions. Additionally, 1 independent director (Jeffrey R. Williams) is from the US, and specializes in finance and education, so is able to guide the business operations of our US subsidiary. In future, PharmaEssentia plans to ensure that directors of each gender exceed one-third of total directors for continued achievement of board diversity.

Title	Name	Nationality	Gender	Professional Background								Age			Independent Director Tenure			Concurrently Serving as Senior Executive	Family Members Employed at the Company
				Operational judgment capabilities	Accounting/ financial analysis capabilities	Business management capabilities	Crisis handling capabilities	Industrial knowledge	Global market perspectives	Leadership capabilities	Decision-making capabilities	Under 30 years	31-50 years	Above 51 years	1-3 years	4-6 years	7-9 years		
Chairperson	ChingLeou Teng	R.O.C.	Female	V		V	V	V	V	V	V			V				V	
Director	KoChung Lin	R.O.C.	Male	V		V	V	V	V	V	V			V				V	V
Director	HsuehFang Hsu	R.O.C.	Female	V		V	V		V	V	V			V					
Director	ChanKou Hwang	R.O.C.	Male	V		V	V	V	V	V	V			V				V	
Director	ChenJung Hsiao	R.O.C.	Male	V		V	V		V	V	V			V					
Director	ShenYi Lee	R.O.C.	Male	V				V	V		V			V					
Director	JinnDer Chang	R.O.C.	Male	V	V	V	V		V	V	V			V			V		
Independent director	JienHeh Tien	R.O.C.	Male	V		V	V	V	V	V	V			V		V			
Independent director	MingChuan Hsieh	R.O.C.	Female	V		V	V		V	V	V			V	V				
Independent director	ChingTsun Liu	R.O.C.	Male	V	V	V	V		V	V	V			V	V				
Independent director	Jeffrey R. Williams	US	Male	V	V	V	V		V	V	V			V	V				

Note: The current Board was elected in May 2024, and newly elected directors are shown in the list above

Functional Committees

Two functional committees, the Audit Committee and the Numeration Committee, have been established under the Board, and these committees are all composed of independent directors. To improve board functions and strengthen management mechanisms, the Numeration Committee hired an external expert (Professor MingChuan Hsieh) to serve as a committee member.

		Audit Committee	Numeration Committee
Responsibilities		Assists directors in supervising accounting, auditing, financial reporting processes; monitoring quality and integrity of financial controls; and managing existing or potential corporate impacts to strengthen internal control mechanisms	Assists the Board in formulating and reviewing performance evaluations for directors, supervisors, and managers, as well as remuneration policies, systems, standards, and structures
Composition	Prior to election in May	Independent Director JienHeh Tien, Independent Director Patrick Y. Yang, Independent Director JinnDer Chang	Independent Director JienHeh Tien, Independent Director Patrick Y. Yang, Independent Director JinnDer Chang, Committee member MingChuan Hsieh
	After election in May	Independent Director JienHeh Tien, Independent Director MingChuan Hsieh, Independent Director ChingTsun Liu, Independent Director Jeffrey R. Williams	Independent Director JienHeh Tien, Independent Director MingChuan Hsieh, Independent Director ChingTsun Liu, Independent Director Jeffrey R. Williams
Meetings in 2024		6	3
Attendance Rate		100%	100%

Avoiding Conflicts of Interest

GRI 2-11 GRI 2-15

To build solid board governance systems as well as sound supervision and management functions, we established the "Rules of Procedure for Board of Directors Meetings," "Principles of Ethical Corporate Management," "Codes of Ethical Conduct," and other policies, which contain clear stipulations on avoiding conflicts of interest. Directors cannot discuss or vote on meeting items concerning conflicts of interest which may damage corporate interests relating to themselves or the entities which they represent, and cannot exercise voting rights on behalf of other directors. We also require directors and managers to handle their duties objectively and efficiently, and avoid using their positions at the company to obtain improper benefits.

Currently, there have been no conflicts of interest for Board members, and there are no shareholders who hold a controlling stake. Additionally, the company founder and family members hold less than 5% of shares. Government shareholders mainly include the National Development Fund and Yao-Hwa Glass Management Commission, who together hold 7.74% of shares, none of which are preferred shares. For more information on our directors/independent directors, as well as management measures for conflicts of interest, please refer to pages 11-15, 27, and 45 of our annual report.

Highest Governance Unit and Remuneration Policies for Senior Executives

GRI 2-19 GRI 2-20

Director remuneration adheres to our Articles of Incorporation. If the Company's income before tax for the current year has a balance after the deduction of the amount for compensating accumulated deficits and before the deduction of employee and director compensation, the Company shall allocate no more than 5% for director compensation. Direction remuneration is submitted to the Board for approval following determination by the Remuneration Committee based on director participation in and contribution to corporate operations, and referencing domestic and foreign industry standards. The Remuneration Committee formulates director compensation distribution recommendations after considering overall board performance, corporate operational performance, future operations, risk appetite, and director participation in and contribution to corporate operations. Distribution recommendations are approved by more than half of attending directors at board meetings where more than two-thirds of directors are in attendance, following which the approved proposal is reported to the shareholders meeting. Please refer to our annual report for more information on compensation for directors and senior executives.

To achieve sustainable governance, we linked performance indicators for our chairperson, CEO, and general manager with sustainable development; key performance indicators encompass R&D for innovative new drugs, critical global clinical trials, drug permit applications, global business operations, commercialization and mass production, process efficiency, global supply chains and logistical efficiency, and digital operational systems.

Annual Total Compensation Ratio for 2024

GRI 2-21

Annual total compensation includes salaries, bonuses, and stock awards. The remuneration for the highest-paid individual (CEO) at PharmaEssentia (Taiwan) and all other employees increased compared to the previous year.

Position	Remuneration (Unit: Thousand TWD)	Annual increase	Compensation ratio
Remuneration for highest-paid individual in the organization (CEO)	12,612	8%	0.87
Median compensation for other employees	936	2%	0.96

Evaluations of Board Performance

GRI 2-18

PharmaEssentia has established the "Rules for Performance Evaluations of the Board of Directors" and "Regulations for the Self-Appraisal or Peer Appraisal of the Board of Directors" to regulate board performance evaluation targets and appraisal systems. We conduct at least 1 internal board performance evaluation each year, and commission external professional institutes to conduct annual board performance evaluations once every 3 years.

Internal evaluation

Results of internal Board and director performance evaluations for 2024 were reported to the Board in accordance with law on February 25, 2025. The Board unanimously approved all evaluation results and no suggestions were proposed.

External evaluation

In 2024, we commissioned the Taipei Foundation of Finance to conduct Board performance evaluations for the period from January 1, 2024 to October 11, 2024. The evaluation mainly encompassed 7 aspects and 4 improvement suggestions were proposed. We have already implemented improvements based on these 4 suggestions, began focusing on overseas expansions and recruitment of senior management talent in 2024, and also initiated training for key talent at all levels. We further established functional committees under the Board based on operational needs to enhance corporate governance efficiency.

7 Evaluation Aspects

	Suggested Improvements	Corrective Actions
Protection of shareholder interests	1 Information disclosed in annual reports and on public-facing websites should be detailed and consistent	Our human resources department has formulated clear stipulations detailing senior executive (chairperson, CEO, general manager) duties, scope of management duties, and collaboration mechanisms to serve as a basis for corporate governance and internal management. We strive to ensure that related information (including a detailed organizational structure) is appropriately and fully disclosed in our annual reports and public-facing websites
Strengthening of board structure and operations	2 It is recommended that closed-door meetings between independent directors and internal audit directors be organized each year to improve audit capabilities. Independent director suggestions proposed at Audit Committee meetings can be incorporated into annual appraisals to serve as a reference for internal audit directors	We organized the first closed-door meeting between our independent directors and the internal audit director on February 25, 2025, and plan to organize regular communication meetings each year in accordance with this recommendation to strengthen corporate governance and internal control mechanisms. We will consider incorporating independent director suggestions proposed at Audit Committee meetings into annual appraisals starting from the next year to serve as a reference for internal audit directors
Participation in corporate operations		
Improvement of board decision-making quality	3 It is recommended that a dedicated corporate governance officer be established. Additionally, the Executive Center for Corporate Sustainability should be raised to the level of a functional board committee when appropriate to improve corporate governance efficiency	Our human resources department will decide whether to establish dedicated personnel to manage corporate governance matters based on governance needs, business developments, and future growth needs. We will also conduct detailed assessments to determine whether the Executive Center for Corporate Sustainability should be raised to the level of a functional board committee based on corporate operations, sustainable development targets, and board needs, as well as formulate subsequent plans associated with related duties and resource deployments
Enhancement of information transparency		
Internal controls	4 It is recommended that training associated with sustainable development regulations and management practices be organized for directors and senior managers as appropriate, and succession plans for directors and senior management should be formulated	Related courses are currently organized by the auditing department in accordance with chairperson suggestions as well as company and board needs to improve the professional knowledge and practical application capabilities of our board members and senior executives. Successor plans are assessed by our human resources department in accordance with future corporate development needs and talent reserve conditions, following which successor selection plans are formulated to ensure stability and continued development of corporate leadership
Promotion of sustainable development		

Strengthen Board Knowledge

GRI 2-17

PharmaEssentia offers directors diverse educational courses to strengthen board functions, and provides written information and oral reports on related businesses and operations to new directors. In 2024, the training hours for all 11 directors complied with regulations. There were a total of 4 training sessions and total training time was 132 person-hours. The courses included:

Course Topic	Number of Sessions	Training Person-Hours	Course Content
Global management strategies and multinational operations	1	33	In response to continued growth in global Group operations, we continue to organize related courses for all directors so they can gain a better understanding of strategic adjustments, risk management, and response measures in global operations. This enables them to effectively face rapidly changing global business environments, thereby achieving sustainable management and stable growth
A look at fast-growing companies from the perspective of century-old enterprises	1	33	Use operational strategies, crisis management, and corporate governance information from century-old enterprises to improve routine corporate operations and future development strategies
Observations on cross-strait political and economic risks under US-Sino rivalries	1	33	Enhance understanding and planning for future management and development at Chinese subsidiary
Corporate responses to global changes	1	33	Explain how international affairs affect the company's global development strategies

Participation in Public Associations GRI 2-28

PharmaEssentia has joined external institutions associated with the biopharmaceutical industry, and is a fee-paying member of all these associations. We hope to promote industrial information exchanges and grasp industry dynamics in real time so we can jointly exert our influence and boost industrial development. Additionally, we also joined external institutions associated with corporate governance to strengthen governance effectiveness and enhance competitiveness.

External Associations	Benefits to PharmaEssentia and the Industry
Taiwan Parenteral Drug Association	This association enables us to communicate and interact with industry, government, and academic units related to the domestic pharmaceutical industry so we can jointly boost Taiwan's pharmaceutical GMP standards and align with international standards
The Allied Association for Science Park Industries	Support from this association and compliance with government policies, initiatives, and communications allows us to jointly pursue stable business developments for the entire science park
Development Center for Biotechnology	We utilize pharmaceutical industry research resources from the Development Center for Biotechnology to improve industry standards and introduce outstanding products
The Hematology Society of Taiwan	Allows us to conduct academic exchanges with other HCPs to improve domestic hematology research standards
Chinese Association for Pharmaceutical Agents	Assist promotion of medical and healthcare policies, and provide recommendations based on actual needs
Taiwan Pharmaceutical Manufacture and Development Association	Brings together industry, government, academic, and research institutes to jointly promote research developments in the biopharmaceutical industry
Taipei Pharmaceutical Business Association	Strengthen communication with the government and align with policies to promote new opportunities in the pharmaceutical industry
Taiwan Research-Based Biopharmaceutical Manufacturers Association	Align with government policies to improve domestic biopharmaceutical innovation & research capabilities and industry profitability
Taiwan Myeloproliferative Neoplasms Association	Enhance public understanding of MPN to enable effective medical support
Taiwan Clinical Research Association	Improve domestic clinical trial standards through experience sharing
Taiwan Bio Industry Organization	Incorporate government and academic units for joint promotion of bio-industries
Institute for Biotechnology and Medicine Industry	Promote biopharmaceutical upgrading strategies to enhance public health and well-being
Taiwan Corporate Governance Association	Improve corporate transparency, promote effective operations, and uphold investor rights

Management and Communication of Tax Policies

GRI 207-2 GRI 207-3

PharmaEssentia has established a Tax Policy that strictly adheres to domestic and overseas tax regulations. We ensure information transparency in accordance with regulations to strengthen corporate tax compliance and commitments, and the finance and accounting departments at our headquarters serve as the responsible units for tax management, working with the finance and accounting departments of our subsidiaries to coordinate, plan, and file taxes in accordance with law. Additionally, we actively participate in external engagement involving tax issues to communicate changes in international tax systems and important domestic tax issues through meetings with tax consultants and tax authorities so we can jointly create a sound tax environment.

PharmaEssentia pledges to adhere to the following tax management guidelines while ensuring that routine operations adhere to regulations to lower tax risks, optimize post-tax operational performance, and uphold shareholder interests:

1. All operations are handled in accordance with related tax laws and regulations
2. Transactions between related enterprises adhere to conventional trading principles and comply with the internationally recognized transfer pricing guidelines issued by the OECD
3. Enhance information transparency of financial reports, and ensure that tax disclosures are handled in accordance with related rules and regulatory requirements
4. Do not conduct transactions for the sole purpose of avoiding tax
5. Establish mutually respecting relationships with tax authorities based on mutual trust and information transparency
6. All important corporate decisions consider impacts from taxes
7. Analyze operational environments and use management mechanisms to assess tax risks
8. Strengthen professional tax capabilities through continued talent cultivation

Income tax reconciliation table for past three years

(Unit: NT$'000)	2022	2023	2024
Profit Before Tax from Continuing Operations	(1,841,871)	(986,934)	2,994,652
Income Tax Calculated at the Parent Company's Statutory Rate	(368,374)	(197,388)	598,929
Tax Impact of Deferred Tax Assets/ Liabilities	(68,107)	(168,670)	(1,057,414)
Other	(30,580)	2,959	487,634
Total Income Tax Expense Recognized in Profits or Losses	(467,061)	(363,099)	29,149

Internal Controls and Internal Audits

We have established an auditing department under the Board to implement ethical management, fulfill supervisory responsibilities, and further optimize internal control and audit processes. The auditing department is headed by a chief auditor who supervises 1 to 2 auditors. The appointment and dismissal of the chief auditor must be approved by the Audit Committee and passed by the Board. The auditing department formulates annual audit plans each year based on current or potential corporate risk issues, and conducts internal audits through general audits, project audits, and subsidiary supervision operations. The chief auditor reports on audit implementations to the Audit Committee and the Board every quarter, and organizes regular independent communications between internal auditors and independent directors to strengthen director supervisor of corporate audits. We also continue to track and re-examine all deficiencies discovered during audits to confirm that related units have adopted timely and appropriate improvement measures. In 2024, the auditing department completed a total of 56 audit reports and discovered no major deficiencies.

The auditing department also reviews appropriateness and implementations of internal controls based on our "Internal Audit System" through audits encompassing all corporate financial, business, operational processes, as well as subsidiaries that comply with regulatory requirements.

Audit management of subsidiaries:

01

The auditing department encourages all subsidiaries to formulate necessary supervision and management control processes and regulations in accordance with local regulatory requirements and actual operational conditions. Internal control regulations should adhere to local laws and regulations for effective management of operational risks

02

We incorporate subsidiaries in internal audits, formulate annual audit plans, and implement subsidiary audits each year based on risk assessments results. In 2024, we issued 10 audit reports for Panco, PharmEssentia USA, and PharmaEssentia Japan; 1 audit report is still being processed. Audited subsidiaries are notified of discoveries and recommendations in all audit reports, and corrections are tracked on a quarterly basis

03

Important subsidiaries undergo at least one on-site audit each year, and subsidiary internal controls and corporate governance are comprehensively assessed through meetings, document reviews, and observations. A total of 4 on-site visits were completed in 2024

04

PharmaEssentia and all subsidiaries conduct at least one self-assessment of internal control systems each year. The auditing department reviews the self-assessment reports of all units and subsidiaries, as well as improvements of internal control deficiencies and abnormalities discovered by the auditing department, to provide a reference for the Board when evaluating the effectiveness of internal control systems and when issuing statements on internal controls

2.2 Business Integrity and Legal Compliance GRI 2-23

PharmaEssentia has designated the general management office as the sole responsible unit (hereinafter "dedicated unit") under the Board and has also provided sufficient resources and appropriate personnel to amend, implement, and interpret the Procedures for Ethical Management and Guidelines for Conduct; provide advisory services; record and file reports; and conduct other monitoring and implementation procedures. The dedicated unit is responsible for the following matters and makes regular reports to the Board each year (at least one report a year):

A. Assisting in incorporating ethics and moral values into the Company's business strategy and adopting appropriate prevention measures against corruption and malfeasance to ensure ethical management in compliance with the requirements of laws and regulations

B. Analyzing and assessing on a regular basis the risk of involvement in unethical conduct within the business scope, accordingly adopting programs to prevent unethical conduct, and setting out in each program the standard operating procedures and conduct guidelines with respect to the Company's operations and business

C Planning the internal organization, structure, and allocation of responsibilities and setting up check-and-balance mechanisms for mutual supervision of business activities within the business scope which are possibly at a higher risk for unethical conduct

D Promoting and coordinating awareness and educational activities with respect to ethics policies

E Developing a whistle-blowing system and ensuring its operating effectiveness

F Assisting the board of directors and management in auditing and assessing whether the prevention measures taken for the purpose of implementing ethical management are operating effectively, and preparing reports on regular assessment of compliance with ethical management in operating procedures

G Preparing and retaining properly documented information such as ethical management policies and compliance statements, situations concerning the performance of undertakings and enforcement, and so on

Ethical Management and Business Codes of Conduct

PharmaEssentia established the Principles of Ethical Corporate Management, Procedures for Ethical Management and Guidelines for Conduct, Codes of Ethical Conduct, and other regulations. These regulations took effect following board approval, and we require the Board and all employees to abide by these rules and regulations to ensure that no unethical incidents occur during operations. PharmaEssentia Japan has established the "Corporate Code of Conduct" to regulate routine employee work behaviors, and has also compiled ethical management and business codes of conduct into a work manual that employees can refer to at any time. Related corporate governance procedures and regulations can be downloaded from our official website.

Our Principles of Ethical Corporate Management contain clear anti-corruption and anti-bribery stipulations, and we regularly educate our employees. In 2024, we required all employees and directors in Taiwan to participate in education and training associated with global codes of conduct encompassing anti-corruption, anti-bribery, and anti-trust/anti-competition matters. Additionally, we also hosted an "Internal material information and prevention of insider trading regulations" course attended by 215 participants, with total training hours amounting to 645 hours. PharmaEssentia USA also disseminated information on regulations associated with business integrity, business conduct, and internal material information protection though code of conduct training and employee manuals. A total of 168 employees participated in training. In 2024, we conducted internal control assessments on anti-corruption and associated risks, and did not discover any anti-competition, anti-trust, and monopoly incidents or conduct. Our "Rules of Procedure for Board of Directors Meetings" contains clear stipulations on how the board should handle conflicts of interest, and we are also planning to establish a Legal Compliance Committee and subordinate ethical management supervision units.

All employees are required to comply with our 7 major business conduct and ethics rules, which stipulate that our personnel should uphold principles of fairness and justice when carrying out their duties, and shall not profit from their positions, or manipulate or misuse information obtained through their roles. Our human resource department has also formulated specific measures for reporting illegal conduct (including corruption) of internal and external personnel. New employees receive training on professional ethics as soon as they join the company. In 2024, PharmaEssentia was not involved in any incidents associated with ethical management and corporate code of conduct violations, and we did not receive any associated grievance reports.

Legal Compliance GRI 2-23

The biopharmaceutical industry is a highly regulated industry. To ensure that PharmaEssentia adheres to global regulations at all stages of drug lifecycles, we referenced domestic and overseas policy and regulation trends to formulate legal compliance strategies and management regulations for global operations. We established a total of 40 regulations, including the "Corporate Governance Code," "Principles of Ethical Corporate Management," "Codes of Ethical Conduct," "Procedures for Ethical Management and Guidelines for Conduct," "Sustainable Development Best Practice Principles," "Operating Procedures for Handling Material Nonpublic Information and Preventing Insider Trading," "Regulations Governing Management and Utilization of Intellectual Property Rights," and "Regulations Governing Management of Litigation Cases/Major Disputes." PharmaEssentia has established a regulatory affairs department, auditing department, corporate governance officer, legal department, human resources department, and other functional departments. We require our colleagues in all associated departments and our suppliers to abide by the aforementioned regulations.

MLR (Medical, Legal, and Regulatory) Committee

MLR is an interdepartmental committee composed of members from the medical affairs, legal, regulatory, and business departments. The MLR Committee is responsible for reviewing and approving all external promotions and communication documents that may be considered drug promotions or product labels by the US FDA, to ensure that the information is scientifically accurate, not misleading, and complies with all internal policies and applicable regulations. The Committee revisits marketing authorizations and adjusts decisions based on the latest laws/regulations and market needs. We sometimes commission external professional institutes to assist with reviewing processes, but supervision and approval procedures are conducted by internal experienced professionals.

In 2024, the Committee recruited new legal/regulatory reviewers, who were selected based on their academic backgrounds and expertise to ensure that they could provide necessary technical and legal recommendations. We often recruit personnel who have served as MLR Committee reviewers at other biotechnology companies so they can use their past experiences as a basis for risk comparisons, enabling effective review and approval while reducing corporate risks.

Summary of Legal Violations GRI 2-27

In 2023, our Zhubei Plant construction site submitted a plan for reducing runoff wastewater. During an on-site inspection, the Department of Environmental Protection discovered that the runoff wastewater treatment facilities were not consistent with the original plan, which constituted a violation of the Water Pollution Control Act, incurring a fine of NT$70,000 in 2024. We and the construction company have already taken measures to address this violation:

Construction company: According to our contract, the construction company is responsible for environmental protection matters during the construction period. In response to the discovered violation, the construction company has already submitted a new runoff wastewater reduction plan, which has been reviewed and approved by the Department of Environmental Protection, ensuring that the procedures comply with related regulatory requirements.

PharmaEssentia: We have directed the construction company to strengthen on-site management measures, increase inspection frequencies, and ensure that wastewater treatment facilities are operating normally. We also strengthened personnel training, established internal monitoring and management mechanisms, and comprehensively strengthened compliance and management capabilities.

Note: All PharmaEssentia sites strictly adhere to regulations set by competent authorities. We have established related internal operational regulations and codes, and we define any legal violation as a "major regulatory violation" which requires immediate improvement and establishment of future prevention measures

Legal Compliance and Specific Actions in Product Lifecycles

SASB HC-BP-270a.1 SASB HC-BP-270a.2

Product Lifecycle Management	Related Regulations	Specific Legal Compliance Actions
Before launch		
New drug R&D and preclinical research	• Good Laboratory Practice (GLP) • Guidelines for safety of nonclinical pharmaceutical trials for animal trials set by the competent authorities in each country	• Established legal compliance regulation section • All functional duties comply with legal regulations • Achieved 100% coverage rate for employee legal compliance training • Established monitoring system for HCP meal expenses • Business regulations and operations for lecture activities • Preclinical ethical guidelines for animal trials • Ethical guidelines for clinical human trials
Clinical trials	• Good Clinical Practice (GCP) • Good Tissue Practice (GTP) • Good Distribution Practice (GDP) • Declaration of Helsinki ethical principles • Regulations set by local competent authorities, such as the "Regulations on Human Trials" and "Pharmaceutical Affairs Act" in Taiwan	
Production and manufacturing	• Good Distribution Practice (GDP) • Good Tissue Practice (GTP) • Good Manufacturing Practice (GMP) • Regulations set by local competent authorities, such as the European Pharmacopoeia, the United States Pharmacopeia, and the "Medical Care Act," "Pharmaceutical Affairs Act," and "Standards for Medicament Factory Establishments" in Taiwan	
Drug registration	• Regulations set by local competent authorities, such as the "Pharmaceutical Affairs Act" and "Regulations for Registration of Medicinal Products" in Taiwan, GMP/GDP regulations for pharmaceutical companies, Common Technical Documents Format, and ICH Guidelines	
Before and after launch		
Protection of intellectual property rights	• United States Patent and Trademark Office, World Intellectual Property Organization, and European Patent Office intellectual property regulations, and patent laws, trademark laws, and other regulations in other countries	• Freedom-to-Operate (FTO) assurance for Group R&D achievements • Aligned with R&D directions and progress, as well as product marketing conditions in different countries, and apply for patents as soon as possible when appropriate • Aligned with drug registration and market launch schedules to register trademarks in different countries as appropriate to comply with the requirements of pharmaceutical supervisory authorities • Keep abreast of market changes, business developments, product usage, innovations, and R&D, as well as feedback on all aspects for continued strengthening of patent and trademark applications • Monitored development progress on similar technologies, products, and trademarks around the world and adopt necessary response measures (such as filing opposition procedures with local trademark offices for similar trademarks in accordance with law)
After launch		
Marketing and sales	• Good Distribution Practice (GDP) • Ethical guidelines set by the WHO and countries around the world	• Implemented transparent reporting mechanisms and ensure that all drug advertisement content passes through MLR reviews • Established monitoring and review system for lecture activities, advisory committees, and HCP meal expenses • Implemented legal compliance review processes and management measures for advisory committees • Other legal compliance policies and standard operating procedures for investigation, monitoring, and employee discipline • Ethical management guidelines for drug marketing • Our Logistics Center obtained a GDP certificate in 2024 (the certificate was extended for the first floor and granted for expansions on the second floor) • In 2024, our subsidiaries in Taiwan continued to align with our parent company in monitoring global drugs and reporting adverse drug reactions and adverse events
Pharmacovigilance	• Good Pharmacovigilance Practice (GVP) • Regulations set by local competent authorities, such as the "Regulations for the Management of Drug Safety Surveillance" and "Regulations for Reporting Serious Adverse Reactions of Medicaments" in Taiwan	

2.3 Risk Management

Risk Governance Unit

The board of directors is the highest supervision and decision-making unit for risk management, and is responsible for approving risk management targets and policies, and for ensuring effective operations of management mechanisms. The Audit Committee, auditing department, and corporate governance officer has been established under the Board to assist supervision of current and potential risk issues, strengthening internal monitoring mechanisms while reducing negative impacts and financial losses.

Risk Management Guidelines and Implementations

We have established internal risk management policies, procedures, and internal control systems for appropriate management of risk issues, impacts, and corresponding material topics in accordance with related regulations. Every year, the board approves corporate risk management targets and policies, and also assigns senior managers to oversee promotion and execution of various issues, and ensure that risk management mechanisms are operating effectively through regular monitoring.

Risk Issues and Responses

PharmaEssentia referenced the 2018 COSO Enterprise Risk Management guidelines and biopharmaceutical industrial characteristics and requirements to classify risks into 9 categories, and adopted response measures for different risks to reduce corporate impacts.

Risk categories	Risk causes	Response measures
Industrial risks	New drug R&D is a high-risk endeavor with low success rates, high investments, and high levels of uncertainty during product R&D processes	• BESREMi has obtained marketing authorizations and we are continuing to use our PEGylation technology platform to develop other long-acting protein-based drugs, as well as expand into new indications to maximize R&D investment benefits and reduce market risks from single products
Market risks	New drug R&D is time-consuming and has a low success rate, and products that obtain marketing authorization still need to compete with existing market products or other alternative products	• Independently develop new drugs and use medicines for rare diseases (orphan drugs) as a foundation for development; approval processes for products that have obtained orphan drug status are often fast-tracked, and these products usually enjoy freedom in pricing, monopoly markets, and other preferential conditions after receiving marketing authorization • Collaborate with external companies on developing new products with good potential to expand product diversification
R&D risks	Risks include underperformance in clinical progress or trial outcomes, being outpaced by competitors on R&D progress, challenges in cultivating and retaining research talent, and over-reliance on CROs and CMOs for clinical trials	• Simultaneously develop new drugs for different indications to disperse the risks from only developing a single drug • Recruit talents with backgrounds in the biotechnology industry to create and maintain sound R&D environments and employee welfare, and provide employees with training opportunities to retain talent • Choose trial institutes that offer optimal collaboration conditions and develop long-term collaborative relations
Financial risks	Risks from exchanges rates, rising prices caused by inflation, R&D investments, and operating capital requirements during all corporate financial activities, which may incur additional costs for the company	• Our finance department is the dedicated unit responsible for closely interacting with foreign banks; tracking exchange rates, market information, and future trends; and rigorously controlling capital utilization, budget implementations, and other management processes for all business units
Legal risks	Risks from international arbitration and litigation cases, which may lead to reputational damage or financial losses	• Commissioned a professional legal team which is responsible for handling international arbitration and litigation cases to maintain corporate and shareholder interests, and to maximize benefits
Policy risks	Risks from geopolitical conditions or changes in national policies	• Closely monitor international political and economic information and news as well as supply chain impacts that could be caused by international trade conflicts to quickly adjust overall business strategies and ensure supply chain stability • Established a dedicated regulatory department to keep abreast of policy changes associated with new drug applications, health insurance, and reimbursement policies in various countries
Technological change risks	Risks from information security, digital transformation, talent capabilities, supply chain disruptions, or regulatory changes which may impact corporate operations	• Established the information security management team, which is responsible for information security executions, governance, and supervision, and continued strengthening in management of information security to comprehensively enhance information security awareness, as well as to protect trade secrets and stakeholder interests
Environmental risks	Climate change, natural disasters, infectious diseases, and other uncontrollable external risks	• Introduced the TCFD framework to strengthen climate risk management. Our Taichung Plant has passed ISO 14064-1 verifications and implemented multiple energy and carbon reduction measures to mitigate climate change impacts • In light of lessons learned from the coronavirus pandemic, we have reinforced supply chain management (SCM) practices by securing safety stock and identifying alternative material sources to reduce supply shortage risks
Other risks	Other risks not listed above which may cause the company to suffer major losses	• Adopt corresponding emergency measures based on the severity of each situation

Countermeasures for Risks and Impacts GRI 2-25 GRI 2-26

PharmaEssentia responds to negative impacts from risks using three steps: Prevention, grievance reporting, and review and improvement. We established complete remedial processes for negative impacts to effectively respond to potential or emergency impacts.

1. Prevention

Formulation of rigorous policies

Formulate various policies and require compliance from employees and suppliers to prevent violations of regulatory requirements or corporate policies related to ethical management, drug marketing ethics, human rights, and environmental protection.

Robust information security controls

Adopt rigorous information security management measures to ensure information security and protection of personal privacy.

Comprehensive risk management

Conduct comprehensive assessments based on the COSO ERM framework, and host multiple education and training sessions to ensure that our colleagues are aware of various risk prevention measures.

2. Establish grievance and communication channels

We have established diverse internal and external grievance reporting channels as well as two-way communication channels for our colleagues so we can listen to employee suggestions.

Internal communication channels

- Labor-management meetings
- Employee welfare committee
- Employee suggestion email: voice@pharmaessentia.com

External grievance channels

- Dedicated ESG portal for information disclosures and contact: Includes latest news, download section, newsletters, interactive section, and contact section
- Reports of unlawful infringements in the workplace: hr@pharmaessentia.com

3. Review and improvement

Receiving units transfer all grievance cases to responsible units for review of case content and proposal of improvement measures, and communication with employees or external stakeholders to ensure compliance and disclose content in sustainability reports as appropriate so stakeholders can fully grasp information about our company.

2.4 Data Security and Privacy Protection

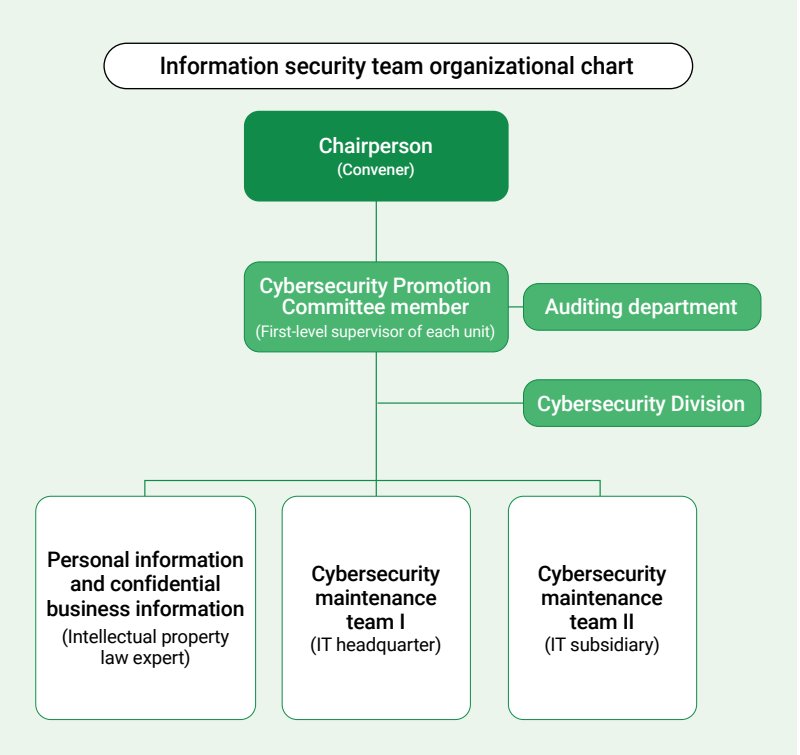
Information Security Management System

To enhance information security defenses and management mechanisms, PharmaEssentia continually amends information and communication security policies and regulations in accordance with amendments made to the "Regulations Governing Establishment of Internal Control Systems by Public Companies" and "Information and Communication Security Management Guidelines for TWSE/TPEX Listed Companies." In 2022, we announced on our official website that our Board had approved the establishment of the "Information Security Management Procedures" and an information security promotion team responsible for forming information and communication security promotion organizations, formulating information security policies, organizing personnel training, identifying core businesses, surveying and developing information and communication systems, conducting information security risk assessments, implementing information and communication security protection and control measures, reporting and responding to information and communication security incidents, and continuing to improve information and communication security management. The information security officer reports annually to the Board; the latest information and communication security report was presented in February 2025 and explained recent information security management implementations and corrective actions.

Information Security Management Team

To enable effective promotion of information security tasks, we have established the information security management team (hereinafter the "information security team") to coordinate information security promotions, governance, and supervision. The information security team is convened by a senior executive designated by the CEO or general manager. Information security team members include the general management division information director, the CEO office biostatistics director, the general management division intellectual property director, the legal affairs director, the executive center for corporate sustainability director, the corporate governance officer, the QA/QC/PROD/engineering director, and the general management division human resources directors; auditing department personnel are also in attendance at team meetings. The team convener appoints executives to serve as team members based on actual needs. The following promotion teams have been set up under the information security team by the information security team convener, and are responsible for coordination, planning, and execution of various tasks.

1. **Personal information protection and trade secrets management promotion team:** Responsible for establishing personal information protection systems, implementing and supervising personal information protection measures, and coordinating management of corporate trade secrets. The promotion team oversees all information associated with internal employees, external vendors, CRO clinical data, and data from Panco
2. **Information system security maintenance team:** Responsible for planning and implementing security management for information systems
3. **Auditing department:** Responsible for auditing information security processes



PharmaEssentia headquarters introduced the ISO 27001:2022 Information Security Management System in October 2023, passed audit inspections in April 2024, and received official certification on July 9. Implementing ISO 27001 allowed us to move from passive to active management of information security. We established a sound information security management framework, strengthened our information security defense capabilities, and not only adhered to regulatory requirements, but also increased our international competitiveness and enhanced employee information security awareness. In future, we hope to fill information security personnel gaps or obtain assistance from external information security consultants in the short term, and consider SASE, SIEM, and SOC deployments as long-term targets to strengthen overall corporate information security defense capabilities.


Certificate TW24/00000563
SGS
PharmaEssentia Corp.
ISO/IEC 27001:2022
IAF

ISO27001 certification

Information Security Training

To enhance employee information security awareness, we hosted 2 information security training sessions and 2 ISO27001 training sessions in 2024 which were attended by 289 participants. Total training hours amounted to 334 hours. We also cultivated 9 employees who participated in ISO/IEC 27001:2022 lead auditor courses. All of these employees underwent 6 hours of training and have received lead auditor certificates. We plan to initiate training at our Taiwan headquarters and gradually expand training to our subsidiaries in the US and Japan. We also appointed an IT department manager to participate in an information security seminar covering a range of topics to better understand current information security trends and response measures.

Although we have not yet introduced the ISO 27001 Information Security Management System at our US subsidiary, we have already commenced information security training courses and require all employees to complete monthly cybersecurity training courses. In 2024, a total of 157 people participated in these courses and total training hours amounted to 593 hours. The IT department conducts monthly phishing simulation drills on PharmaEssentia USA and PIRC employees to enhance employee information security awareness.

Course Title	Course Content	Sessions	Number of Participants	Training Hours/ Person	Total Training Hours
Information Security Training	1. Dissemination of information security policies 2. Social engineering and anti-hacking practice	**2**	**280**	**1**	**280**
ISO 27001:2022 education and training	1. ISMS internal audit training 2. ISMS procedural training	**2**	**9**	**6**	**54**
Information security seminars	1. CIO Taiwan smart medicine seminar 2. Menlo Security: A new generation of enterprise browsers 3. CIO Taiwan: Enterprise clouds (key applications for managing multiple clouds) 4. Enterprise AI knowledge management systems 5. AI Leading to the Future seminar organized by Acer e-Enabling Business 6. CIO digital transformation and AI innovations	**6**	**1**	**40.5**	**40.5**

Personal Information Protection GRI 418-1

Information security and privacy protection targets not only include internal employees, but also HCPs, medical institutes, contract organizations, and clinical trial patients. In terms of patient privacy and security, PharmaEssentia CROs and medical personnel participating in clinical trials at hospitals rigorously adhere to privacy protection policies and comply with domestic and overseas regulatory requirements such as the EU General Data Protection Regulation (GDPR), Good Clinical Practice (GCP), Declaration of Helsinki, Human Research Ethics Policy Guidelines, and Medical Care Act as part of our responsibilities to personal information protection. PharmaEssentia and all global subsidiaries did not incur any grievances involving employee or customer information protection and privacy rights, or any incidents associated with loss of customer information.

2.5 Intellectual Property Management

PharmaEssentia established the "Intellectual Property Management and Utilization Procedures" to regulate the acquisition, protection, maintenance, and utilization of corporate intellectual property rights. Each year, the intellectual property management department at headquarters regularly reports on implementations for the previous year's intellectual property management plan as well as the plan for the upcoming year to the Board. Implementations for the 2024 intellectual property management plan and the new intellectual property management plan for 2025 were reported to the Board on February 25, 2025. The Board helped to enhance corporate intellectual property strategies and protections, and effectively supervised protection measures for corporate intellectual property rights protections.

PharmaEssentia has gradually become an international pharmaceutical company, and therefore our frameworks and systems for controlling risks must also be continuously improved. In 2024, we inventoried, reviewed, and updated longstanding R&D internal controls relating to intellectual property rights. These amendments were submitted to the Board for approval in early 2025 to comply with intellectual property risk control requirements for listed pharmaceutical companies.

The intellectual property department at PharmaEssentia headquarters has formulated a set of Group-wide intellectual property rights management policies which are being implemented at headquarters as well as all domestic and foreign subsidiaries. In 2024, we incurred no violations of intellectual property rights.

Patent Positioning and Strategies

Decisions on whether to file patent applications for R&D results, as well as the regions/countries to file patents, all adhere to PharmaEssentia procedures and are handled on a case-by-case basis. As there are differences in indications/patient types/market conditions for Ropeg and other new drugs being developed by PharmaEssentia, patent application requirements and application regions also differ. Apart from R&D highlights and output quality, we also consider various factors associated with marketing, manufacturing, local health insurance reimbursement conditions, accessibility, and regulatory requirements before making decisions on whether to apply for patents, as well as depth and breadth of patent strategies.

The intellectual property department at PharmaEssentia headquarters coordinates local access to medicine needs of all subsidiaries, and provides Group-level consultations and recommendations on supporting measures (such as authorizing drug imports and exports, prescriptions, and usage rights to specific regions as a patent holder to support necessary medical actions) so that the Group global operations team can appropriately plan feasible access to medicine solutions for all locales.

PharmaEssentia Intellectual Property Rights Strategies

1.Continue to apply for and obtain invention patents in various countries

PharmaEssentia lays great emphasis on patent protections and patent management, and also has great respect for global patent protections and intellectual property rights. We protect new drug R&D achievements of R&D based pharmaceutical companies, continue to expand lifecycle protections and impacts of new drug products, and use these as a foundation for entering global markets.

2. Access to medicine considerations take priority over exercising patent rights for new drugs

We adjust our operational strategies based on patient needs and discrepancies in access to medicine for different locations. Least developed countries may be unable to afford or access new drugs due to intellectual property rights protections. Therefore, when exercising our drug patent rights, we not only consider the prevalence of said indication, local economic standards, and local governmental regulatory policies for new drugs, but also actual conditions of relatively low income countries and least developed countries to fulfill medication needs for local patients from the perspective of intellectual property rights. When we have to decide between enforcing patent rights for new drugs and humanitarian aid, we prioritize medical needs and offer accessible channels for obtaining medication and affordable prices to ensure that patients can obtain patented new drugs. In 2024, PharmaEssentia did not apply for or enforce patents in any low income countries or least developed countries.

3. Protection of intellectual property rights

As an international R&D based pharmaceutical company, PharmaEssentia has adopted many protection measures for core intellectual property rights since before the company was publicly listed. In terms of internal controls, we not only implement intellectual property rights procedures during R&D cycles, but also established the “Intellectual Property Management and Utilization Procedures” to regulate the acquisition, protection, maintenance, and utilization of intellectual property rights. Our R&D projects have gradually reached maturity and our products have gradually obtained marketing authorizations in different countries. Therefore, our R&D momentum has continued to expand and we are now facing a multitude of risks. Because of this, we made significant changes to internal controls associated with intellectual property rights procedures for our R&D cycles in 2024, and submitted these changes to the Board for approval in 2025.

To maintain the advantages of our core patent technologies, we adopt product life cycle management strategies to manage our intellectual property rights, and our R&D/manufacturing process and intellectual property teams continue to optimize existing patent technologies and explore related patents. We publicly disclose product optimization achievements as appropriate while extending protections for our product technologies as part of our contributions to society.

We have gradually obtained marketing authorizations around the globe and our commercial activities have also expanded, so there is a much higher risk of trademark infringements. When well-known trademarks are encroached upon by similar trademarks, the corporate brand value represented by the well-known trademark also decreases. PharmaEssentia expanded the functions of the intellectual property department and successfully implemented regular monitoring for similar trademarks around the globe to ensure management of global enterprises and brands. In 2024, shortly after implementing trademark monitoring measures, we successfully intercepted a trademark announcement in the US for a product with a name and indication that was very similar to Ropeg, which would have weakened our globally registered trademark if it had been registered and used on a similar product. Following advice from intellectual property attorneys, we filed a trademark opposition in the US within specified time limits as it was similar to our product and trademark. We effectively blocked the registration of said trademark and proved that global trademark monitoring measures provided solid intellectual property protections for our company.

Specific Global Intellectual Property Protection Actions

PharmaEssentia

PharmaEssentia has conducted a comprehensive review and inventory of primary names, graphics and logos, and respective usage contexts for products and services representing the company, as well as respective international classes. Trademarks and logos that are being used commercially but which have not been registered were submitted in batches for trademark registration in Taiwan for full protection of trademarks registered for new drugs and to enhance the international brand image of new pharmaceutical companies in Taiwan.

PharmaEssentia USA

Trademarks for drug names were registered and protected prior to obtaining FDA marketing authorizations, and we gradually unveiled enterprise and product trademarks in various media channels after receiving marketing authorization and commenced management of our corporate brand. As the US adopts the first-to-use principle, we have to use our trademarks as soon as possible and deploy resources for registration of US trademarks as needed. All of our trademarks have been used for many years, and we will continue to register other representative trademarks to strengthen trademark protections for PharmaEssentia USA.

PharmaEssentia Japan

Regular monitoring reports are generated manually for Japanese trademarks that are not presented in English. We have not discovered any similar trademarks since we commenced monitoring measures.

Intellectual Property Education and Training

Since PharmaEssentia expanded the general management division intellectual property department, internal US patent attorneys have conducted comprehensive internal intellectual property training each year to enhance patent knowledge in domestic and overseas R&D and intellectual property team personnel within the Group. In future, we plan to submit R&D results to the intellectual property department via a paper-free cloud platform. Therefore, in 2024, we conducted training courses on intellectual property management platform operations so the R&D department could submit R&D results in a timely manner. In order to align with global commercial developments for core products, we assessed the needs of PharmaEssentia headquarters and all subsidiaries, and conducted internal intellectual property training covering trademark registration, copyrights, and in-depth information on trade secrets and other intellectual properties. We are also planning regular promotion of our international intellectual property policies to all subsidiaries within the Group, to ensure that all personnel comply with related regulations.

Employee intellectual property education and training sessions conducted in 2024 were as follows:

Course title	Course format	Speakers	Targets	Participation hours per person
Progressiveness in patent law	Physical	Practicing US patent attorney	42 R&D, manufacturing process, and intellectual property personnel	1 hour
Drafting patent manuals	Physical (recorded content was made available online after the course)	PharmaEssentia US patent attorney	3 intellectual property department personnel from headquarters	2 hours
Introduction to “patent dance” in US patent law	Physical	PharmaEssentia US patent attorney	3 intellectual property department personnel from headquarters	2 hours
Training series introducing intellectual property management cloud platform	Online (rewatchable courses)	Intellectual property management cloud platform engineer and PM	3 intellectual property department personnel from headquarters	66 hours

Patents and Trademarks

	Number of patents	Number of trademarks
Obtained (As of year-end 2024)	Cumulative number of valid patents: 242 in various countries and regions	Cumulative number of valid trademarks: 171 trademark certificates from various countries
Pending applications	23	17

2.6 Sustainable Supply Chain Management

PharmaEssentia strengthens supply chain management through three aspects, working with suppliers/contractors to embody and practice sustainability principles, thereby creating long-term and stable value for the pharmaceutical industry and patients.

Supply chain management strategies
- Formulated Supplier Code of Conduct and Supplier Management Procedures
- Strengthened supply chain resilience

Supply chain management practices
- Supplier management by category
- Supplier risk level classification, management, and response measures for discrepancies
- Supplier/contractor screening and evaluation
- Supplier/contractor sustainability risk assessment
- Local procurement

Supplier engagement
- Engaged with suppliers through diverse channels
- Future supplier empowerment plans

1. Supply Chain Management Strategies

PharmaEssentia formulated the "Group Supplier Code of Conduct," which focuses on labor rights, workplace safety and health, environmental sustainability, and business ethics. The Group Supplier Code of Conduct was signed by our chairperson and published on our website, and we hope it can serve as an industry benchmark. Additionally, in order to make strides toward our paper-free goals, we actively introduced digital systems in 2024 for routine business requisition, procurement, and verification procedures that require large amounts of paper. PharmaEssentia also launched a globally synchronized digital procurement platform. As introducing digital systems requires large amounts of manpower and time, as well as rebuilding of operational processes, we postponed our "supplier code of conduct signing procedures" to prevent this from becoming a mere formality, and we plan to require our suppliers to sign the Supplier Code of Conduct in future to strengthen management of supplier responsibilities.

The quality assurance department formulated the "Outsourcing Activities Policy" and "Supplier Management Procedures" to serve as standard procedures and processes for approving suppliers and outsourcing service contractors, enabling strict monitoring of raw materials, production supplies, device/equipment supplier screening, assessment, and approval, ensuring that raw materials and equipment provided by suppliers comply with our quality, delivery time, and GMP requirements. The "Supplier Management Procedures" were amended twice in 2024 to add regulations and details on supplier categories, optimizing our management strategies. We also sign "Quality agreements" with our outsourcing service contractors to ensure that both parties understand product and quality requirements. In 2024, 55 vendors were required to sign quality agreements, and we achieved a signing rate of 98.18%. One supplier was a new vendor and their quality agreement is still pending; the remaining 54 vendors have signed their quality agreements.

In order to work with our supplier partners in jointly achieving moral and sustainable development goals, our procurement department adopted several proactive measures to promote and execute the Supplier Code of Conduct. Firstly, our procurement department added a link to the Supplier Code of Conduct in the signature line for all emails, inviting suppliers to jointly fulfill corporate social responsibilities during routine business transactions and when sending procurement orders. We also require suppliers to comply with the PharmaEssentia Code of Conduct as well as local laws and regulations, thereby ensuring transparency and adherence to ethical standards for both parties during collaborations.

Additionally, the procurement department has added clauses on corporate social responsibilities encompassing ethical management, labor rights, occupational health and safety, environmental sustainability, and other issues in all procurement contracts. We clearly stipulate that collaborating vendors should comply with ethical management principles as well as adhere to fundamental labor rights principles and local labor laws, and we strive to build healthy, safe, and comfortable work environments. Collaborating vendors also need to comply with related environmental regulations and establish specific environmental protection, energy conservation, and carbon reduction management measures. To strengthen policy implementations, our contract clauses clearly stipulate: "If collaborating vendors fail to correct violations of corporate social responsibilities, or if their actions cause significant environmental or social damage, resulting in harm to PharmaEssentia's corporate reputation or interests, the contract may be terminated or rescinded," emphasizing our determination toward ESG (environment, social, governance) compliance.

Before signing contracts with Japanese equipment manufacturers, PharmaEssentia Japan not only considers cost rationales, vendor credit report, and other corporate operational conditions, but also evaluates whether said vendors are capable of complying with PharmaEssentia Japan bylaws, GMP, and GQP regulations. PharmaEssentia Japan also assesses whether factory environments are suitable for medication preservation, and confirm whether there are appropriate response measures if emergency incidents generate negative quality impacts during production processes. Final products are ultimately prepared for commercialization (packaged) under strict conditions at factories that adhere to relevant standards.

▶ Supply Chain Resilience

PharmaEssentia strives to strengthen supply chain management and response capabilities, balance cost considerations and supply stability over the long term, and reduce negative supply chain impacts from emergency incidents. In 2024, we investigated inventory conditions of 4 significant high-risk suppliers, requiring them to fill out shipment delivery forms to reduce supply shortage risks.

We implement the following management measures to effectively enhance supply chain resilience:

1. Monitor factors that could potentially impact supply chains (diseases, climate change, and natural disasters)
2. Strengthen supplier management, adaptation, and response capabilities to enhance overall supply stability
3. Strengthen supplier communication and monitor material delivery conditions in real time to obtain complete transportation and logistics information
4. Update delivery times for raw materials procured from suppliers to ensure timely replenishments
5. Headquarters centralizes inventory management for special materials and determines safety stock levels based on delivery times
6. Increase safety stock levels and track changes in demand for front-end hospitals and patients
7. Keep track of conditions in material production countries, assess supply shortage risks, and formulate responses in advance
8. Introduce digital management mechanisms, enhance operational efficiency, and strengthen supply chain management resilience and flexibility
9. Establish alternate material sources to lower supply shortage risks and ensure supply chain stability

We have conducted comprehensive surveys of raw materials and determined priorities for introducing alternate materials based on internal SOPs to prevent risks from emergency incidents.

1 Inventory raw materials that require establishment of alternate material sources	2 Perform quality checks	3 Laboratory process development validation	4 Quality assurance and continuous monitoring
We identify raw materials that require activation of alternate material sources through continued monitoring of raw material inventory levels and delivery times, as well as through internal production and material meetings, focusing on two main areas: • Assessment of supply stability, including change notices from manufacturers and force majeure risks for delivery times • Continued quality and production improvements such as updates to pharmacopeia specifications and regulatory requirements	We assess material risks and scopes of impact from regulation changes based on the Criticality Assessment of Materials and Change Control Procedures	We carry out small-scale mass production trials; qualified raw materials enter GMP control procedures (supplier assessments, specification tests, and establishment of methodologies), and are added to backup lists after completing relevant procedures	Data and documentation at all stages of material source development are continually monitored by the quality assurance department to ensure that overall processes completely comply with regulatory standards

Additionally, PharmaEssentia USA adopted the following measures to stabilize material flows and optimize procurement processes:

- Added pre-filled injectables manufacturers and labeling and packaging suppliers
- Established global sales and operations planning (S&OP) processes to stabilize supply of active pharmaceutical ingredients and drug products
- Hosted global supply chain meetings with Taiwan headquarters once every two weeks for continued inventory tracking
- Submitted rolling forecast reports of active pharmaceutical ingredient and drug supplies to Taiwan headquarters each month
- Upgraded SAP system from B1 to S4, and connected procurement, material numbering, and invoicing processes to internal processes

PharmaEssentia USA is also planning to set up a second third-party logistics site in 2025 to store excess drugs at different geographical locations, ensuring stability of drug supplies.

2.Supply Chain Management Practices

Supplier Management by Category

To enhance supplier management efficiency, PharmaEssentia headquarters, Panco, and PharmaEssentia Japan categorized suppliers involved in direct transactions with PharmaEssentia as Tier 1 suppliers based on risks and procurement amounts. GMP suppliers that cannot be easily replaced are defined as significant suppliers. Suppliers are managed based on these two categories. PharmaEssentia headquarters worked with 362 suppliers in 2024, including 47 significant Tier 1 suppliers with procurement amounts making up 63.4% of total procurement in 2024.

All products and services from PharmaEssentia USA suppliers were categorized using a quality system, and routine inspections are conducted regularly on significant suppliers such as third-party logistics companies (3PL), CMOs, and transportation companies. New suppliers are also reviewed before contract signing. In 2024, we conducted an inspection of a secondary packaging solution provider (Cardinal Health Packaging Solutions). PharmaEssentia USA meets with Tier 1 suppliers once every two weeks to discuss all possible product supply chain risks, and also holds annual review meetings with third-party logistics companies to review pharmaceutical trading operations and mechanisms.

Supplier qualifications are determined in accordance with US SOP-QA-003 supplier qualification procedures (GMP) and SOP-QA-009 external audit results. In 2024, PharmaEssentia USA had 7 Tier 1 suppliers who all complied with GMP standards for significant Tier 1 suppliers. All suppliers have passed US and Taiwan quality inspections.

PharmaEssentia headquarters supplier categories for 2024 were as follows:

Supplier category	Tier 1 (number of suppliers)	Non-Tier 1 (number of suppliers)	Total
Significant suppliers	47	44	91
Non-significant suppliers	180	91	271
Total	227	135	362

PharmaEssentia Japan supplier categories for 2024:

Supplier category	Tier 1 (number of suppliers)	Non-Tier 1 (number of suppliers)	Total
Significant suppliers	3	7	10
Non-significant suppliers	2	0	2
Total	5	7	12

PharmaEssentia US supplier categories for 2024:

Supplier category	Number of suppliers	Ratio (%)
All Tier 1 suppliers	7	100%
Significant Tier 1 suppliers	7	100%

Supplier Risk Categories

In terms of supplier management, our Taiwan headquarters uses the following principles to determine supplier risks:

1. Whether they are significant suppliers, or if they provide materials or services directly related to patients or trial participants
2. Whether the materials or services provided are used in pilot production, clinical trials, or commercial production stages
3. Whether the materials or services provided have high impacts, such that changing suppliers could significantly impact research and development or manufacturing
4. Whether the materials or services provided have low substitutability encompassing factors such as single sourcing or patented technologies
5. Whether the annual procurement volumes or monetary values are high
6. Whether there are high impacts from environmental, governance, or social factors on the materials or services provided, which could affect supply continuity or regulatory compliance

In 2024, our Taiwan headquarters evaluated 362 suppliers; 9% were considered high risk, 28% were considered low risk, and 63% were considered moderate risk. The number of low-risk suppliers decreased by 46% and the number of moderate-risk suppliers rose by 41%, mainly as production demand increased significantly in 2024, affecting factory production processes and material needs while also posing significant challenges to delivery times compared to previous years. Therefore, we raised risk levels for associated suppliers to moderate risk to strengthen control measures.

Year	2022		2023		2024	
Risk levels	Number of suppliers	Ratio	Number of suppliers	Ratio	Number of suppliers	Ratio
Low risk	148	74%	309	74%	102	28%
Moderate risk	41	20%	94	22%	228	63%
High risk	12	6%	16	4%	32	9%
Total	201	100%	419	100%	362	100%

Note 1: Risk level assessments included PharmaEssentia's Taipei and Taichung sites
Note 2: Risk level classifications: The Taichung Plant classified risks as Minor, Major, and Critical based on GMP quality management standards
Note 3: PharmaEssentia's Taipei and Taichung sites classified risks based on the following criteria: High risk (more than 3 items), moderate risk (1 or 2 items), and low risk (none)

PharmaEssentia USA has also established a risk management process and conducted gap analysis to identify supply chain management risks. Supplier risks are managed through US and Taiwan quality systems. We assess each supplier and the quality of provided materials and services to ensure GMP compliance, and periodically reassess supplier qualifications. We plan to implement response measures for high-risk supply chain management items in 2025 encompassing any services, components, or raw materials that cannot be easily replaced (such as sterile CMOs, drug warehousing, container sealing systems, active pharmaceutical ingredients, or other exclusive components), preventing impacts to drug distribution that may lower patient access to medicines.

Management Mechanisms by Risk Level

PharmaEssentia adopts the following management strategies for vendors/suppliers based on different risk levels:

Risk level	Supplier management mechanisms
High Risk	1. Strategic alliances: Build mutually beneficial alliances with suppliers 2. Maintain sound interactions with suppliers and establish solid collaborative relations 3. Evaluate total cost of ownership (TCO) encompassing service scope, quality, schedules, and other performance indicators 4. Sign contracts to ensure service quality, content, and material sources 5. Self-produce, self-manufacture, or re-refine 6. Ensure supply stability 7. Maintain sound interactions with suppliers and utilize service information provided by vendors 8. Develop new suppliers and Second Sources to prevent supply shortage risks
Moderate Risk	1. Require vendors to prepare additional inventory for recurring materials to enable timely supply 2. Integrate procurement items and departmental needs 3. Actively check and compare prices for exclusive or competitive materials 4. Analyze item prices and costs
Low Risk	1. Implement recurring purchasing processes that adhere to and maintain necessary procurement procedures 2. Number of orders and order frequency

Response Actions Adopted for Supplier Deficiencies at Different Risk Levels

PharmaEssentia adopted the following response actions for supplier/product deficiencies at different risk levels:

Risk levels	Appraisal frequency	Response actions
High Risk	Annually	• Conduct preventive monitoring processes and formulate response plans • Require suppliers to adopt immediate improvement measures • If major deficiencies are involved, PharmaEssentia will determine whether to immediately cease procurement or terminate contracts
Moderate Risk	Annually	• Require suppliers to adopt immediate improvement measures • If major deficiencies are involved, PharmaEssentia will determine whether to immediately cease procurement or terminate contracts
Low Risk	Annually	• Implement routine management based on annual appraisal standards

Screening of New Suppliers/Contractors

PharmaEssentia emphasizes supply chain environmental and social impacts. Our screening criteria for suppliers/contractors include 3 major indicators (quality systems, technical capabilities, and services and supporting capabilities). We have also incorporated environmental and social indicators in supplier screening mechanisms. If suppliers receive the same evaluation results on the 3 major indicators, PharmaEssentia prioritizes suppliers with better environmental and social performance. PharmaEssentia engages with oligopoly and monopoly suppliers that perform well on quality systems, technical capabilities, and services and supporting capabilities, but have weaker environmental and social impacts to gradually enhance their sustainability awareness and improve their environmental and social sustainability actions, thereby facilitating long-term and sustainable collaborative relations. In 2024, our Taiwan headquarters added 148 new suppliers and contractors, including 99 local suppliers.

Environmental indicators

1. Compliance with all applicable environmental laws, related regulations, and reporting components
2. Ensure that waste materials, exhaust gases, and wastewater are treated, delivered, stored, recycled, reused, and managed in accordance with regulations
3. Optimize resource usage and resource cycles to reduce resource consumption
4. Achieve biodiversity, no deforestation, land conservation, zero net deforestation targets
5. Achieve climate commitments to reduce greenhouse gas emissions and achieve carbon neutrality commitments

Social indicators

1. Pledge to provide workers with acceptable living (work) environments
2. Prohibit use of forced labor and do not restrain or restrict the personal freedoms of workers
3. Freedom of association and collective bargaining rights
4. Maintain employee health and safety
5. Guarantee minimum wages, overtime hours, and statutory benefits
6. Treat employees humanely and ensure that they are free from all forms of sexual harassment, physical punishment, physical persecution, and verbal violence
7. Anti-discrimination
8. Prohibition of child labor

Supplier/Contractor Assessments

We conduct regular annual supplier/contractor audits that combine both internal appraisals and reviews with on-site audits in accordance with Supplier Audit Procedures. We shorten re-audit frequencies for high-risk vendors and require improvement actions. If major deficiencies are discovered, we immediately cease procurement processes. PharmaEssentia prioritizes procurement and collaboration with suppliers that perform well on assessments, and increases procurement ratios as appropriate. In future, we plan to publicize assessment information internally for reference by various demand units to promote collaboration opportunities with suppliers that demonstrate good ESG performance. Additionally, we prioritize assessments of suppliers that have expanded into new businesses to strengthen collaboration relations and expand our business scope.

Internal review and on-site audit items include quality management, delivery capabilities, production and technological capabilities, client services and response capabilities, compliance, and ESG implementations:

- **Quality management:** Review whether suppliers comply with product or service quality requirements, and assess the effectiveness of quality control processes
- **Delivery capabilities:** Focus on whether suppliers can deliver products complying with specifications in a timely manner while ensuring accuracy of distribution processes
- **Production and technological capabilities:** Review supplier production facilities, equipment technological levels, and R&D capabilities to ensure that suppliers possess required capabilities
- **Client services and response capabilities:** Assess supplier handling efficiency of client needs, complaints, and service issues, and associated satisfaction levels
- **Compliance and ESG implementations:** Check whether suppliers comply with related regulations and adhere to environmental, social, and governance (ESG) standards. For more information, please refer to our Supplier/Contractor Sustainable Risk Assessment

Of these, delivery of raw materials is the most important consideration for PharmaEssentia, as shortages in raw materials affect related production processes and R&D progress. Therefore, PharmaEssentia requires suppliers to ensure product supply and quality.

Number of Suppliers Included in PharmaEssentia Internal Reviews and On-Site Audits in 2024

Type of evaluation	Number of suppliers that should be reviewed/audited		Number of suppliers that completed reviews/audits		Review/audit results
	Domestic	Overseas	Domestic	Overseas	
Internal reviews	164	19	164	19	• All 183 suppliers passed reviews • Including 7 significant Tier 1 suppliers, 103 non- significant Tier 1 suppliers, 11 significant non-Tier 1 suppliers, and 62 non- significant non-Tier 1 suppliers
On-site audits	5	9	3	4	• 14 suppliers were scheduled for audits in 2024, including: · 2 domestic significant Tier 1 suppliers · 6 foreign significant Tier 1 suppliers · 1 domestic non- significant Tier 1 supplier · 5 non-Tier 1 suppliers • Audits were conducted on 7 suppliers (including 1 supplier that underwent a remote audit and 1 supplier that underwent a desktop audit) • Reasons for not auditing the remaining 7 suppliers: Audits for 3 suppliers were moved to 2025 due to scheduling delays and audits on 4 suppliers were cancelled due to incorporation of new materials

PharmaEssentia USA conducted on-site audits on US manufacturers and Tier 2 suppliers to determine their capabilities and production capacities, and also adopted a weighted decision matrix incorporating weights for five priority items (supply continuity, compliance, quality, delivery time, and cost assessments) to conduct quantitative comparisons, ensuring fair assessment of new suppliers/vendors. PharmaEssentia USA also conducted on-site due diligence procedures to align the business strategies of both parties.

In 2024, PharmaEssentia Japan evaluated 2 vendors, a logistics company and a testing company. No major deficiencies were discovered during these audits.

Supplier/Contractor Sustainability Risk Assessment

In 2024, PharmaEssentia incorporated supplier understanding and execution of the Supplier Code of Conduct in supplier sustainability risk self-assessment surveys to ensure that our global supply chain is fulfilling social responsibilities while enhancing the corporate brand image and market competitiveness of our supply chain. PharmaEssentia headquarters conducts an annual supplier environmental and social regulation audit each year. If any supplier violations are discovered, we work with related units to understand and investigate the situation. PharmaEssentia adopts a friendly approach when engaging with suppliers, and only terminates contracts following careful evaluation when consensus cannot be reached following multiple rounds of communications.

In 2023, a contractor was found to be in violation of the Waste Disposal Act and was fined NT$3,600. We tracked improvements for this violation incident to ensure compliance with PharmaEssentia bylaws and implemented corrective actions for said violation incident. Tracking results indicated that the contractor had read and complied with PharmaEssentia's Supplier Code of Conduct. In order to avoid subsequent violation incidents, we review supplier qualifications (such as whether they possess legal licenses) and other response measures prior to collaboration.

In 2023, before Ropeg received marketing authorization, PharmaEssentia Japan rated suppliers using the Supplier Code of Conduct and required compliance from all vendors. In 2024, PharmaEssentia Japan also adopted the Supplier Code of Conduct for evaluations, and implemented regular visits to the websites of outsourcing companies to check their ESG activities. No violations were discovered during the evaluation process.

PharmaEssentia USA conducts irregular on-site supplier audits every year. Even though no routine audits were conducted in 2024, PharmaEssentia conducts non-periodic audits based on US political environments and market conditions to fulfill sustainable management principles.

Sustainability Risk Evaluation Channels

PharmaEssentia uses diverse sustainability risk evaluation channels for timely identification of supply chain risks and to help managers formulate efficient risk management policies:

Regular self-assessment surveys

Distribute surveys each year to investigate collaborating partner risks on five aspects: corporate governance, labor rights, regulatory compliance (environmental and labor regulations), and environmental impacts. We calculate weighted scores and use cross-check questionnaires to accurately determine the reliability of survey responses.

Irregular interviews

Conduct irregular interviews with significant suppliers to understand their thoughts on sustainable management and associated risks when responding to dynamic changes in market and risk conditions.

Public information audits

Regularly review public information, including government regulations, industry reports, and media reports to track possible risks and opportunities associated with sustainable management of suppliers.

Sustainability Risk Self-Assessment Questionnaire

Sustainability risk self-assessment questionnaire items receive different weighted scores based on risk levels, and total scores are used to determine supplier risk levels. As there are differences in supplier types and associated issues, we compare supplier scores following proper calibration, and separate suppliers into three levels:

	Description	Subsequent management actions
Class A **Above 80 points** low sustainability risk, good performance	High scores on sustainability risk self-assessment questionnaire indicate that supplier labor rights, occupational safety, management systems, and environmental management aspects all comply with our standards.	• **Continued monitoring and support:** Continue to maintain good collaborative relations with suppliers, regularly review sustainable development performance, and provide necessary support and resources to promote sustainable growth • **Incentives and commendations:** Provide recognition or awards to outstanding suppliers and list them as first-choice suppliers while maintaining sound interactions and collaborations • **Experience sharing:** Encourage Class A suppliers to share their successful experiences related to sustainable management to help other suppliers enhance their performance
Class B **60-80 points** moderate sustainability risk and requires some improvement	Suppliers have specific risks or room for improvement on some issues, and need to formulate long-term improvement plans.	• **Improvement plans:** Work with suppliers to jointly formulate specific improvement plans, set quantitative indicators and targets, and require suppliers to correct related issues within specified time limits • **Regular review and tracking:** Establish regular evaluation mechanisms to track and assess supplier progress. If suppliers fail to meet our expectations, we provide more resources and support, or strengthen collaborations • **Risk management guidance:** Provide professional advice and training to help suppliers enhance their sustainability risk management capabilities, and encourage suppliers to establish comprehensive sustainable development mechanisms
Class C **Below 60 points** high sustainability risk and potential major problems	Suppliers with high risks who fail to comply with our sustainability requirements or local regulations, and need immediate improvement.	• **Immediate improvement:** Require suppliers to implement improvements quickly, and provide improvement plans and necessary guidance for specific issues. Specific time limits may need to be set for improvements involving serious issues • **Risk assessments and adjustments in collaborative relations:** Conduct comprehensive risk assessments on high-risk suppliers and determine whether to continue collaborations based on improvement results. If suppliers do not complete improvements according to schedule, we will consider terminating collaborations

PharmaEssentia regularly updates risk assessment standards in accordance with changes in market environments, laws and regulations, and supplier business strategies, and also implements dynamic adjustments and rolling amendments of evaluation standards based on supplier business strategy changes. We have established smooth communication and management mechanisms that allow us to maintain regular communications and interactions with suppliers, enabling them to understand PharmaEssentia assessment standards. We also require suppliers to update us on improvements made to strategies, methodologies, and conditions, as well as relevant challenges, thereby creating virtuous two-way collaborative relationships.

Implementations in 2024

In 2024, PharmaEssentia headquarters conducted online sustainability self-assessment surveys on 43 priority suppliers who complied with GMP requirements and supplied services/products closely linked to environmental protection issues:

- **Encompassed five aspects**

1. Compliance with labor and environmental regulations
2. Labor rights
3. Occupational safety
4. Corporate governance
5. Environmental protection

- 45 survey items
- Survey response rate: 84%
- Investigated 43 suppliers, and 36 suppliers completed self-assessments:

Class A	Class B	Class C
Low Sustainability Risk	Moderate Sustainability Risk	High Sustainability Risk
11 suppliers	24 suppliers	1 supplier
30.6%	66.7%	2.7%

- Assessment results:

Aspect	Results	Subsequent tracking
Ethical management	Adhered to PharmaEssentia standards	Tracked all issues and required corrective actions
Compliance with labor laws	7 suppliers had violated legal regulations with no penalties (appropriation of employee benefits and regular hosting of labor-management meetings) and 2 suppliers had been penalized by competent authorities due to violations of the Labor Standards Act	
Compliance with environmental laws	1 supplier was penalized by competent authorities due to violations of environmental regulations	

Local Procurement

PharmaEssentia seeks to generate mutual prosperity for the biotechnology industry. Apart from considering price and quality conditions, we also continue to actively seek opportunities for collaboration with local companies based on procurement needs to increase local procurement ratios in Taiwan. When purchasing new products, we start by evaluating the feasibility of working with local suppliers. For existing products, we analyze related markets and select appropriate and reliable local suppliers based on past experiences and diverse selection criteria to ensure supply chain stability. We established sound and long-term collaborative relations with suppliers that uphold similar principles and sustainable management aims. Apart from increasing business opportunities with outstanding suppliers that facilitate sustainable management, we also ensure mutual benefits on sustainability issues to effectively lower transaction, social, and business risks for both parties and to promote sustainable local procurement plans.

In 2024, PharmaEssentia adopted the same unified electronic laboratory records systems around the globe, increasing procurement expenditures for the US region. Additionally, in line with global depositary receipt (GDR) and competent authority requirements, procurements for some projects need to be purchased using US dollars. Therefore, local procurement amounts for 2024 decreased compared to 2023, but still accounted for 64% of all procurement amounts.

	Region	2022	2023	2024
Local procurement	Taiwan	79.6%	89.0%	64.0%
Non-local procurement	US	20.4%	11.0%	35.0%
	Other regions in Asia	0%	0%	1%
Total		100%	100%	100%

Supplier Engagement

PharmaEssentia regularly distributes self-assessment surveys and conducts irregular supplier interviews. We engage with suppliers and look forward to working with our business partners in implementing sustainable management concepts. We continue to track supplier technologies, operational conditions, and sustainable performance to expand our industrial influence. In future, PharmaEssentia plans to promote supplier guidance plans, training, and other specific projects to empower suppliers, working together to enable sustainable growth in our partnerships.

Enhancing Sustainability Awareness in Procurement Personnel

To strengthen procurement personnel knowledge of sustainable supply chains, we organized diverse ESG competency training, including:

- **Annual ESG training and consultant guidance:** Collaborated with professional ESG consultants and hosted annual training encompassing sustainability governance, carbon management, supply chain risk controls, and other themes, assisting our colleagues to keep informed of the latest sustainable development trends and practical applications
- **Internal training and interdepartmental discussions on ESG topics:** Discussions on supplier sustainability risk assessment methods and meetings to compile data on supply chain carbon emissions
- **Industrial ESG experience sharing and exchanges:** We invited industry experts to share practical ESG experiences such as corporate promotion of internal carbon pricing, supply chain carbon inventories, and sustainability management strategies and achievements to promote internal learning and external exchanges, and to enhance overall sustainable development performance
- **External organization lectures, courses, and seminars:** Non-periodic participation in external activities (such as the "Viewing sustainable investment from supply chain management" seminar and the "EcoVadis global supply chain sustainability evaluation courses") to obtain the latest ESG knowledge and international regulations

03

Drug Quality and Safety Management

Achievement Highlights

NT$25.9 billion
in R&D expenditures, an increase of 16% compared to 2023

14,797 hours
of Good Manufacturing Practice (GMP)/ Good Distribution Practice (GDP) training

12 global pharmacovigilance seminars

0 post-marketing recalls of defective drugs

+3 new second-source suppliers

+100% production capacity
completed establishment of second drug substance (DS) production line

4-8 times production capacity
completed establishment of scaled up PEG production line

Completed Ropeg Phase III
clinical trial for ET indication LPLV

Obtained Ropeg PV marketing authorizations
in China, Singapore, and Malaysia

Taichung Plant passed EMA & ANVISA factory inspections

3.1 Drug Quality and Safety Management GRI 3-3

PharmaEssentia is focused on independently developed R&D technologies which not only represent breakthroughs in the biomedical industry, but also improve patient wellbeing. All stages from new drug R&D, production, manufacturing, transportation, and launch rigorously and comprehensively adhere to complex regulatory and quality requirements. To maximize the life cycles of core products, PharmaEssentia conducts constant patent mining and enables comprehensive protection for innovative R&D technologies, and has established various intellectual property protection measures. We also manage post-marketing risks through continued monitoring and reporting of drug safety information as part of our responsibilities to protect patient interests.

Material Topics

- New Drug Research & Development and Innovation Management
- Drug Quality and Safety Management
- Business Integrity and Ethical Management

Main Stakeholders

- Patients
- Medical Personnel
- Commissioned Research/ Experiment Units
- Shareholders and Investors
- Suppliers and Business Partners
- Local Communities
- Government and Competent Authorities
- Media

Material Topics

PharmaEssentia MATERIALITY

New Drug Research & Development and Innovation Management

Description of Impacts

PharmaEssentia independently built a PEGylation technology platform. PEGylation is a type of technology that can maintain the stability of protein-based drugs in the human bloodstream, thereby prolonging the duration of therapeutic concentration. We used this technology to improve on existing protein-based drugs and successfully developed a new-generation long-acting interferon BESREMi (Ropeginterferon alfa-2b, Ropeg, P1101), which can be used for multiple indications. Apart from already obtained drug permits for PV, we are also working on multiple new indications to benefit more patients.

Policies and Commitments

PharmaEssentia is committed to solving unmet medical needs. After achieving breakthroughs in the MPN domain, we adhered to the spirit of the Access to Medicine Index and continued to invest in research on blood disorders and solid tumors. We are also working with external research institutes and biotechnology companies to jointly develop cell therapies. PharmaEssentia screens domestic and international research institutes with GLP, ISO 17025 (non-compulsory), and AAALAC certifications to ensure that research personnel rigorously adhere to all relevant regulations during R&D processes for new drugs and use humane procedures when conducting preclinical animal trials.

Responsible Unit

Research and Development of New Drugs center: Responsible for new drug discovery, and has established the "Project Evaluation Team" to serve as the research decision-making unit. Team members include colleagues and senior managers from different departments. Projects are initiated following approval at "Project Review Meetings," and project supervisors coordinate project progress and make regular progress reports.

Clinical operations department: Responsible for managing clinical trials

The Executive Center for Corporate Sustainability Access to Medicine Team: Responsible for compiling and managing material sustainability issues

Response Measures and Management Actions

Invested resources:

Manpower resources: A total of 165 R&D and clinical personnel around the globe, a reduction of 16.2% compared to the previous year

Financial resources: R&D investments: In 2024, PharmaEssentia invested a total of NT$2.59 billion to build R&D momentum, an increase of 16% compared to the previous year

R&D:

- Important R&D projects included use of PEG-IL-2 to treat inflammatory and immune diseases; many other products which are in Phase 1, Phase 2, Phase 3, or post-marketing Phase 4 clinical trials; and a number of IITs in collaboration with physicians
- Joint development of TCR-T cell therapies with external partners

Prospective projects:

- Combine AI (artificial intelligence) and ML (machine learning) to expand R&D capabilities
- Continue to recruit professional scientific talents with expertise in drug development, and utilize AI/ML technologies to enhance the efficiency of early drug development, design, and optimization stages

Evaluation Mechanisms

(Channels and Systems for Tracking Effectiveness of Response Measures and Management Actions)

- New drugs have to pass feasibility studies, preclinical animal trials, clinical trials, product manufacturing, and market authorization reviews before launch, and all R&D processes have product quality assurance, drug safety and efficacy, and regulatory compliance mechanisms that serve as a basis for determining whether development should be continued
- Our R&D department manages and reviews schedules for all R&D projects each month and makes quarterly reports to the Board
- Our R&D expenditures were approved by the Board in December 2023. The finance department tracks actual and budgeted expenditures of R&D projects every quarter, and reports on discrepancies to the Board
- Our auditing departments conducts audits on R&D cyclical management mechanisms each year in accordance with annual audit plans

Targets and Achievements in 2024

Number of drugs in development: 13

In 2024, our headquarters completed investigational new drug (IND) applications for PEG-GCSF and Anti PD-1, and conducted 5 new clinical trials for PEG-GCSF, Anti PD-1, TCRT-ESO-A2, HOPE PMF, and ATL.

- Submitted IND application for PEG-GCSF Phase 1 clinical trials and completed Phase 1 clinical trials
- Completed patient recruitment for EXCEED-ET and ECLIPSE-PV clinical trials in March and June of 2024
- Completed multinational, multicenter ET Phase 3 clinical trials, and completed Topline data analysis at the end of December
- Obtained government scientific subsidies of NT$10,428,000 for ET Phase 3 clinical trial
- Initiated patient recruitment for Japan ALT Phase 2 clinical trial

Targets

Short-Term Targets (1-2 Years):

- Expand into new indications and become a global leader in the MPN domain

Mid-Term Targets (3-5 Years):

- Develop PEG platform: Utilize independently developed PEC PEG platform to develop long-acting cytokines
- Develop other technologies such as BiC/FiC PEGylated cytokines (GCSF, IL-2, IFN-g, and others)
- Target solid tumors with low response rates such as renal cancer, pancreatic cancer, or immune-mediated diseases

Long-Term Goals (More Than 5 Years):

- Develop top-tier R&D platform: Develop best-in-class/first-in-class treatments
- Utilize novel BiC/FiC immune checkpoint molecules for treatment of solid tumors and hematologic diseases
- Cell therapies: TCR-T targets cancer antigens on the cell membrane as well as intracellular cancer antigens

R&D Focus

The global biopharmaceutical industry is flourishing due to advances in medical technologies and aging populations, and therefore continuous innovation and development is an important mission for pharmaceutical companies. PharmaEssentia is a new drug developer and biologics manufacturer that is actively developing drugs for MPN. The four main types of MPN are :

- Polycythemia Vera, PV
- Essential Thrombocythemia, ET
- Chronic Myeloid Leukemia, CML
- Primary Myelofibrosis, PMF

As MPN is a rare condition with many patients worldwide, there are many new drug developers working to develop associated drugs. We used our independently developed PEGylation technology platform to improve upon existing drugs, and successfully developed new-generation PEG long-acting α-interferon alfa-2b (Ropeg), a drug with multiple indications which breaks through limitations in traditional interferon drugs and treatments. We have currently obtained marketing authorizations for PV treatment and are working to obtain marketing authorizations for other indications. We have also extended use of the PEGylation technology platform to tumors, immune diseases, and cell therapies, expanding into other treatment indications and applications to provide innovative solutions for other diseases.

Even though development of new drugs requires large amounts of R&D technologies, time costs, and capital investments, we have spared no effort in utilizing our drug manufacturing and industry expertise to create innovations that enhance patient quality of life and contribute to society as we strive to become a benchmark enterprise in the biopharmaceutical industry.

Governance

New drugs have to pass rigorous quality, safety, efficacy, and regulatory controls over a long period of time that spans from drug discovery, feasibility studies, preclinical animal trials, clinical trials, product manufacturing, and market authorization reviews before launch. PharmaEssentia has established complete drug R&D governance organizations to ensure that all responsible units implement efficient management and progress at all stages of new drug development.

Our Research and Development of New Drugs Center reports directly to the chief executive officer and is responsible for R&D of drug technologies. We have also established the “Project Evaluation Team” to make decisions regarding R&D; team members mainly include R&D team members, personnel from intellectual property departments, and senior executives from our headquarters and US subsidiary. Personnel from other departments such as the corporate planning/market development department, finance department, and legal department attend meetings based on their respective functions and R&D needs. All stages from pre-initiation analyses on project feasibility and potential values; compilation of data associated with proofs of concept, literature, market potential, competitive environments, and experiment data; and fundamental research for project initiation adhere to internal controls. Associated meeting minutes are compiled and revised on a rolling basis as necessary.

Project achievements must be reported at "Project Review Meetings" during specific stages of progress. Review meeting attendees assess the competitive potential and infringement risks of projects based on their unique characteristics and associated experiment data, and project directions are ultimately determined by the "Project Evaluation Committee," which is composed of senior executives. After project launch, project supervisors coordinate project progress and ask internal patent lawyers to conduct assessments or provide recommendations as appropriate based on innovativeness, progressiveness, free operation, and other project characteristics to ensure the value of developed project technologies.

Apart from the Research and Development of New Drugs Center and intellectual property department, we have also established a medical research center to formulate medical strategies for products and clinical trial plans. Our Taichung Plant plans manufacturing processes and implements material management, and our global operations division is responsible for formulating global strategies and market development plans.

▶ PharmaEssentia drug R&D to marketing process

Strategy

▶ Innovation and R&D Focuses

SASB HC-BP-000.B

In 2024, PharmaEssentia completed Phase 3 ET clinical trials (LPLV) for Ropeg. We expect to apply for ET marketing authorizations in Taiwan, the US, Korea, and China in 2025 to bring more medical value to the MPN field and strengthen PharmaEssentia's leadership in this domain.

Preparations for ET marketing authorization applications and market launch

- Estimate drug permit application and acquisition schedules based on clinical trial report completion times
- Implement Good Clinical Practice (GCP) simulation inspections
- Formulate drug pricing and drug listing strategies and schedules
- Conduct national market surveys of ET in Taiwan, the US, Japan, Korea, and China to understand current drug treatments

Benefits of obtaining ET marketing authorization

- Our PV indication physician team has several years of experience in MPN market deployments; we therefore used the same team on the ET indication. PharmaEssentia was able to achieve global reach by surveying patient distributions, without the need to build a new team or spend excess marketing and preparation costs, achieving better depth and breadth with minimal effort
- At present, very few drugs have been approved for ET treatment, and these have severe side effects and poor patient adherence. These Phase 3 clinical trial results indicate that Ropeg has good efficacy, few side effects, and good patient adherence
- Enhance academic medical developments and patient well-being while strengthening Ropeg's leadership position in the MPN field

Apart from MPN, PharmaEssentia also used the patented PEGylation technology to develop the new drug PEG-IL-2 for treatment of inflammatory or immune diseases. We plan to submit Phase 1 clinical trial applications at the end of 2025. We are also working with external partners to jointly develop TCR-T cell therapies and will begin recruiting Phase 1 clinical trial patients in Taiwan at the end of 2025.

The following is a summary of R&D progress made on our drugs in 2024:

R&D Product Pipelines SASB HC-BP-210a.1

Therapeutic Area	Drug Candidate	Indication	Markets	Pre-IND	Phase I/II	Phase III	Registration	Marketed
Hematology	Ropeginterferon alfa 2b (P1101)	PV	Europe					
			US, Taiwan, Korea, Japan, China, Malaysia, Singapore					
			Hong Kong, Brazil, Argentina, Mexico, Columbia					
		ET	Global					
		Pre-PMF	Global					
		Adult T-cell leukemia/lymphoma	Japan, Taiwan, China					
		Chronic myeloid leukemia	Korea					
Oncology	TCRT	Solid tumors	US, Taiwan					
	P1101 + Anti PD-1	Hepatocellular carcinoma	Global					
	Anti PD-1 (P1801)	Solid tumors	Global					
	PEG-GCSF	Neutropenia	Global					
	PEG-Cytokine X,Y	Solid tumors	Global					
	Novel Checkpoint Abs	Solid tumors	Global					

Note: For the latest information on our R&D product pipelines, please refer to our official website: https://hq.pharmaessentia.com/en/pipeline

PharmaEssentia Innovation Research Center (PIRC)

PharmaEssentia established the PharmaEssentia Innovation Research Center in 2023 to work with headquarters on breaking into new research fields. We hope to further expand our R&D and innovation capacity by combining AI (artificial intelligence) and ML (machine learning) to accelerate the process from new drug development to market launch. In 2024, we worked with Qiagen to utilize data analytics and AI in finding new indications for Ropeg, and presented the results at the ASH Annual Meeting. We also worked with DeepSeq.AI in using AI to design new-generation smart cytokines that could be used in cancer treatments. We continue to build AI platforms and introduce relevant tools to accelerate the development of new drugs, continue to recruit professional scientific talents with expertise in drug development, and utilize AI/ML technologies to enhance the efficiency of early drug development, design, and optimization stages.

Intellectual Property Strategies to Protect Innovative R&D Technologies

During the early stages, PharmaEssentia focused on increasing production and reducing costs, using blanket collection of R&D results combined with dedicated analysis by a team of medical patent lawyers to gradually develop patent strategies against potential future biosimilars. PharmaEssentia's core product BESREMi is listed in the US and other international markets. Our intellectual property department works with existing research achievements from the R&D department to actively respond to the US biosimilars patent dance process and to conduct in-depth considerations of technical research.

Apart from formulating innovative intellectual property strategies during the life cycles of core products, our internal patent lawyers also invite experienced research teams to conduct "invention mining" processes on R&D results to explore patent opportunities hidden within technical details, uncover and refine results previously missed by researchers, and transform these into new patents that bring greater value to technical innovations, thereby enhancing the value and life cycle of good products. For example, we inventoried, refined, and tested Ropeg, and uncovered detailed patent technologies and values in the technology which we used to apply for new patents, thereby continually extend our patent protection period through accumulation of Ropeg patents. In 2024, PharmaEssentia used this technology-mining approach to build upon and integrate multiple ongoing achievements from the R&D department. We spare no effort in exploring and protecting our innovative medical technologies. In the US, we secured provisional patents to provide protection for emerging technologies and several future product pipelines that are still in the R&D stage, using these as a foundation for strengthening future product patent landscapes in accordance with R&D progress.

Risk Management

Commitment to Animal Welfare in Preclinical Animal Experiments

We first determine whether institutes conducting trials adhere to our requirements and standards, such as whether they hold GLP (Good Laboratory Practice), ISO 17025 (Laboratory Quality Management System), and AAALAC (American Association for Accreditation of Laboratory Animal Care) certification, and then conduct online or on-site visits/audits to better understand the expertise of the CRO (Contract Research Organization) and expert team, trial schedule coordination, and market price rationales. We also review contracts and technical agreements with legal personnel, supervise trials and review data during trial periods, and compile reports for review once trials have concluded. We use this process to confirm that our CROs comply with regulatory requirements, and to ensure the reliability and compliance of data from animal trials. In 2024, we commissioned 5 domestic and overseas reputable and qualified institutes to conduct preclinical animal trials.

The pharmaceutical industry requires large amounts of horseshoe crabs for experimental use, so these crabs are now a borderline endangered species. The Pharmaceutical Supply Chain Initiative (PSCI), which was formed by multiple international pharmaceutical brands, has called on the biopharmaceutical industry and supply chain partners to cease capturing these crabs and use innovative alternative solutions such as microfluidic technologies and recombinant reagents to reduce reliance on limulus amebocyte lysate (LAL). Where there is still need to use LAL, initiative members are encouraged to actively enhance their understanding of raw material sources and associated animal welfare and biodiversity issues while also sharing information on horseshoe crab traceability, population numbers, and conservation conditions with other members.

PharmaEssentia only procures necessary amounts of reagents in LAL kits (the substances remaining after vendors have extracted horseshoe crab blood) to test whether drugs or medical equipment have been polluted by endotoxins. This significantly maintains survival rates of horseshoe crabs and prevents them from being endangered. Our collaborating vendors also adopt the 3R (Replacement, Reduction, Refinement) measures to protect horseshoe crabs by seeking out replacement reagents to test for endotoxins, using microfluidic technologies to reduce 95% of raw materials extracted from horseshoe crabs, and actively refining current LAL formulations. We have never used other endangered species during trial processes and we work to fulfill our responsibilities to protect endangered species.

Clinical Trial Quality Maintenance and Participant Safety in Clinical Trials

SASB HC-BP-210a.1

PharmaEssentia has developed a 20-step standard operating procedure for clinical operations to ensure the safety of clinical trial participants. We have established audit and inspection mechanisms at all stages to maintain trial quality, and conduct Phase 1, 2, and 3 clinical trials in accordance with approved trial protocols and local regulations. None of our clinical trials were suspended due to GCP violations in 2024.

Trial Planning

Evaluate potential risks of trial procedures based on preclinical data, drug characteristics, and clinical trial designs; require CROs to formulate a case-specific “Monitoring Plan” and “Audit Plan” based on risk levels to implement QC (quality control) and QA (quality assurance) items, ensuring that clinical trial processes, data records, and reports all adhere to trial protocols and GCP regulations, thereby protecting the rights and well-being of trial participants.

Phase 1 Clinical Trial: Safety Exploration

Quality Assurance (QA)	Quality Control (QC)
• Includes independent audit system and commissioning of alternate CROs or independent consultants to conduct audits during the later phases of clinical trials to ensure trial quality and consistency. Identified issues are assessed and tracked appropriately, and auditees must submit relevant corrective actions and preventive action (CAPA) to auditors for review • Data Safety Monitoring Committee (DSMC): Monitors patient safety and drug efficacy of clinical trials	Monitoring and co-monitoring

Before the Trial

Phase 2 Clinical Trial: Preliminary Efficacy Study

- The trial protocol and related documents must be reviewed and approved by health regulatory authorities and the trial institute Institutional Review Board Committee
- Investigator meeting: Conduct training related to the trial
- Informed consent from participants: Participants must be fully informed of and give written consent to join the clinical trial after careful consideration before trial screening can commence
- Participant screening: Rigorously screen participants based on the inclusion and exclusion criteria outlined in the trial protocol

During the Trial

Phase 3 Clinical Trial: Large-Scale Confirmatory Efficacy Study

- The clinical operations department conducts joint monitoring with CROs contracted for monitoring services
- Audits are carried out in accordance with audit plans to ensure that CRO services meet quality standards

After the Trial

- Compile data on efficacy and safety for review, on-site verification, and assessment of benefits and risks by health regulatory authorities to obtain marketing authorization

Metrics and Targets

R&D expenditures over past five years

Year	2020	2021	2022	2023	2024
Global R&D Expenditures (NT$ '000)	922,380	1,272,944	1,425,964	2,224,054	2,587,570
Expenditure Increases Compared to Previous Period (NT$ '000)	282,805	350,564	153,020	798,090	363,516
Expenditure Growth Rate	44%	38%	12%	56%	16%
Global R&D Personnel (Persons)	74	83	123	142	165
Personnel Increases Compared to Previous Period (Persons)	18	9	40	19	23
Personnel Growth Rate	32.1%	12.2%	48.2%	15.4%	16.2%

Continued increases in R&D expenditures brings four main benefits for PharmaEssentia:

Product innovation and technological breakthroughs

Increases in R&D expenditures indicate that PharmaEssentia is committed to development of new products and technological innovations, and is also actively seeking market breakthroughs to enhance competitiveness.

Increase future revenue potentials

Even though R&D expenditures increase costs in the short term, they also serve as a foundation for future corporate growth. Successful development of new drugs help to expand markets, increase revenues, and bring long-term returns and investment benefits.

Expand market share

PharmaEssentia is currently conducting in-depth research into specific therapeutic areas such as blood disorders and cancers, and we are also working to extend product patent protection periods to further maintain our market leadership so we can expand market shares in target markets.

Enhance corporate brand value and collaboration opportunities

We enhance our brand value through continued investment in breakthrough R&D technologies for new drugs to attract support from more collaborators and investors, and are working to become a leader in Taiwan's biopharmaceutical industry.

R&D Focuses in 2024

- Number of drugs in development: 13
- Submitting IND application for TCRT-ESO-A2-TW cell therapy
- Completed 2 IND applications (PEG-GCSF and Anti PD-1)
- Conducted 5 new clinical trials (PEG-GCSF, Anti PD-1, TCRT-ESO-A2, HOPE PMF, and ATL)
- Obtained PV marketing authorizations in China, Singapore, and Malaysia
- Future expectations:

☆ Submit IND application for PEG-IL-2 in 2025
☆ Advance at least 1 project to development candidate stage
☆ Advance at least 1 project to preclinical candidate development stage
☆ Introduce 1-2 external technology platform asset projects
☆ Build AI (artificial intelligence)/ML (machine learning) platform

Development Focuses for Next Five Years (2025-2030)

Continued growth in Ropeg operations
- Continue to increase patient numbers in existing markets
- ET indication: Apply for US marketing authorization in 2025 and obtain marketing authorization in 2026

Expansion of Ropeg indications
- Currently conducting global Phase 3 pivotal clinical trials for early PMF and plan to submit applications for FDA approval at the end of 2027
- Other blood disorders: Research into ATL, CTCL, and other application areas

Expand global production capacity
- Aim to fulfill demand for more than 100,000 patients around the world
- Initiated construction of Zhubei Plant in 2023 in response to market demand, with completion projected for year-end 2025

Top-tier platform
- Utilize novel immune checkpoint molecules and cytokines for treatment of solid tumors, blood disorders, and immune diseases
- Cell therapies: TCR-T targets cancer cell antigens and can be used for treatment of solid tumors

Source: February 2025 Analyst Presentation Documents and information from Zhubei Plant

3.2 Drug Quality and Product Safety GRI 3-3

Material Topics

Drug Quality and Safety Management

Description of Impacts

PharmaEssentia implements risk management on manufacturing processes, environmental controls, and material supplies. We have formulated case-specific "Monitoring Plans" and "Audit Plans" as part of our quality assurance and quality management procedures, and established the "Quality Risk Management Procedure" in accordance with the Taiwan ICH Q9 Quality Risk Management guidelines to serve as a risk management strategy for production and manufacturing. We also use the risk aspects recommended by ICH Q9 (probability, severity, and detectability) to assess risk levels. We established the Equipment Risk Assessment Procedure in accordance with the United States Pharmacopeia, and manage risk categories based on "GMP impacts" and "systemic complexities," thereby reducing quality hazards and risks from equipment operators.

Policies and Commitments

PharmaEssentia's Taichung Plant rigorously adheres to the Quality Risk Management Procedure, Equipment Risk Assessment Procedure, and Change Control Procedure; has incorporated risk management procedures into production processes, environmental controls, and material supplies; and conducts annual quality reviews to minimize quality hazards.

Production: We comply with quality management regulations for all manufacturing stages set by local competent authorities, and continue to maintain GMP qualification

Transportation: We rigorously adhere to GDP regulations, meet local standards for marketing authorization, and strictly control all packaging and transportation processes

Responsible Unit

- Production, transportation, quality management, and auditing departments at headquarters
- Quality control department, quality assurance department, clinical trial quality assurance and drug safety monitoring teams at headquarters: Maintain and monitor the quality of marketed and clinical drugs
- Executive Center for Corporate Sustainability Product Ethics and Safety Team: Responsible for compiling and managing material sustainability issues

Response Measures and Management Actions

- Introduced Trackwise electronic system to perform deviation management, corrective actions and preventive actions, supplier management, laboratory surveys, and other procedures under our quality system
- Production and manufacturing quality management and risk management: Hosted global interdepartmental risk assessment team meetings to jointly review risk issues and correction measures in factory areas
- Invested more than NT$33 million in global pharmacovigilance tasks

Evaluation Mechanisms

- Official periodic GMP inspections (such as those conducted by the US FDA, EU EMA, and Taiwan TFDA)
- All departments need to undergo at least 1 internal quality audit every year
- Invite external experts to conduct quality audits as necessary
- External evaluation mechanisms for clinical trials adhere to inspections conducted by health authorities, and audits are conducted regularly by third parties (such as the institutional review boards at hospitals where trials are being conducted). Internal evaluations are conducted by the Clinical Trial Quality Assurance Unit (established in 2025)
- Established a Data and Safety Monitoring Board (DSMB) for human trials to perform reviews and assessments
- Regularly submit annual drug safety reports to the US FDA, EU EMA, and Taiwan TFDA each year as well as real-time drug safety notifications

Targets and Achievements in 2024

- Good Manufacturing Practice (GMP) plant certificates were updated or extended/maintained according to schedule
- Regularly implemented and passeed internal and external audits
- Completed GMP/GDP education and training
- Factory inspections conducted by EU and Brazilian supervisory authorities confirmed that there were no major deficiencies
- Completed incorporation of Blue Mountain electronic system for hardware management of GMP equipment, including calibrations, verifications, qualification determinations, and label generation
- Completed a total of 12 internal audits and 6 external audits on suppliers; all audited units completed corrections and passed re-inspections after being informed of deficiencies
- Organized a total of 750 GMP/GDP education and training sessions, with total training hours amounting to 14,797 hours
- Received a total of 208 customer complaints, none related to product safety, and achieved customer complaint rate of 0.12%
- PharmaEssentia hosted 32 global interdepartmental risk assessment team meetings for a total of 196 attendees to jointly review risk issues in factories

Targets

Short-Term Targets (1-2 Years):

- Obtain regulatory approval for second API production line at Taichung Plant and officially begin production of APIs that comply with the regulations of different countries
- Complete construction and validation processes of new Zhubei Plant and obtain GMP certifications from various countries
- Complete construction of Taipei Bioinnovation Park site and commence production of Phase 1 and Phase 2 clinical APIs
- Continue to maintain drug quality and zero recall record

Mid-Term Targets (3-5 Years):

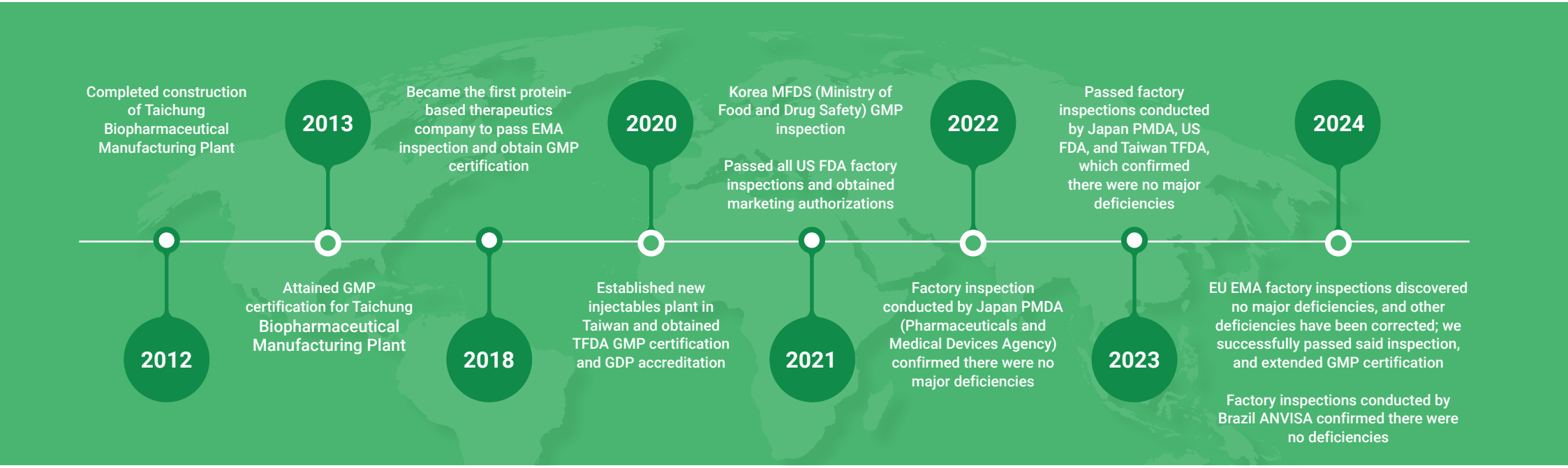
- Commence production of APIs that comply with the regulations of various countries at Zhubei Plant, and also begin production of GTP (Good Tissue Practice) cell therapies
- Support Houli Plant in passing international GMP inspections and commencing production of GMP-compliant PEG intermediates
- Continue to maintain drug quality and zero recall record

Long-Term Goals (More Than 5 Years):

- Establish production plants in Europe and the US to enable local production and make strides toward net zero targets
- Continue to maintain drug quality and zero recall record

PharmaEssentia Global Certification Landscape

We use practical actions to achieve vertical integration within our supply chain, gradually building our global market from production, quality control, filling, to delivery, actively demonstrating our vision to become a world-class pharmaceutical company.



International Standard Manufacturing Processes

PharmaEssentia's product Ropeg undergoes four critical stages in production: fermentation and cell processing, P1040 extraction and purification, PEGylation, and Ropeg DS purification. Sterile filling, labeling, and packaging processes all rigorously comply with GMP and international standards for quality management and standard operating procedures. In response to commercialization and mass production demands, we continue to enhance all production stages as well as overall production capacity, reduce supply chain risks, and improve supply stability.

Process Optimization

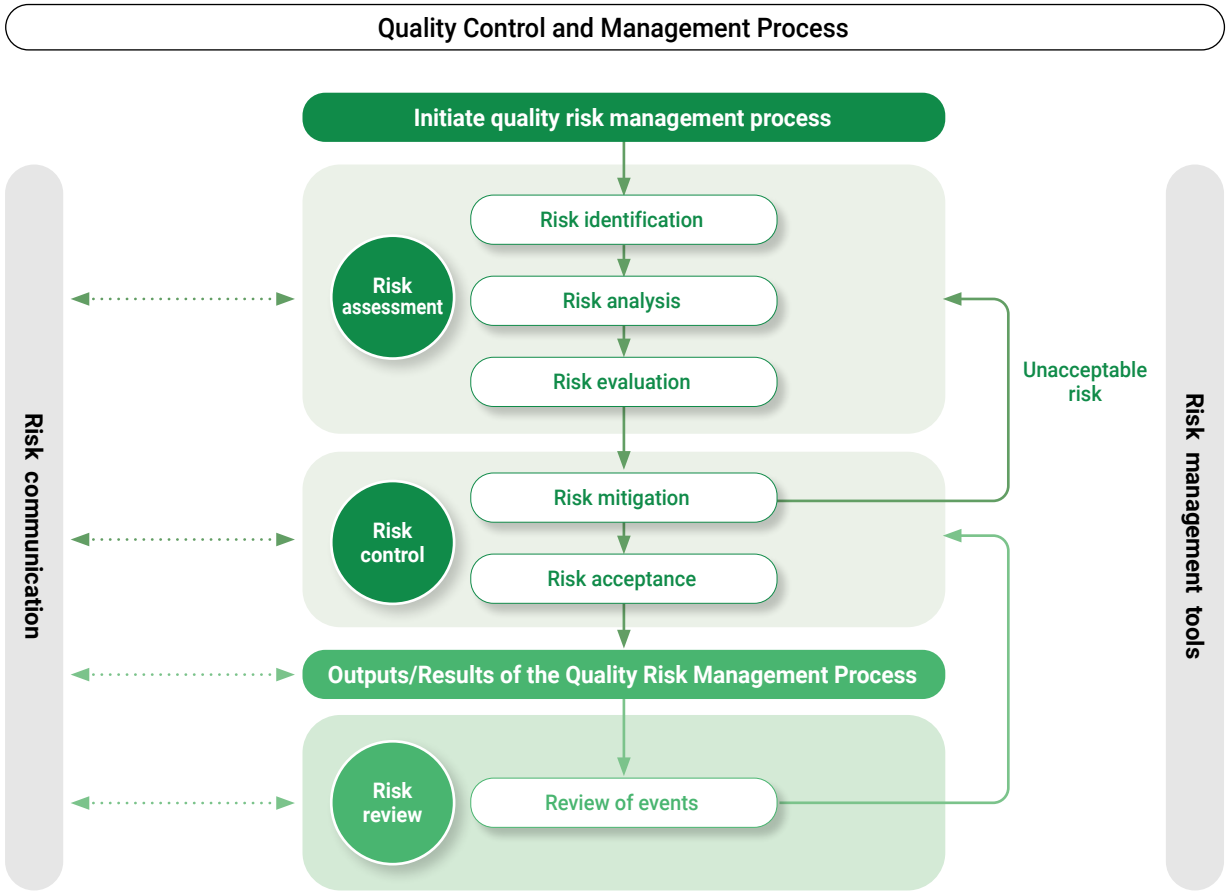
Enhancing Production Capacity

	Introduce second and third material sources	Establish second purification production line	Scale up PEG production line
Objective			
Goals and Results	To stabilize material supply, we completed 3 second-material source projects in 2024 and 3 more projects are in the testing phase. In response to major impacts on global supply chains caused by international situations, the pandemic, and extreme weather conditions, we introduced these projects to significantly reduce production risks and ensure stability of drug supplies.	Completed construction of second DS production line in 2024, increasing production capacity by 100%.	Completed scaling up of PEG production line in 2024, increasing production capacity by 4-8 times.

Quality Control and Risk Management in Manufacturing Processes

PharmaEssentia's Taichung Plant emphasizes product quality and safety management. Each year, our colleagues at the plant have to undergo education and training related to product safety and GMP regulations so they can update their knowledge and incorporate quality management concepts in daily tasks. The Taichung Plant has developed work procedures and organizational operational procedures for factories in different countries that produce GMP-compliant APIs and drug formulations, which are detailed below. In 2024, we continued to implement, monitor, and report trends associated with production environments (HVAC systems), water systems, compressed air systems, and biosafety cabinets, requiring all systems to comply with design specifications and legal regulations. The Taichung Plant has also formulated the "Plant and Facility Emergency Response Management Standard" to establish emergency response mechanisms for natural disasters, equipment abnormalities, and other emergency hazards, thereby ensuring that all equipment can operate normally and all personnel can work in safe environments.

The Ropeg product sold by our Japanese subsidiary is manufactured and produced at headquarters, where we ensure that production processes adhere to procedures that have been verified by the Japanese government. If there are any deviations during the manufacturing processes, the quality control department at our Japanese subsidiary will work with quality control personnel at headquarters to conduct appropriate assessments that guarantee product quality. Additionally, we also commissioned a Japanese testing agency to conduct relevant tests (such as product purity tests) on products imported from Taiwan and also outsourced product packaging to a Japanese pharmaceutical company to comply with Japanese regulatory requirements.



Education and Training	GMP/GDP regulations	**750** sessions and **14,797** hours
Established relevant work procedures for factories in many countries that produce GMP-compliant APIs and drug formulations	Quality manual, quality policies, master validation plans	**29**
	SOP guidelines	**100**
	Operational SOPs	**>900**
	Record forms	**>1,000**

GMP Certification and Quality Audits

PharmaEssentia's Taichung Plant is the first biologics manufacturer in Taiwan to pass EU EMA inspections and obtain GMP certification. Starting in 2020, we underwent a series of external inspections conducted by Korea MFDS, US FDA, Japan PMDA, and Brazil ANVISA. These inspections found no major deficiencies involving violations of GMP regulations or health & safety regulations, and we submitted CAPA plans within specified time limits for all non-major deficiencies. The Panco Healthcare Logistics Center conducted internal quality audits in 2023 and found no major deficiencies that deviated from our quality system.

Frequency of internal audits

- At least 1 internal audit each month (each department undergoes at least 1 random audit each year)
- If audits identify deficiencies, CAPA plans should be submitted within specified time limits based on deficiency levels, and related procedures should be completed

Frequency of external audits

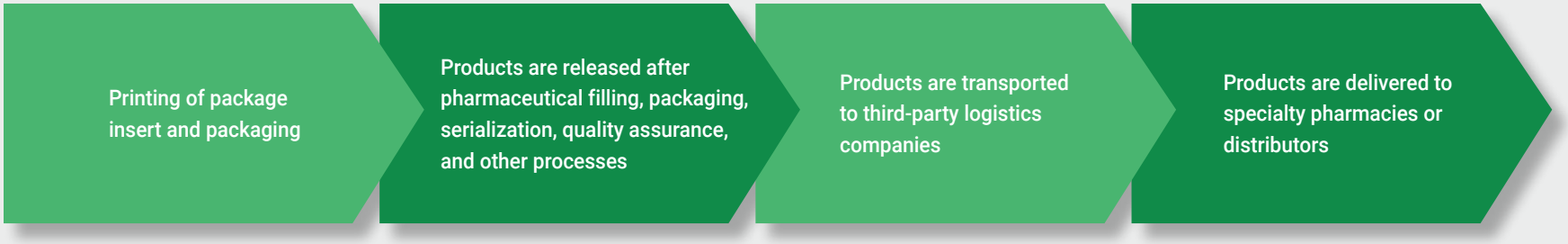
- Regular official GMP inspections every 2-3 years

CRO and CMO Management

In addition to filling and packaging operations conducted at our sterile formulation filling plant in Taichung, we also outsource filling and packaging processes to internationally GMP-certified CMO facilities in the US, Germany, and Japan to ensure proximity to local patients.

Secure Distribution Processes and Stable International Logistics & Transportation

Our secure distribution processes strictly adhere to GDP regulations and ensure proper management of pharmaceuticals throughout the transportation process. PharmaEssentia's GDP-compliant Panco Healthcare Logistics Center in Taichung supplies clinical drugs and marketed products, and also implements quality management regarding logistics management, warehousing management, and labeling processes.



PharmaEssentia has formulated the following strategies to maintain safe and stable international transportation:

1. "Storage and Distribution Policy" to regulate storage and distribution procedures that ensure appropriate storage conditions and management for raw materials, intermediates, and products
2. "Product Distribution Management Procedure," which stipulates that distribution procedures and tracking mechanisms at all operational sites around the globe must adhere to PIC/S Good Distribution Practice (GDP) requirements
3. "Import and Export Transportation Management Procedure" regulates import, export, and transportation procedures, and ensures regulation-compliant, fast, and safe delivery of all transported goods to designated destinations to effective safeguard patient medication safety
4. "Emergency Response and Handling Procedure" to prevent or mitigate negative impacts on distribution at Taichung Plant due to natural disasters
5. In 2024, we added a new air carrier to provide transportation services. PharmaEssentia verified transportation quality, ensured that appropriate temperatures were maintained during the transportation process, and confirmed there were no factors that could cause negative impacts on transported goods. This new transportation vendor helped to build another layer of transportation efficiency and additional protection for product transportation and logistics
6. We maintain at least 4 months of safety stock in the US in case of acute disaster risks within US borders caused by climate change to ensure that patients in the US can received their medications in a timely manner
7. Our Japanese subsidiary has formulated distribution procedures applicable for Japan and requires all Japanese logistics companies to comply with international and Japanese GDP regulations

Warehouse Management

PharmaEssentia has established the "Product Receipt and Storage Management Operation Standards" and "Storage and Distribution Policy" to prevent negative environmental and operational impacts on product quality. The Panco Logistics Center has established a "Storage Area Temperature Verification Plan" which stipulates that temperature verifications should be conducted twice every three years to ensure warehouse environment quality.

Product Entry and Storage Process

Storage Application	Physical Verification	Conformity Confirmation	Confirmation of Storage	Medicine Storage
Storage of products requires submission of a "Product Storage Application" to warehouse management personnel	Warehouse management personnel, along with quality assurance personnel, confirm and verify the physical product based on the information provided in the application	The product labeling, including product name, code, batch number, required temperature, quantity, and container information, must match the details on the application form	Ensure the product is properly sealed and packaged. Once the storage conditions are met, the product is stored accordingly	During the storage period, the storage environment is monitored to ensure optimal conditions for medicine storage

Quality Control in Shipping and Transportation

PharmaEssentia has established the "Product Shipping Operations Standards" to ensure that distribution processes for products manufactured at the Taichung Plant and by CMOs, as well as packaging and transportation processes at storage warehouses, are appropriately managed and all pharmaceuticals are transported under prescribed and suitable temperature conditions to uphold global drug transportation safety.

Packaging operations

- Confirm that transportation boxes are clean and temperatures meet appropriate product storage conditions; a temperature recorder is placed in each box to monitor temperatures.
- Ropeg, for example, must be stored between 2~8°C

Transportation process

- Comply with the "Storage and Distribution Policy" in executing appropriate storage and distribution procedures
- Conduct scenario simulations for pre-analysis to confirm that cooling statuses and equipment specifications meet specification needs
- Regularly check raw materials, intermediates, and products to ensure that they are stored and managed appropriately

3.3 Drug Safety Management and Marketing Ethics GRI 3-3

Material Topics

Business Integrity and Ethical Management

Description of Impacts

- Governments of all countries have established regulations on drug marketing. For example, the TFDA Pharmaceutical Affairs Act and Pharmaceutical Affairs Act Enforcement Rules have stipulations on drug advertising, and the US FDA has also established many Advertising and Promotion Guidances
- The WHO and other pharmaceutical NGOs in different countries, such as the International Research-Based Pharmaceutical Manufacturers Association (IRPMA), Pharmaceutical Research and Manufacturers of America (PhRMA), and National Council for Prescription Drug Programs (NCPDP) have also established relevant regulations

Policies and Commitments

PharmaEssentia prioritizes patient health and well-being, incorporates ethical management principles and medical ethics when marketing authorized drugs, and provides patients with professional and trustworthy products. In terms of drug safety management, we diligently track and report adverse drug events, and teach our colleagues to uphold "Quality First and Patient Safety" concepts to manage drug risks and protect patient safety. In terms of marketing ethics, we regulate the drug marketing behaviors of our colleagues, organize annual internal promotions of drug marketing ethics policies for employees who have business interactions with HCPs, and review processes for marketing promotions and business activities to avoid legal violations.

Responsible Unit

Drug Safety Management:

- Patients: The Product Safety & Risk Management (PSRM) Team (composed of pharmacovigilance personnel from PharmaEssentia headquarters and international subsidiaries) and pharmacovigilance quality assurance personnel; patient safety is managed by the global pharmacovigilance executive director, and is overseen by the chief medical officer
- Products: Quality control department, quality assurance department, clinical trial quality assurance, and pharmacovigilance teams at headquarters monitor the quality of marketed and clinical drugs
- Executive Center for Corporate Sustainability Product Ethics and Safety Team: Responsible for compiling and managing material sustainability issues

Marketing ethics:

- Marketing departments and medical affairs teams at Taiwan headquarters and all subsidiaries
- US MLR (Medical, Legal, and Regulatory) Affairs Review Committee: Conducts medical, legal, and regulatory reviews to ensure the appropriateness and regulatory compliance of advertising and promotion content
- Executive Center for Corporate Sustainability Product Ethics and Safety Team and Access to Medicine Team: Responsible for compiling and managing material sustainability issues

Response Measures and Management Actions

Drug Safety Management:

- In 2022, we hired a global pharmacovigilance executive director to conduct global pharmacovigilance tasks
- Dedicated pharmacovigilance personnel have been established at our headquarters and operational sites around the world
- Commissioned a pharmacovigilance CRO institute to form a project team responsible for managing the Ropeg pharmaceutical safety database and assisting with pharmacovigilance, reporting, handling, exchanges, and regular submission of safety reports to international regulatory authorities, as well as other notification matters

Marketing ethics:

- Related teams regularly conduct internal inspections to ensure effective execution

Evaluation Mechanisms

(Channels and Systems for Tracking Effectiveness of Response Measures and Management Actions)

Drug safety management:

- Post-marketing pharmacovigilance: Issue timely reports and maintain normal operations of real-time reporting mechanisms in accordance with the regulations set by competent authorities in each country
- Regular safety reports: Regularly submit DSURs and PSURs to the competent authorities in each country
- Internal audits: Conducted by the quality assurance department or a commissioned independent third party
- External inspections: Conducted by international and domestic drug safety authorities
- Assess operational status of real-time reporting mechanisms
- Assess operational status of drug safety reporting hotline (Taiwan, US, Korea, and Japan)
- No recalls for defective products

Marketing ethics:

- Marketing personnel regularly revise promotion content and submit said content to the MLR Committee for review

Targets in 2024

Drug safety management targets:

- Implement pharmacovigilance plans in accordance with regulatory requirements and report drug safety information within time periods specified by regulations
- Complete PSURs for marketed drugs in accordance with regulations
- Conduct regular pharmacovigilance education and training

Marketing ethics targets:

- Zero violation incidents
- Recruit medical and legal personnel with digital and extensive experience to join the US MLR Committee to reduce violation risks

Achievements in 2024

Drug safety management achievements:

- Drug safety management achievements:
- PharmaEssentia headquarters and all subsidiaries 100% achieved reporting of drug safety information within time periods stipulated by regulations
- In terms of post-marketing safety, a total of 132 serious adverse events were reported from February 2023 to February 2024, and there were no incidents that violated health and safety regulations for products and services
- Completed and submitted sixth Ropeg Development Safety Update Report (DSUR), fifth Ropeg Periodic Safety Update Report (PSUR), and second Tirbanibulin PSUR in accordance with regulations
- Completed 4 quarterly safety signal monitoring reports
- Established 8 pharmacovigilance process quality SOPs and 1 pharmacovigilance SOP
- Revised 8 pharmacovigilance SOPs and 1 pharmacovigilance plan
- In 2024, employees at PharmaEssentia headquarters completed annual pharmacovigilance education and training, and passed related assessments. New employees were required to complete employee pharmacovigilance education and training within one month of reporting for work, and we achieved a training completion rate of 100%

Marketing ethics achievements:

- PharmaEssentia headquarters and all subsidiaries around the world compiled with drug marketing ethics in 2024, and there were no violations of marketing or communication related regulations

Targets

Short-Term Targets (1-2 Years):

- Continue to maintain pharmacovigilance management
- Incorporate pharmacovigilance training into LMS system to effectively track employee training completion rates

Mid-Term Targets (3-5 Years):

- Maintain record of zero product recalls due to drug safety incidents
- Continue to pass pharmacovigilance inspections

Long-Term Goals (More Than 5 Years):

- Maintain 100% drug safety compliance to ensure patient safety

Pharmaceutical Risk Management Plan

PharmaEssentia implements drug safety risk standard operating procedures formulated by collaborating CROs and has established "Drug Risk Management Plans" in accordance with the pharmacovigilance regulations of each country. Our headquarters established pharmacovigilance plans in accordance with the "Regulations for Pharmacovigilance Management" in Taiwan, and completed amendments in 2024 to include pharmacovigilance organizational charts, operational processes and responsibilities at each stage, pharmacovigilance quality systems, pharmacovigilance personnel education and training processes, pharmacovigilance document management, and addition of document numbers, formats, effective dates, and other information in accordance with our pharmacovigilance quality documentation SOP. Our subsidiaries in the US, Japan, and other locations have also established "Drug Risk Management Plans" in accordance with local regulatory requirements. Regulations require collection of post-marketing clinical data to determine whether long-term use by patients result in chronic side effects, and also to serve as a basis for "Drug Risk-Benefit Assessments." Even though we have not yet been required by regulatory authorities to submit drug risk management plans, we still commit to collecting safety data in countries where our drugs have been authorized, and regularly update our safety reports and assess Ropeg risks.

Pharmacovigilance Management

Our Pharmacovigilance Team was established under the Medical Research Department and works in coordination with relevant units to carry out their duties according to our "Pharmacovigilance Policy," "Drug Safety Functions and Training Standard Operating Procedures," "Post-Marketing Safety Data Collection Standard Operating Procedures," as well as Taiwan's "Regulations for Reporting Serious Adverse Reactions of Medicaments" and "Regulations for the Management of Drug Safety Surveillance." We also commission professional CROs to conduct pharmacovigilance tasks. Our pharmacovigilance procedures include both passive monitoring and active monitoring:

Passive monitoring

We are legally required to submit PSURs and collect spontaneous safety case reports from healthcare professionals and the public. Safety information is registered in the safety database system for further processing. In 2024, PharmaEssentia headquarters submitted the fifth Ropeg PSUR to the TFDA and our Japanese subsidiary submitted the second and third PSURs to PMDA. All adverse events were reported in a timely and accurate manner, and there were no delayed reports or violations of product health and safety regulations or voluntary codes. Our reports found no new safety information that affects Ropeg safety. Additionally, we obtained marketing authorization for Tirbanibulin (a drug licensed to PharmaEssentia by US pharmaceutical company Athenex) in 2022 and are required to submit annual PSURs until 2028.

Active monitoring

We proactively implement safety signal detection, conduct monitoring and literature reviews of medical warnings and safety signals issued by medically advanced countries, and also actively gather information through clinical trial programs (registration trials/IITs) and patient support programs (PSP).

PharmaEssentia headquarters and all subsidiaries and regional heads convene regular meetings with CROs to ensure that collection and reporting of global drug safety information is thoroughly implemented. In 2024, we conducted a total of 12 meetings to track and manage pharmacovigilance mechanisms.

Pharmacovigilance Reporting Education & Training and Reporting Program

Taiwan's pharmacovigilance regulations require CROs to formulate and implement drug safety management and regulatory authority reporting plans, organize regular employee pharmacovigilance education and training, and preserve all training records.

Course Title	Course Content	Number of Participants	Sessions	Total Training Hours
New employee pharmacovigilance training	Pharmacovigilance regulations and reporting procedures	36	New employees are required to complete the course and assessments on the IT Portal within one month of commencing work	30
Company-wide pharmacovigilance training	Pharmacovigilance regulations and reporting procedures	327 (including Panco employees)	1	272.5
CMO pharmacovigilance training	Pharmacovigilance regulations and reporting procedures	11	2	9.2

All employees at our Japanese subsidiary are required to undergo 1 safety training session each year encompassing definitions of adverse events and side effects, procedures for reporting safety information, and safety management systems. Our sales department undergoes annual training in accordance with our SOP. Local safety information is collected and submitted to the safety department for formulation of supporting measures, including collection methods for safety information, reporting procedures, and penalties for delayed reports. Employees who serve as heads of safety departments or supervisors of marketing authorization holders are required to participate in lectures and learning groups organized by pharmaceutical industry associations to enhance their knowledge and stay up to date with the latest regulatory developments.

US Pharmacovigilance Reporting Education and Training

PharmaEssentia US conducts education and training for new employees associated with collection of post-marketing safety data and reporting of severe adverse drug reactions; if amendments are made to related regulations or operating standards, training is also carried out for amended content. Additionally, we are planning to conduct annual advanced courses for reporting severe adverse drug reactions in the second half of 2025 for continued strengthening of professional pharmacovigilance knowledge.

Drug Safety Reporting Mechanism

Taiwan

Severe adverse reactions that occur during general usage conditions for marketed drugs can be reported through the following channels:

- Medical personnel and members of the public can register for an account on the TFDA online reporting system (https://adr.fda.gov.tw) and fill out the "Post-Marketing Adverse Drug Reaction Reporting Form" or send an email to adr@tdrf.org.tw
- Pharmaceutical companies can select, fill out, and submit the "Post-Marketing Adverse Drug Reaction Reporting Form" on the online reporting system
- After receiving relevant reports, PharmaEssentia will submit reports via the online reporting system (https://adr.fda.gov.tw) or email (adr@tdrf.org.tw) in accordance with the "Post-Marketing Adverse Drug Reaction Reporting Form Guidelines
- In 2024, none of our drugs in Taiwan were recalled due to adverse events

US

- Our US subsidiary is assisted by qualified third-party logistics vendors which adhere to the Drug Supply Chain Security Act (DSCSA) and drug tracking regulations, and who submit transaction histories (TH), transaction information (TI), and transaction spreadsheets (TS) for review
- We have established the PEC US Call Center reporting management center exclusively for the US market. The Center is managed by the medical affairs team at our US subsidiary, and is responsible for handling reports and information related to drug quality and safety needs. In terms of production traceability mechanisms, we completed drug serialization procedures in 2020, and none of our drugs were recalled due to adverse events in 2024

Japan

- Medical reps collect information on drug hazards and side effects when meeting with doctors and pharmacists, and report these to the safety management department through the hazardous event reporting system
- The medical information and patient support program departments are responsible for handling calls from doctors, pharmacists, and patients reporting adverse drug reactions or drug hazards, and reports these to the safety management department through the hazardous event reporting system
- After receiving reports of severe or unreported adverse events, we confirm relevant potential risks, and, if necessary, conduct detailed investigations on report providers, and submit reports via email or the online reporting system within specified time limits
- Since Ropeg was launched in Japan (including in 2024), there have been no recalls of our drugs sold in Japan or overseas

The TFDA "Regulations for Reporting Serious Adverse Reactions of Medicaments" requires reporting of adverse drug reactions and collection of safety data within specified time limits. A total of 132 adverse reactions were reported worldwide for PharmaEssentia drugs from February 2023 to February 2024, and there were no violations of health and safety regulations for products and services. We pledge to continue compliance with the "Regulations for Reporting Serious Adverse Reactions of Medicaments" and track drug safety conditions in a timely manner to reduce potential risks to patients as we fulfill our drug safety and management responsibilities.

Product Traceability Mechanisms

SASB HC-BP-260a.1

PharmaEssentia has established a global product traceability mechanism and incorporated drug serialization. We regulate packaging and serialization processes at our Taichung injectables plant and CMOs to achieve our goal of full traceability for all individual product flows and usage records. Drug serialization has also been fully implemented for Ropeg sold in the US, Taiwan, Korea, and China, and a qualified injectables facility packages and serializes drugs in accordance with the Drug Supply Chain Security Act (DSCSA) to maintain drug quality and safety.

Product Recall Mechanisms

SASB HC-BP-260a.2 GRI 416-2

PharmaEssentia's "Return and Recall Procedures" clearly stipulates the use of a product traceability system to complete drug recall mechanisms, which allows for rapid and effective drug recalls if product quality concerns emerge, providing an additional safety mechanism for patients when using medications. Recall simulation drills are conducted every year to ensure accuracy and familiarity with recall actions. None of our drugs were recalled in 2024 due to adverse events.

Initiation time

When learning that a product has known or possible manufacturing defects, spoilage, counterfeits, or any other serious quality issues.

Recall procedures

The quality assurance department initiates product recall procedures in accordance with our "Return and Recall Procedures," submits the "Recall Operational Plan Application Form," and proposes recall actions.

Proactive reporting

Remove products from usage channels within certain time limits based on drug hazard levels, appropriately handle recalled products, and simultaneously notify local competent authorities.

Product Marketing Ethics

PharmaEssentia product marketing ethics adhere to the following 7 principles:

1. Prioritize patient medical care and well-being
2. Meet high quality, safety, and efficacy standards required by regulatory authorities
3. When interacting with related units or personnel, all behaviors should be ethical, appropriate, and professional. Provision or supply of any materials or labor that directly or indirectly result in negative impacts are prohibited
4. Be responsible for providing accurate, balanced, and scientifically valid product information
5. Product marketing activities should be ethical, accurate, and balanced, and should not be misleading. Product marketing information should include accurate product risks, risk-benefit assessments, and appropriate usage methods
6. Respect patient privacy and personal information
7. Sponsor/support clinical trials and scientific research aimed at pursuing new knowledge to enhance patient interests, promote advances in medical technologies, and maintain transparency of human clinical trials sponsored by the industry

Product Labeling

SASB HC-BP-270a.2

PharmaEssentia's product labels all comply with the regulatory requirements of each country. Label information includes permit number, Chinese name of drug, product lot number, prescribing information, batch number, validity period, and manufacturer/importer information. No incidents involving violations of product and service information and labeling regulations or voluntary codes occurred at PharmaEssentia in 2024.

To ensure the inviolability and authenticity of our products, we implement special packaging and labels for our serialized products:	• A unique identifier is applied to each package • Each package is marked with a holographic seal and assigned a unique and traceable serial number to prevent counterfeiting

Previous toxicology studies found that fetal toxicity occurred in cynomolgus monkeys treated with Ropeg during experiments. As a result, our US subsidiary updated Section 8.1 of the United States Prescribing Information (USPI) for Ropeg and the Instructions for Use (IFU) submitted to the US FDA to include clinical research data related to pregnancy and fetal development, and discussed possible adverse drug effects on maternal and fetal outcomes to ensure that HCPs and the public clearly understood the product's safety information.

04
Sustainable Environment

Achievement Highlights

71% Environmental investment growth rate in 2024

43% Reduction in greenhouse gas emission intensity

32% Reduction in energy consumption intensity

−78.07 tCO_2e in emissions

Invested in energy-saving machinery and equipment, including replacing air compressors and introducing energy-saving water chillers, reducing energy usage by 158,000 kWh from 2023-2024

+46.8%

Taichung Plant recycled 9.72 million liters of water in 2024

ISO 14064-1

Taipei Headquarters and Taichung Plant completed ISO 14064-1 verifications for 2023

ISO 14001

Taichung Plant completed ISO 14001 verifications

TCFD

Continued to promote TCFD climate-related financial disclosures

PharmaEssentia pledges to minimize negative environmental impacts during product production processes and life cycle stages. We established environmental health and safety policies as well as environmental management indicators that include future targets for waste intensity, energy intensity, and greenhouse gas emissions intensity; incorporated the Task Force on Climate-Related Financial Disclosures (TCFD) framework to identify material climate risks & opportunities and formulate response measures; and regularly track progress on indicators and response measures.

4.1 Environmental Impact and Management in Production Process

Material Topics

PharmaEssentia MATERIALITY

Evaluation of Environmental Impacts from Drug Production Processes

Description of Impacts

PharmaEssentia is a research-oriented biopharmaceutical company with R&D and manufacturing based in Taiwan as well as sales locations spread across Europe, the US, Japan, Singapore, China, and Korea. We work with local suppliers in all authorized markets on drug packaging, warehousing, distribution, and other components, and use various management systems to reduce negative environmental impacts from product R&D, production, and transportation processes.

Policies and Commitments

PharmaEssentia promulgated the Environmental Health and Safety Policy in 2018 to ensure employee health and safety, protect the environment, and prevent disasters. Environmental management is implemented through greenhouse gas management procedures, waste management procedures, chemical hazard management procedures, and other procedural documents. Additionally, our Taichung Plant has incorporated the ISO 14001 Environmental Management System to mitigate environmental impacts, enhance environmental management efficiency, and reduce negative environmental impacts from production and operational processes.

Responsible Unit

Taipei Headquarters: Occupational health and safety promotion team

Taichung Plant: Greenhouse gas inventory promotion team (GHG promotion team)

Material sustainability issues: Compiled and managed by the Executive Center for Corporate Sustainability Environmentally Friendly Team

Response Measures and Management Actions

- PharmaEssentia invested NT$9.39 million in environmental costs in 2024
- Education and training: As of 2024, a total of 27 employees have obtained ISO 14064-1 internal auditor certification
- TCFD/greenhouse gas inventory training hours: A total of 101 persons received 202 hours of training
- General personnel response training for toxic and chemical substances of concern: 16 people obtained certification, including 9 employees from our Taichung Plant and 7 employees from our Taipei Headquarters
- Appointed dedicated personnel to participate in regulatory training, policy promotion, and professional environmental lectures hosted by competent authorities
- Hosted response personnel rescue and protection equipment training and annual disaster rescue and response training to enhance personnel disaster response capabilities
- Continued to control air pollutant emissions and ensure zero leakages
- Increased waste reuse rates (including recycling statistics for waste foam, waste glass, and waste plastic materials) to reduce waste incineration volumes and achieve circular economy concepts

Evaluation Mechanisms

(Channels and Systems for Tracking Effectiveness of Response Measures and Management Actions)

- Short, medium, and long term management indicators: Waste intensity, energy intensity, and greenhouse gas emissions intensity
- Internal audits:
  - Non-periodic audits of waste treatment vendors
  - Periodic inspections of internal waste storage areas
- Periodic assessments of unit waste generation intensity
- External audits: Inspect legality of routine items in accordance with regulations established by environmental authorities
- Quarterly on-site promotion meetings with Taichung City Department of Environmental Protection and Central Taiwan Science Park Administration, as well as engagement through communication meetings

Material Topics

- Evaluation of Environmental Impacts from Drug Production Processes

Main Stakeholders

- Shareholders and Investors
- Media
- NPOs/NGOs

Environmental Management Indicators and Investments

Targets and Achievements in 2024

- Waste intensity (ton/million TWD): 0.32%, a reduction of 51% compared to 2023
- Energy intensity (GJ/million TWD): 4.78, a reduction of 32% compared to 2023
- Greenhouse gas emission intensity (tCO_2e/million TWD): 0.5, a reduction of 43% compared to 2023
- Completed quarterly inspections of waste storage areas in 2024
- Waste recycling and reuse volumes in 2024 were increased by 10.28% compared to 2023
- Waste management: Zero pollution incidents
- Pollution prevention assessments: Zero pollution incidents
- Participated in 49.5 hours of external training (including promotion meetings) hosted by Taichung City Department of Environmental Protection and Central Taiwan Science Park Administration in 2024
- No major environmental violation incidents

Targets

Short-Term Targets (1-2 Years):

- Complete PharmaEssentia Zhubei Plant in 2025 and apply for green building certification
- Lower waste intensity (ton/million TWD) to less than 0.01
- Increase ratio of waste recycling and reuse volumes to overall waste volumes to reduce waste incineration/landfill volumes

Mid-Term Targets (3-5 Years):

- Continue to maintain and increase waste transferred to solid recovered fuel (SRF) vendors for reuse
- Incorporate ISO 14001 at Taipei Headquarters in 2027

Long-Term Goals (More Than 5 Years):

- Complete Houli Plant and provide smart pharmaceutical manufacturing and warehousing services to Taoyuan Aerotropolis
- Incorporate green building concepts into new plans during the planning and designing stages, and aim to obtain green building certification

PharmaEssentia established environmental management indicators in response to potential environmental impacts from production processes, and regularly invests in pollution control and waste treatment processes. We continue to track progress, respond to government environmental regulatory requirements and external audit requirements, and optimize management actions. Our Taichung Plant incorporated the ISO 14001:2015 Environmental Management System in 2024 and formed a promotion team composed of members from related units. The team is responsible for executing management system processes, undergoing education and training, carrying out risk assessments, and adopting response measures. A third-party verification statement was obtained from SGS in December 2024. In terms of greenhouse gas management, our Taichung Plant and Taipei Headquarters have both incorporated the ISO 14064-1:2018 Greenhouse Gas Inventory Management System. We completed external verifications for 2023 greenhouse gas inventories at year-end 2024 and have obtained a third-party verification statement. Greenhouse gas inventories for 2024 are currently ongoing. PharmaEssentia has formulated short, medium, and long term management targets for greenhouse gases, energy, and waste, and has adopted measures to enhance energy and waste handling efficiency in response to global market and production capacity demands, and to reduce environmental burdens from production processes.

Taichung Plant obtained ISO 14001 Environmental Management System SGS verification statement in 2024

Taipei Headquarters and Taichung Plant obtained ISO 14064-1 third-party verifications for 2023 greenhouse gas inventories

PharmaEssentia Environmental Management Indicators

Management Items	Management Indicators	Unit	Target for 2024	Achievements in 2024	Short-term target (1 year)	Medium & long-term target (3-5 years)
Greenhouse gas inventory and energy consumption	Energy intensity	GJ/million TWD	≦ 5	4.78	≦ 5	≦ 5
	Greenhouse gas emissions intensity	tCO_2e/million TWD	<1	0.5	<1	<1
Waste management	Waste intensity	ton/million TWD	<0.01	0.003	<0.01	<0.01

In terms of waste management and air pollution management, PharmaEssentia invested NT$9.39 million in environmental costs (including pollution prevention equipment, biopharmaceutical waste treatment, management activities, and pollution prevention) in 2024, an increase of 71% compared to the previous year; NT$6.23 million was used on PEG air pollution prevention process equipment, which reduced emissions of air pollutants. In terms of water resource protection, our Taichung Plant regularly applies for water pollution prevention permits; production, operations, and reports are completed in accordance with these permits, and regular sample test report results all adhered to standard limits.

PharmaEssentia continues to implement routine inspections and deficiency corrections in accordance with environmental regulations set by competent authorities. Our main environmental deficiencies in 2024 included failure to conduct daily boiler inspections, detached labels on waste facility pipelines, failure to label waste items and waste areas; all deficiencies have since been corrected. PharmaEssentia regularly attends on-site promotion meetings with Taichung City Department of Environmental Protection and Central Taiwan Science Park Administration to implement management measures and reduce negative environmental impacts.

PharmaEssentia Environmental Investments in 2024

(Unit: TWD)

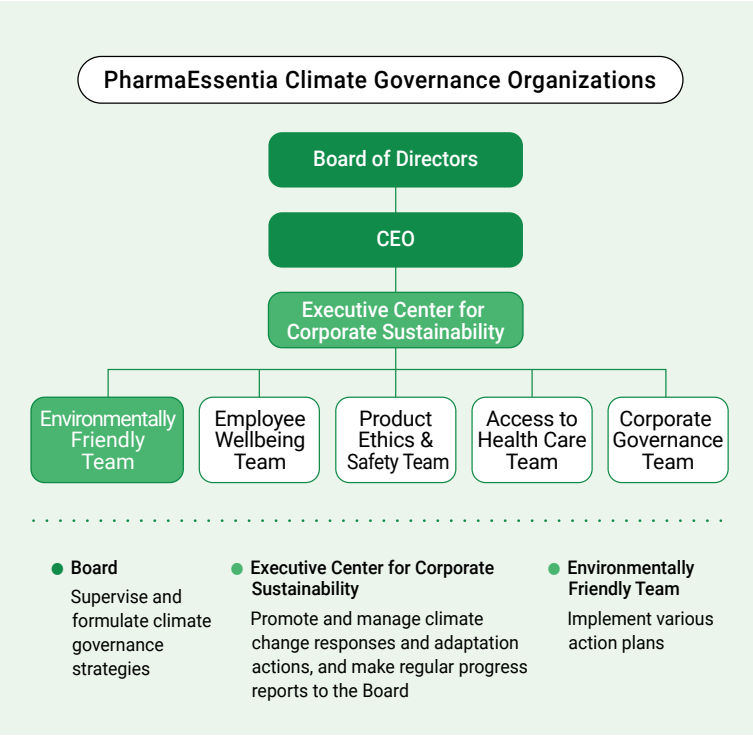
Indicator	Expenditures	Ratio
Pollution prevention equipment and costs	6,382,478	67.98%
Waste treatment costs	2,065,245	22.00%
Management activity costs	940,400	10.02%
Total	9,388,123	100.00%

4.2 Climate and Nature Actions

Enterprises are facing severe challenges due to impacts from global climate change, and the risks and challenges caused by climate change are significantly impacting corporate value chains. The Financial Stability Board (FSB) proposed the Task Force on Climate-Related Financial Disclosures (TCFD) in 2017, providing a set of guidelines to help enterprises identify climate-related risks and opportunities. PharmaEssentia adopted the TCFD guidelines for the first time in 2022 to identify climate-related risks and opportunities, and also used these guidelines in 2023 to further assess potential financial impacts caused by climate-related risks and opportunities under different scenarios. We conducted ISO 14064-1:2018 organizational greenhouse gas inventories to respond and adapt to climate change from a carbon management perspective. PharmaEssentia climate actions and implementations associated with the four aspects of climate governance, strategy, risk management, and metrics and targets according to TCFD guidelines are detailed below. In 2024, PharmaEssentia determined that there were no major changes to internal operations and external environments. We therefore continued to use the climate-related risks and opportunities identified in 2023, and updated related indicators and targets using results achieved in 2024. We plan to re-identify climate-related risks and opportunities in 2025.

Governance: Supervision and Management of Climate Issues by the Board of Directors and Senior Executives

The Board of Directors is the highest climate governance unit at PharmaEssentia, and is responsible for supervising and formulating strategies associated with climate change from a sustainable development perspective, as well as responding to domestic and foreign net zero initiatives. The Board has authorized the Executive Center for Corporate Sustainability and the Environmentally Friendly Team to promote climate change management actions. Executive units include the environmental safety department and related responsible units such as the R&D, production, logistics, warehousing, and engineering departments, which all implement different tasks. The environmental safety department convenes biweekly meetings/factory meetings each month and reports project progress to senior managers. The Executive Center for Corporate Sustainability presents ESG project progress reports to the Board every quarter.



Strategy: PharmaEssentia Global Climate Strategies

To assess impacts on organizational operations from short, medium, and long term climate-related risks and opportunities, PharmaEssentia and external consultants conducted manager interviews, surveys, and discussions with managers from related departments to identify climate-related risks and opportunities, and also conducted discussions with responsible departments to actively formulate solutions.

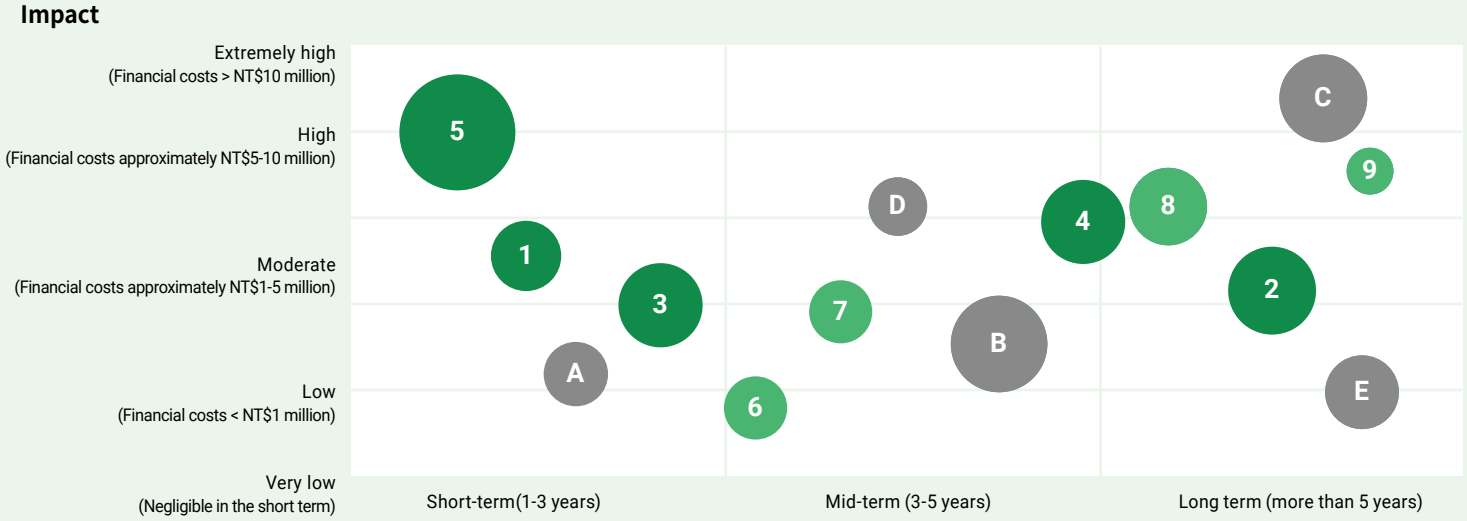
Physical Risks

We assessed climate change impacts to our main operational sites and determined that the probability of operational interruptions from severe climate impacts was low to extremely low, as we already considered flood and drought risks when constructing factories at our production sites. We plan to closely track impacts to operational activities from climate-related risks and adjust inventory levels accordingly.

Transition Risks

Taiwan has already established laws incorporating 2050 net zero emissions targets, so strengthened carbon emission reporting obligations and carbon fee levies are highly probable short-term risks. PharmaEssentia has already prepared for these risks and completed greenhouse gas inventories and verifications in advance of Financial Supervisory Commission requirements. Our Taichung Plant incorporated the ISO 14001 Environmental Management System in 2024 and our Taipei Headquarters plans to incorporate this management system in 2027 to strengthen environmental and energy management.

Short, Medium, and Long Term Climate Risks and Opportunities Matrix



Transition Risks

1. Greenhouse gas management and carbon fee levies
2. Legally required renewable energy usage proportions
3. Legally required net zero carbon emission targets
4. Uncertainties in new energy and carbon reduction technologies
5. Raw material shortage pressures

Physical Risks

6. Floods caused by extreme climate
7. Droughts caused by extreme climate
8. Rising temperatures
9. Rising sea levels

Climate-Related Market Opportunities

A. Carbon reduction benefits from resource efficiency enhancements
B. Emerging business models under low-carbon and energy conservation trends
C. Market opportunities generated by solutions to diseases caused by climate change
D. High-efficiency buildings
E. Investment in renewable energies or participation in carbon trading markets

Note: Financial costs were estimated using current data based on price levels for 2023. Evaluation results may differ under other background conditions.
Circle sizes represent financial cost volumes

PharmaEssentia's climate risk management strategy is focused on management and adaptation of relatively significant climate risks over the short term (1-3 years), using management actions to reduce medium to long-term risk impacts, and formulating possibilities for climate opportunities.

PharmaEssentia's identified short-term climate risks include "raw material shortage pressures," "greenhouse gas management and carbon fee levies," and necessary preparations for "legally required net zero carbon emission targets." We therefore prioritized management of these three risks. Medium and long-term climate risks include "legally required renewable energy usage proportions" and "uncertainties in new energy and carbon reduction technologies"; we plan to observe conditions associated with these risks which are likely to occur in the medium to long term, and confirm whether immediate management is required for these risks when conducting assessments next year. In terms of climate opportunities, our Taichung Plant identified "carbon reduction benefits from resource efficiency enhancements" as a climate opportunity. We are also planning to upgrade our current energy-saving equipment and use energy-saving equipment at our new factories.

Scenario Simulation Analysis

We assessed impacts from climate-related risks and opportunities under different scenarios, as well as possible response measures. We considered three of the Intergovernmental Panel on Climate Change (IPCC) RCP (Representative Concentration Pathway) scenarios (RCP 2.6, RCP 4.5, and RCP 8.5), and estimated impacts on PharmaEssentia's main factories based on current climate data for Taiwan under different RCP scenarios.

- **RCP 2.6** is a mitigation scenario with extremely low radiative forcing, and represents a pathway where global warming is maintained at below 2°C above pre-industrial levels
- **RCP 4.5** is a moderate and stabilized scenario
- **RCP 8.5** is a scenario with high greenhouse gas emissions, and represents a pathway where all governments do not implement any greenhouse gas reduction measures

RCP 2.6

Taiwan (Taichung Plant)

Average Temperature Increase, 2031-2050	Average rainfall volumes, 2031-2050
0.3~2.1℃	-5.3~12%

Situation:
Rising temperatures may increase the temperatures of factories and surrounding areas, and extreme climates may increase the probabilities of drought or heavy rainfall, but level and scope of impact are relatively low under this temperature controlled scenario.

Responses:

- **PharmaEssentia:** Our factories are currently located in science parks, so risks are low
- **Supply chain:** Warn against possible supply delays due to natural disasters and establish second/third backup sources

RCP 4.5

Taiwan (Taichung Plant)

Average Temperature Increase, 2031-2050	Average rainfall volumes, 2031-2050
0.7~2.4℃	-4.7~13.6%

Situation:
Rising temperatures may increase the temperatures of factories and surrounding areas, lowering production efficiency. Extreme climates may lead to droughts or floods from heavy rainfall.

Responses:

- **PharmaEssentia:** Our factories are currently located in science parks, so risks are low
- **Supply chain:** Warn against possible supply delays due to natural disasters and establish second/third backup sources

RCP 8.5

Taiwan (Taichung Plant)

Average Temperature Increase, 2031-2050	Average rainfall volumes, 2031-2050
1.0~3.1℃	-7.7~13%

Situation:
Extreme temperature increases and changes in annual average rainfall volumes will intensify impacts from extreme climate. Factories may encounter blackouts or be unable to operate due to droughts or floods, and therefore require additional costs for improvements.

Responses:

- **PharmaEssentia:** Apart from strengthening PharmaEssentia disaster prevention capabilities to meet extreme climate conditions, we also plan to conduct supply chain and transportation route disaster prevention drills and strengthen business continuity plans
- **Supply chain:** Warn against possible supply delays due to natural disasters, establish second/third backup sources, change materials, or rebuild supply chains

Source: Taiwan Climate Change Projection Information and Adoption Knowledge Platform (TCCIP)

Transition Risk Scenarios

In terms of transition risks, PharmaEssentia assessed transition risk scenarios using the Shared Socioeconomic Pathways (SSPs) methodologies proposed by the IPCC Sixth Assessment Report (AR6).

	Low-Risk Scenario →	Moderate-Risk Scenario →	High-Risk Scenario
Scenario description	SSP1-1.9 pathway Orderly global transition to achieve net zero by 2050	SSP1-2.6 pathway Delayed global transition toward Paris Agreement <2°C target	SSP4-6.0 pathway No new carbon reduction actions and all countries maintain current policies
Temperature increase by century's end	1.4°C	1.6°C	>3°C
Transition risks	Gradual implementation of climate policies starting from 2021	Rapid implementation of climate policies starting from 2031	Maintain status quo with no new policies
Impacts to PharmaEssentia	Our headquarters are located in Taiwan, where the government has already legislated 2050 net zero targets, so we plan to implement phased carbon reduction targets in accordance with national targets. We have already completed ISO 14064-1:2018 organizational greenhouse gas inventories and plan to formulate carbon reduction plans based on inventory results.	PharmaEssentia will monitor implementation by all operational sites based on local market conditions.	PharmaEssentia will monitor implementation by all operational sites based on local market conditions.

Analysis of Financial Impacts from Climate Change

After considering organizational and operational impacts from the aforementioned climate-related risks and opportunities, PharmaEssentia actively formulated related responses and adaptation actions to enhance climate resilience. We continued to conduct ISO 14064-1:2018 organizational inventory processes in 2024 to build a solid foundation for future carbon management capabilities.

	Transition Risks		Physical Risks	Climate-Related Opportunities	
Topics	• Greenhouse gas management and carbon fee levies • Legally required renewable energy usage proportions • Legally required net zero carbon emission targets • Uncertainties in new energy and carbon reduction technologies	• Raw material shortage pressures	• Floods caused by extreme climate • Droughts caused by extreme climate • Rising temperatures • Rising sea levels	• Carbon reduction benefits from resource efficiency enhancements • Emerging business models under low-carbon and energy conservation trends • Market opportunities generated by solutions to diseases caused by climate change	• High-efficiency buildings • Investment in renewable energies or participation in carbon trading markets
Potential Financial Impacts	• Increases in carbon management operational costs: Carbon taxes in overseas markets, carbon fees in Taiwan, and energy related taxes will increase operational costs • Investments in renewable energies and equipment will increase costs • Investments in energy and carbon reduction resources, and allocation of resources to inventory, verify, and disclose organizational greenhouse gas emissions, and further expand inventory scope to carbon footprints across entire product life cycles will increase operational costs	• Raw material shortages and increased transportation costs due to climate change	• Natural disasters may cause operational interruptions or situations that cannot be resolved by current emergency response measures, which will affect production and lead to financial losses and revenue declines • Natural disasters (such as snowstorms in the US) may cause shipping delays, damage to local operational equipment, and personnel injuries, thereby increasing operational costs • Natural disasters may disrupt raw material sources, obstruct production operations, interrupt product shipments, and affect operating income • Using insurance to reduce financial losses will increase factory flood prevention costs • Long-term temperature rises may increase energy consumption in factories or cold chain costs	• Invested around NT$5.5 million to install energy-efficient chillers and air compressors in 2023-2024 • Potential carbon assets derived from carbon management (carbon rights)	• Potential carbon assets derived from carbon management (carbon rights) • Potential market opportunities may arise from developing solutions associated with climate-related disease domains
Financial Impact Assessments	• Carbon fees: Assuming that PharmaEssentia's annual carbon emissions are less than 5,000 tons and carbon fees are NT$300/ton, annual costs would be around NT$1.5 million • Greenhouse gas inventories: All factories are gradually incorporating management systems and verifications, and we estimate that annual costs would be lower than NT$3 million • Greenhouse gas inventories, emission reductions, energy combinations, and efficiency enhancements: We plan to further calculate the costs required for reducing greenhouse gases and enhancing energy efficiency at all factories	• Our raw materials are required to strictly comply with GMP regulations, so need verifications and certifications at each stage; increases in raw material costs are difficult to estimate, so we plan to avoid costs through advance preparation and by increasing our stock. We estimate that costs will increase by 10-20%, so our procurement costs will increase by NT$10 million each year	• Our Taichung Plant has measures in place to overcome water shortages lasting from 3-4 weeks, so production is unlikely to be affected; additional financial costs under this condition are extremely low • If natural disasters interrupt transportation in our supply chains, our safety stock can allow us to maintain operations for 3-6 months; additional financial costs under this condition are extremely low • Additional energy consumption costs and transportation costs from long-term temperature rises require further evaluation • We are actively applying for marketing authorizations in different regions around the globe to diversify regional climate risks • We strive to diversify production bases, increase raw material procurement sources, and make relevant preparations	• Greenhouse gas inventories, emission reductions, energy combinations, and efficiency enhancements: We plan to further evaluate the benefits generated from reducing greenhouse gases and enhancing energy efficiency at all factories • We strive to lower energy intensity and reduce energy dependencies	• There is currently insufficient information to estimate financial performance from emerging solutions

In response to the aforementioned financial analyses, we compiled the following climate-related risk and opportunity topics, and formulated PharmaEssentia's key response strategies as well as responses for all departments as follows:

	Transition Risks		Physical Risks	Climate-Related Opportunities	
Topics	Carbon management ● Greenhouse gas inventory and reduction ● Energy combinations and efficiency enhancements	Raw material management	Operational damage caused by hurricanes, floods, and other extreme climate events, triggering the need to strengthen factory emergency response capabilities	Resource efficiency enhancements	Satisfy unmet medical needs
Pharma-Essentia Key Response Strategies	Strengthen PharmaEssentia carbon management capabilities through continued implementation of: ● Greenhouse gas inventories at all operational sites ● Phased greenhouse gas reduction targets ● Assessments of benefits from carbon neutrality or 2050 net zero targets through comprehensive consideration of carbon management costs and revenues	● For raw material management, increase raw material sources and evaluate new suppliers ● Incorporate climate change considerations in future R&D and add more options	● Regularly assess factory response capabilities, provide warning and identification of risks, and increase factory emergency response capabilities ● **New Zhubei Plant:** PharmaEssentia is building a new factory in Zhubei which adheres to green building standards, and has made preparations for climate risks and impacts ● Regular training and internal process improvements to enhance climate resilience and response capabilities of global PharmaEssentia operational sites	● Evaluate resource efficiency enhancements from upgraded or replaced equipment ● Evaluate benefits from renewable energy installations or participation in carbon trading markets	● Diseases caused by climate change will become a future R&D focus of the biopharmaceutical industry. PharmaEssentia is also continuing to focus on associated trends while assessing unmet needs caused by climate-related diseases and feasibility of PharmaEssentia R&D strategies ● Panco is undertaking other projects that require cold chain transportation services, and has purchased temperature controlled boxes in 2024 to reduce use of polystyrene boxes
Departmental Responses	● **Production/environmental safety department:** Our "Environmental Protection Policy" serves as an internal guideline for environmental impact prevention and response, and we have established the "Greenhouse Gas Management Procedures"; our Taichung Plant, our main production site, was the first location where we implemented greenhouse gas inventory processes, which has since completed inventories and third-party verifications for 2023. We continued to conduct inventory processes and third-party verifications in 2024, and made progress on our carbon reduction pathway, achieving phased carbon reduction targets by enhancing resource efficiency at current factories	● **Procurement department:** Conducts assessments based on material categories and source locales, increases backup procurement sources, seeks out green supply chains, and requires the top five suppliers by annual transaction volumes to reduce carbon emissions ● **R&D department:** Reduces environmental impacts while incorporating bioengineering and digital transformation technologies, including by: - Reducing use of materials (reagents/solvents/toxicants) - Assessing energy consumption and temperature controls in equipment/production methods/all production stages/all storage, transportation, and preservation processes - Using eco-friendly and recyclable materials ● **Production department:** Develops automated production processes based on actual conditions	● **Environmental safety department:** Assesses possible levels of impact and corresponding emergency response measures, and increases assessment frequencies. Our Taichung Plant has established the "Factory Facility Emergency Response Management Standards" and implements associated emergency response mechanisms to ensure that equipment can operate normally when natural disasters, equipment abnormalities, and hazard incidents occur so all personnel can conduct production processes in safe environments ● Adheres to Central Taiwan Science Park and Hsinchu Science Park's response and management measures to prevent physical risks	● Our Taichung Plant phased out an air compressor in 2024 and will continue to phase out equipment with high energy consumption (such as air compressors and chillers) to enhance energy conservation and energy efficiency ● Establish energy monitoring systems, optimize steam process controls, and recycle waste heat ● Plan to apply for green building certificates for our new Zhubei Plant, apply for green building subsidies, and lower organizational carbon emissions	● The R&D department and Executive Center for Corporate Sustainability Access to Medicine Team and Product Ethics and Safety Team jointly and regularly track related topics

Risk Management

2.3 Risk Management described our corporate risk management mechanisms encompassing corresponding responses to different risk categories, thereby lowering corporate impacts from said risks. This section further describes our management mechanisms and actions toward climate risks based on TCFD framework guidelines.

Risk Management Guidelines and Practices

We have established internal risk management policies, procedures, and internal controls based on related regulations to appropriately manage all risk issues, impacts, and corresponding material topics. Every year, the Board approves overall corporate risk management targets and policies, and assigns senior management to oversee promotion and execution of various issues to monitor risk management mechanisms and ensure that they are operating effectively.

Climate Risk Management Processes

We consider climate-related risk management policies, actual assessment methodologies, and preventive measures to lower operational impacts toward climate risks. We continued to inventory major operational risks in 2024, implemented climate risk assessment processes and training for environmental risks, and ensured that all departments implemented specific practices for handling various risks. We plan to conduct these processes every year to ensure full understanding and tracking of risk changes, so we can formulate relevant reduction management procedures and measures when appropriate. We have established risk management targets and policies, and continue to monitor our risk management mechanisms to ensure that they are operating effectively.

Metrics and Targets

The biopharmaceutical industry's main climate change response actions are focused on carbon reduction. To achieve the aforementioned targets, PharmaEssentia also strives to reduce carbon emissions at all stages. We have incorporated ISO 14064-1 greenhouse gas inventory standards, regularly inventory greenhouse gas emissions at all operational sites, manage key climate metrics, and have already disclosed Scope 3 inventory data. PharmaEssentia continues to evaluate whether the climate risks and actions for each year require updated responses. We also actively invest in research of diseases caused by climate change, and work to find more solutions at the source through medical research.

Metrics and Targets for Main Topics

Topics	Carbon Management	Rising Raw Material Costs	Severity of Typhoons, Floods, and Other Extreme Weather Events
Responses	Scope 1, Scope 2, and Scope 3 greenhouse gas emissions and related risks • PharmaEssentia's greenhouse gas emissions mainly stem from Scope 2 purchased electricity. In 2024, our Scope 1 and Scope 2 greenhouse gas emissions were lower than 5,000 tCO_2e • Our greenhouse gas emissions policies adhere to national 2050 net zero targets and the National Development Council's goal to achieve a 24% reduction in overall carbon emissions by 2030	• We track material usage using raw material consumption volumes/ revenues as an indicator	• Regularly assess factory response capabilities, provide warning and identification of risks, and increase factory emergency response capabilities • New Zhubei Plant: PharmaEssentia is building a new factory in Zhubei which adheres to green building standards, and has made preparations for climate risks and impacts
Metrics and Targets	• Greenhouse gas emission intensity (tCO_2e/million TWD)	• Raw material consumption intensity: Raw material consumption volumes (g)/revenues (thousand TWD) • Improve resilience: Reduce raw material procurement risks from environmental impacts	• Regular implementation of emergency response measures
Achievements in 2024	• Greenhouse gas emission intensity was 0.5 (tCO_2e/million TWD), a reduction of 43% compared to 2023 • For more information on carbon emissions and carbon intensity calculation formulas, please refer to 4.3 Energy Management	• Raw material consumption intensity: 1.06 g/thousand TWD in 2024, higher than 2023 (0.30 g/ thousand TWD)	• Carried out prevention measures aligned with Central Taiwan Science Park measures • Assessed and adjusted US market safety stock

Operational Sites and Biodiversity Conservation GRI 304-1

PharmaEssentia's production base (Taichung Plant) is located in the Central Taiwan Science Park Taichung Science Park. We are currently constructing our Zhubei Plant in the Hsinchu Biomedical Science Park and formulating plans to construct our Houli Plant at the Central Taiwan Science Park Houli Science Park (7th Redevelopment Zone section). These three factories are not located in environmental protection areas or protected species/species restoration habitats, and therefore do not have direct biodiversity impacts. PharmaEssentia continues to track local environmental and conservation issues through the Central Taiwan Science Park Sustainable Development website, and is also considering support for conservation and environmental actions. We continue to sponsor Jane Goodall Institute charity projects, and helped more schoolchildren enhance biodiversity and conservation awareness in 2024 as part of our contribution to biodiversity issues (please refer to 6.3 Philanthropic Activities).

4.3 Energy Management

Energy Usage

PharmaEssentia's energy consumption mainly stems from purchased electricity and natural gas. Our total energy usage volumes increased in 2024, mainly as production volumes increased compared to 2023. We continue to improve energy efficiency in production processes and are considering investments in energy-saving equipment, including but not limited to purchasing suspension chillers, variable frequency air compressors, and energy-efficient equipment to reduce energy consumption and comply with Good Manufacturing Practice (GMP) requirements stipulating that production environments should maintain certain cleanliness and quality control standards. PharmaEssentia's specific achievements in 2023-2024 included phasing out air compressors and installing energy-saving chillers. Total investments amounted to NT$5.5 million, and we reduced energy usage by 158,000 kWh, equivalent to 78.07 tCO_2e in emissions.

Energy Consumption at PharmaEssentia GRI 302-1

(Unit: GJ)

Energy Type	2022	2023	2024
Purchased power	24,383.01	24,697.91	32,570.99
Natural gas	9,499.14	11,287.08	13,976.93
Diesel	18.44	9.28	17.50
Gasoline	19.99	10.15	7.95
Total energy consumption	33,920.58	36,004.43	46,573.36

Note: This 2024 Sustainability Report restated energy consumption for 2022-2023 as greenhouse gas inventory verifications were completed in 2024, so we make updates using data verified by a third party

PharmaEssentia Energy Intensity GRI 302-3

Indicator	2022	2023	2024
Energy intensity (GJ/million TWD)	11.77	7.05	4.78
Change in energy intensity compared to previous year (%)	-	-40%	-32%

Greenhouse Gas Emissions

PharmaEssentia's largest greenhouse gas emission source is Scope 2 purchased electricity. Following commercialization of our new drugs in global markets, overall sales and production volumes in 2024 continued to grow, and total electricity usage also grew accordingly. Energy intensity and greenhouse gas emission intensity decreased by 32% and 43% compared to the previous year. PharmaEssentia's Taipei Headquarters and Taichung Plant conducted ISO 14061-1 greenhouse gas inventories and obtained third-party verification of 2023 greenhouse gas emissions data in 2024. We are currently working to obtain greenhouse gas emissions verifications for 2024. Greenhouse gas inventory results will be used as a reference for continued improvement of energy efficiency to achieve our target of lowering greenhouse gas emission intensities.

PharmaEssentia Taichung Plant Greenhouse Gas Emissions

GRI 305-1 GRI 305-2 GRI 305-3

(Unit: tCO_2e)

Indicator	ISO 14064-1	Description	2022	2023	2024
Scope 1	Category 1	Direct energy use	569.55	690.11	828.26
Scope 2	Category 2	Electricity from Taiwan Power Company	3,037.27	2,900.10	3,080.84
Scope 3	Category 3	Fuel transportation, raw material upstream transportation, product downstream transportation, employee commutes, business travel, waste transportation	657.79	122.59	106.70
	Category 4	Sold products, outsourced product processing, services, waste treatment		747.02	819.23
		Total	4,264.61	4,459.82	4,835.03

PharmaEssentia Taichung Plant Greenhouse Gas Intensities GRI 305-4

Indicator	2022	2023	2024
Greenhouse gas emissions intensity (tCO_2e/million TWD)	1.48	0.87	0.50
Change in greenhouse gas emission intensity compared to previous year (%)	-	-41%	-43%

Note 1: The greenhouse gas emissions data in this table were taken from PharmaEssentia's Taichung Plant, and revenues used for calculating intensity encompassed the entire company. This 2024 Sustainability Report restated greenhouse gas emissions data for 2023 as greenhouse gas inventory verifications were completed in 2024, so we make updates using data verified by a third party

Note 2: Inventoried greenhouse gases included carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and trifluoride nitrogen (NF_3)

Note 3: These figures were calculated using the "emission factor method." The emission factors for purchased electricity were taken from the Ministry of Economic Affairs Energy Administration. Electricity emission factors for 2021 and 2022 were 0.509 ($kgCO_2e$/kWh) and 0.495 ($kgCO_2e$/kWh), respectively. GWP values for various greenhouse gases listed in IPCC AR6 (2021) were used as a basis for calculating carbon equivalents for natural gas emissions

Note 4: Total product sales for the year (million TWD) were used to measure usage intensity and emission intensity

PharmaEssentia Taipei Headquarters 2023 Greenhouse Gas Emissions

GRI 305-1 GRI 305-2 GRI 305-3

(Unit: tCO_2e)

Indicator	ISO 14064-1	Description	2023
Scope 1	Category 1	Direct energy use	25.99
Scope 2	Category 2	Electricity from Taiwan Power Company	1,230.93
Scope 3	Category 3	Emissions associated with transportation (Waste removal transportation)	0.63
	Category 4	Indirect emission sources from raw materials/services (Indirect emissions from waste treatment and indirect emissions from wastewater treatment)	247.95
		Total	1,505.50

Note: The greenhouse gas emissions data in this table were taken from PharmaEssentia Taipei Headquarters, and we obtained third-party verifications for our greenhouse gas emissions in 2024

4.4 Water Stewardship

Water Withdrawal, Water Discharge, and Recycled Water

Water used at PharmaEssentia's operational sites in Taiwan and Panco were all sourced from tap water. According to the World Resources Institute (WRI) water risk mapping tool, our operational sites were all located in areas with low to moderate water stress in 2024. Our Taichung Plant is our main production site, and our water consumption included water used for production processes and domestic usage; wastewater was discharged through the Central Taiwan Science Park Taichung Science Park sewage treatment plant. Every year, in accordance with Ministry of Environment regulations, our Taichung Plant commissions testing institutes certified by the Ministry of Environment Environmental Management Administration to conduct water quality tests on discharged water every six months to ensure compliance with Ministry of Environment and Central Taiwan Science Park Administration discharge standards. In 2024, total water withdrawal volumes at our Taipei Headquarters and Taichung Plant both increased compared to the previous year, mainly as overall production volumes increased, and we added water withdrawal volumes from the Taipei Bioinnovation Park and expansions on the 18th and 19th floors into water withdrawal data for our Taipei Headquarters.

PharmaEssentia continues to improve water management measures, and our Taichung Plant recycles process RO brine and wastewater for use in air-conditioner cooling towers to enhance water reuse efficiency. In 2024, we recycled 9.72 million liters of water, an increase of 46.8% compared to 2023.

Water Resources Used at PharmaEssentia's Main Operational Sites GRI 303-3 GRI 303-4 GRI 303-5

(Unit: million liters)

Operational sites	2022			2023			2024		
	Water withdrawal volumes	Water discharge volumes	Water consumption volumes	Water withdrawal volumes	Water discharge volumes	Water consumption volumes	Water withdrawal volumes	Water discharge volumes	Water consumption volumes
Taipei Headquarters	7.38	7.38	-	7.63	7.63	-	22.89	22.89	-
Taichung Plant	18.11	9.13	10.5	14.13	5.74	8.98	22.97	9.77	13.2
Panco	Not recorded			1.4	1.4	-	0.11	0.11	-
Total	25.49	16.51	10.5	23.16	14.77	8.98	45.97	32.77	13.2

Note 1: In 2024, water withdrawal and water discharge volumes for our Taipei Headquarters included data from the Taipei Bioinnovation Park and expansions on the 18th and 19th floors, and therefore water volumes were significantly higher than for 2023

Note 2: Water discharge and water consumption volumes for 2022-2023 were revised in our 2024 Sustainability Report following internal confirmations

Water Pollution Control and Wastewater Discharge Management Indicators

The quality of water discharged from our Taichung Plant is tested every six months in accordance with Ministry of Environment regulations by a testing institute certified by the Environmental Protection Administration. Test results for 2024 all adhered to regulation standards. Additionally, discharged water is appropriately treated at the Central Taiwan Science Park Administration Taichung Science Park sewage treatment plant before discharge. The discharged water adheres to wastewater treatment system standards for the pharmaceutical manufacturing industry set by the Central Taiwan Science Park Administration. In 2024, the quality of water discharged from our Taichung Plant adhered to regulated items and limits, and therefore did not raise any significant environmental pollution concerns.

In 2024, PharmaEssentia incurred a fine for 1 violation of the Water Pollution Control Act, mainly as our Zhubei Plant construction site submitted a plan for reducing runoff wastewater, but the Department of Environmental Protection discovered during an on-site inspection that the runoff wastewater treatment facilities were not consistent with the original submitted plan, so a fine of NT$70,000 was imposed. In response to the discovered violation, the construction company has already submitted a new runoff wastewater reduction plan, which has been reviewed and approved by the Department of Environmental Protection, ensuring that the procedures comply with related regulatory requirements. PharmaEssentia has directed the construction company to strengthen on-site management measures, increase inspection frequencies, and ensure that the wastewater treatment facilities are operating normally. We also strengthened personnel training, established internal monitoring and management mechanisms, and comprehensively strengthened compliance and management capabilities.

Taichung Plant Water Discharge Management

Factory	Operations Center	Manufacturing Center
Discharge handling method	Regulated discharge	Regulated discharge
Inspection items	None	pH, COD, BOD, SS, water temperature, true color, free available residual chlorine
Discharge standards and standard sources (Environmental indicators and regulatory compliance)	Taichung Science Park underground sewage discharge standards	Taichung Science Park underground sewage discharge standards
Discharge location	Commercial building	Junhao Factory area

4.5 Waste and Pollution Management

Prevention of Air Pollution

GRI 305-6

PharmaEssentia does not use or discharge ozone-depleting substances (ODS) listed in the Montreal Protocol or any persistent organic pollutants (POPs). We conduct regular tests and file reports on fixed air pollution sources in accordance with Ministry of Environment regulations, and test results showed that all of our discharged air pollutants were lower than regulated values. Due to global commercial sales needs and increases in total production volumes, our overall discharge volumes have increased, but are still lower than regulation amounts. PharmaEssentia did not violate any air pollution regulations in 2024.

PharmaEssentia Volumes of Main Discharged Gases

(Unit: kg)

Discharged gas	2022	2023	2024
NOx	444.2	425.7	578.4
SOx	34	32.3	30.4
Volatile organic compounds (VOCs)	9.3	17.1	12.6
Hazardous Air Pollutants (HAPs)	434.2	607.9	700.4
Particulate matter (PM)	7.8	7.4	9.8
Hydrogen chloride (HCl)	0.1	0.2	0.6
Total	929.6	1,090.6	1,332.2

Note: The data in this table were taken from PharmaEssentia's Taichung Plant; Panco Healthcare did not discharge any of the air pollutants listed in this table

Waste Management

PharmaEssentia's waste mainly encompasses general industrial waste from production and manufacturing, as well as small amounts of chemicals used for R&D and experiments. We manage waste in accordance with regulations to prevent legal violations and environmental pollution risks from improper treatment. We also keep informed of trends in environmental protection laws, reduce waste at the source through R&D, adjust process designs, and improve material usage rates as part of our environmental protection implementations. We are gradually establishing a global footprint, and our production capacity and efficiency are also continuing to improve. We continue to reduce waste volumes and improve unit output efficiency, aiming to lower unit waste output volumes and intensities. We adhere to short, medium, and long term targets and action pathways to refine our management guidelines and implement management actions.

Waste Generation and Treatment

GRI 306-1 GRI 306-2

PharmaEssentia reviewed waste generation, disposal, treatment, recycling, and other processes from a product life cycle perspective, and carefully recorded input material amounts and generated waste amounts. We also commissioned a qualified third-party waste treatment company to handle our waste.

Input and output

Input characteristics

Waste is generated from manufacturing and production, QC test analyses, and laboratory R&D work. Hazardous waste, which includes small amounts of toxicants used in laboratories and infectious waste, is first sterilized under high heat in our factory and laboratories. Infectious waste is commonly treated as general waste following this sterilization process, but we still treat hazardous waste as infectious waste following sterilization to ensure compliance with related control measures.

Activity records

We carefully record amounts used and stocked for toxic chemicals, and also calculate generated waste volumes. In 2024, we generated a total of 40.24 tons of waste, an increase compared to the previous year mainly due to increases in process production batches.

Impact assessments

Factory production, QC test analyses, and laboratory R&D processes all adhere to pharmacopeia regulations (the raw materials used cannot be arbitrarily replaced by toxic compounds) and comply with GMP regulations, so can prevent process contamination and impacts on subsequent drug quality. Waste is recycled from back-end processes to reduce environmental impacts.

Handling and Monitoring

Categorization and handling

Hazardous waste, biopharmaceutical infectious hazardous waste, solid/liquid hazardous waste, and non-hazardous waste are handled separately.

Monitoring by multiple parties

Our contracted waste treatment vendors are all legally established Class A or Class B certified waste disposal/treatment vendors. We also use a "three-party linked cross-check process" that requires relevant forms to be confirmed by PharmaEssentia, waste disposal companies, and final treatment companies before reports are filed and completed on the Environmental Protection Administration official website. This enables us to control and manage final waste destinations. We organize annual vendor audits of disposal/treatment processes as well as route inspections each year to ensure that waste is handled appropriately. We did not discover any legal violations incurred by vendors during previous audits.

Generated Waste Volumes

We are gradually establishing a global footprint, and our production capacity and efficiency are also continuing to improve. We continue to reduce waste volumes and improve unit output efficiency, aiming to lower unit waste output volumes and intensities. We adhere to short, medium, and long term targets and action pathways to refine our management guidelines and implement management actions. PharmaEssentia's waste reuse and recycling volumes continued to grow in 2024, increasing by 10.28% compared to 2023. Our waste intensity in 2024 declined by 51% compared to the previous year, and has decreased year by year.

PharmaEssentia Waste Volumes

(Unit: Tons)

Waste Category		2023	2024
Non-hazardous waste	Recycling and reuse	6.01	6.63
	Landfill	-	-
	Incineration	24.53	22.81
	Other	-	-
	Total	**30.54**	**29.44**
Hazardous waste	Recycling and reuse	-	-
	Recycled Resources	-	-
	Landfill	-	-
	Incineration, Biopharmaceutical waste	1.97	2.10
	Incineration, Organic liquid waste	6.47	5.84
	Incineration, Non-organic liquid waste	0.83	0.53
	Other	-	-
	Total	**9.27**	**8.47**
Total waste volumes		39.81	37.91
Total recycled/reused waste volumes		6.01	6.63
Proportion of recycled/reused waste		15.10%	17.49%

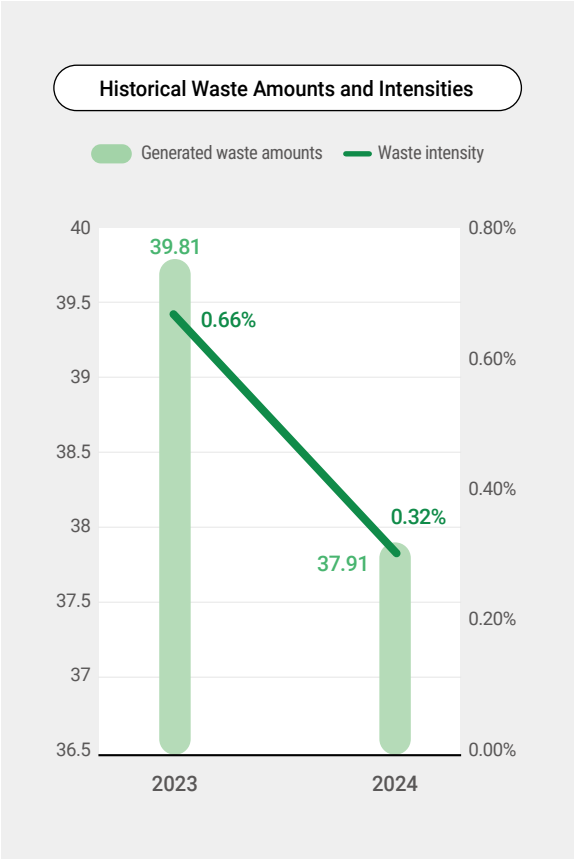
Note 1: The data in this table were taken from Taipei Headquarters, Panco Healthcare, and Taichung Plant

Note 2: PharmaEssentia added data on recycled and reused waste (including waste foam, waste glass, and waste plastics) in 2023. Materials recycled and reused in 2024 included 0.53 tons of waste plastics and 0.9 tons of waste glass

PharmaEssentia Waste Intensities

Indicator	2022	2023	2024
Waste intensity (ton/million TWD)	0.9%	0.66%	0.32%
Change in waste intensity compared to previous year (%)	-	-26%	-51%

Note: Waste intensity = (Total waste volumes - Total recycled and reused waste volumes)/revenue in millions for the year



Production and Packaging Material Management

Our Taichung Plant is a Good Manufacturing Practice (GMP) factory. In order to comply with regulatory requirements, many of the materials used during operating processes are disposable, particularly materials used for packaging semi-finished or completed products. To prevent cross contamination and protect products, we avoid reusing these packaging materials. Non-renewable materials used in 2024 included disposable bags used during production processes as well as pipe fittings/filters and other consumables that come into contact with products, accounting for 87.7% of all materials. Renewable materials mainly included cardboard boxes/package inserts and other packaging materials.

PharmaEssentia Product Packaging Materials

(Unit: Tons)

Category	Sub-categories	2022	2023	2024
Renewable materials	Cardboard boxes/package inserts(FP)	0.08	0.1	0.14
Non-renewable materials	Disposable consumables used during production processes (FP)	0.09	0.09	0.11
	Blister packs/syringe labels/plunger rods/safety needles (FP)	0.09	0.1	0.13
	Disposable bags used during production processes	1.26	1.35	1.29
	Total non-renewable materials	1.44	1.54	1.53

Management of Toxic Chemicals and Chemical Substances of Concern

PharmaEssentia uses small amounts of toxic chemicals and chemical substances of concern listed by the Ministry of Environment during R&D and production processes (including machine cleaning processes). We therefore pay special attention to source control when managing these substances, properly classify and store all chemical substances, and keep written records of amounts used to track usage of chemical substances, prevent environmental pollution, and prevent hazards to human health. No incidents involving spills of chemical substances or waste occurred in 2024.

Toxicant Categorization and Controls

PharmaEssentia categorizes chemical substances in accordance with the "Toxic and Concerned Chemical Substances Control Act" and stores toxicants in laboratory fume hoods by category. As we use many different types of chemicals, we have established the "Chemical Hazard Management Procedures" to regulate the procurement, usage, storage, and disposal of toxicants; stipulate clear responsibilities and control measures; and ensure accurate recordkeeping of used and stored chemical amounts.

Panco Healthcare is a logistics center which uses no chemicals and is mainly engaged in processing and labeling. Our logistics center has established the "Cleanup Procedures for Processing and Labeling Lines" to ensure proper on-site handling of pharmaceutical breakage and spill incidents that may occur during processing and labeling. No pharmaceutical breakage incidents occurred during processing operations in 2024.

Toxicant Disaster Response Actions

PharmaEssentia has 16 general-level professional response personnel. To maintain the safety of our colleagues, we have established the "Chemical Spill Emergency Response Standard Operating Procedures" to enable rapid and effective completion of response procedures. As of 2024, no chemical spill incidents have occurred at PharmaEssentia. The laboratories at our Taichung Plant are equipped with comprehensive emergency response equipment which our colleagues can use when responding to emergencies, and we check equipment conditions and safety stock every month. We conduct annual toxicant spill disaster handling drills each year to ensure that our colleagues can respond promptly and effectively in emergency situations, thereby minimizing disaster impacts. We plan to establish professional toxicant response personnel at our factories in future based on the "Regulations for Management of Professional Response Personnel for Toxic Chemicals and Chemical Substances of Concern"; disaster units are responsible for adopting necessary protection, response, and disposal measures when emergencies occur, and professional response personnel from other units carry out supporting disaster response tasks and implement factory toxic disaster response procedures and toxicant operator training.

PharmaEssentia 2024 Toxic Disaster Response Drill

PharmaEssentia conducted a toxicant disaster response drill in December 2024 to simulate a methylene chloride spill which occurred when warehouse personnel slipped and accidentally dropped a container filled with methylene chloride when moving this toxic substance to the explosion-proof cabinet in Room 106. The response drill encompassed rescue personnel donning protective clothing, toxicant containment, and removal.

1 Toxicant spill

2 Reporting spill

3 Response team dons protective clothing

4 Containment of spill area

5 Removal of toxicant in the spill area

6 Waste collection and handling

7 Personal protective equipment (PPE) decontamination and cleaning

05

Fostering a Corporate Culture of Employee Well-Being

Achievement Highlights

PharmaEssentia (Taiwan)

42%

Proportion of female executives

+27 hours

Average training hours for each employee

Designed diverse talent development framework

PharmaEssentia (Taiwan) and Panco

+56%

Employee welfare expenditures

PharmaEssentia formulated human rights policies that adhere to international human rights regulations to protect stakeholder interests, and works to build diverse and equal workplace environments where talent values and salaries are not affected by age, gender, race, or region. PharmaEssentia cultivates talent from three functional aspects (core values, management and leadership, and professional capabilities) using a dual-track diverse talent development framework to cultivate outstanding management and professional talents while lowering talent shortage risks.

Material Topics

- Talent Cultivation and Career Progression
- Talent Attraction and Retention

Main Stakeholders

- Employees
- Shareholders and Investors
- Suppliers and Business Partners

5.1 Human Rights Assurance

Human Rights Policies and Commitments GRI 2-23

PharmaEssentia recognizes and supports international human rights standards, including the "Universal Declaration of Human Rights," "United Nations Global Compact," "United Nations Guiding Principles on Business and Human Rights," "International Labour Convention," "ILO Declaration on Fundamental Principles and Rights at Work," "ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy," and "OECD Guidelines for Multinational Enterprises"; we have established our "Human Rights Policy" to protect the interests of corporate stakeholders, including all PharmaEssentia operational site workers, subsidiaries, affiliated companies that we hold a majority stake (more than 50% of shares) in, as well as suppliers, contractors, business partners, consumers, and communities where our operational sites are located. PharmaEssentia pledges to ensure equality and anti-discrimination, prohibit employment of child labor and trafficking of forced labor, protect freedom of association and collective bargaining rights, promote fair and reasonable remuneration as well as occupational health and safety, and implement information security. PharmaEssentia pledges to regularly implement human rights management processes, identify potential human rights risk issues in operational activities, formulate related mitigation and management measures, and communicate and convey human rights policies with employees and related stakeholders.

Our Human Rights Policy has been signed and approved by our chairperson, and the full Human Rights Policy is linked here.

PharmaEssentia Human Rights Management System

1. Actions to prevent workplace bullying

PharmaEssentia strives to incorporate the Human Rights Policy in existing management systems and amended the "Workplace Sexual Harassment Prevention, Correction, Complaint, and Punishment Measures" in accordance with law in 2024. These amendments were announced to all employees, and we organized lectures on prevention of workplace sexual harassment and other unlawful infringements to disseminate information on workplace sexual harassment, workplace bullying prevention, and related human rights issues. In 2024, PharmaEssentia organized separate lectures for managers and general employees; there were 58 participants at the manager lecture and 258 participants at the general employee lecture, achieving a total employee participation rate of 98% in Taiwan. There were 23 participants at the Panco lecture, achieving a participation rate of 100%.

PharmaEssentia Japan and PharmaEssentia US also conducted anti-harassment and anti-discrimination education and training in 2024. A total of 16 people participated in the training session organized by PharmaEssentia Japan, which focused on differences in personal perceptions of harassment behaviors; the courses organized by PharmaEssentia US focused on harassment, sexual harassment, retaliation concepts, and preventive actions, as well as an introduction to US and state laws and regulations. Managers and employees residing in specific regions such as California or Massachusetts were required to undergo additional training for their states. A total of 168 people participated in PharmaEssentia US courses.

2. Evaluation mechanisms for human rights risks

PharmaEssentia uses international human rights principles and the Pharmaceutical Supply Chain Initiative (PSCI) as a basis for regularly evaluating potential human rights risks. Human rights risks evaluations encompass our own operational scope (employees, women, children), which is used as a basis for identifying significant human rights issues and formulating risk mitigation and remediation actions.

PharmaEssentia conducted human rights risk evaluations in 2024 on operational sites encompassing PharmaEssentia (Taiwan), Panco Healthcare, PharmaEssentia US, PharmaEssentia Japan. We used surveys, internal corporate records, and public human rights records to evaluate all employee human rights risks during operational processes. This evaluation identified forced labor, excessive working hours, discrimination and harassment, human trafficking, unreasonable salaries, occupational health & safetyas significant human rights risks. PharmaEssentia has formulated risk mitigation and remediation measures for all significant issues, and has implemented mitigation actions at all operational sites to lower human rights risks.

▶ Human Rights Risks Evaluation Results in 2024

Evaluated human rights issues	
• Excessive working hoursOccupational health & safety	• Unreasonable salaries
• Child labor and underage workers	• Collective bargaining and group agreements
• Forced labor	• Freedom of association
• Privacy rights	• Discrimination and harassment
• Pay disparity	• Human trafficking

Value chain stakeholders	Evaluation scope (%)	Risk proportion (%)	Risk mitigation measure scope (%)
Employees at headquarters and subsidiaries	100%	54.55%	100%

Note 1: Evaluation scope (%): Encompassed 100% of operational sites and subsidiaries in Taiwan, the US, and Japan
Note 2: Risk proportion (%): We identified 6 significant human rights issues as priority issues of concern that were applicable for all operational sites, and calculated the ratio of priority issues to all issues
Note 3: Risk mitigation and remediation actions (%): Fully implemented (100%) at operational sites and subsidiaries in Taiwan, the US, and Japan

Significant Human Rights Issues	Impact Evaluation Mechanisms	Mitigation Actions	Remediation Actions
Forced labor	Grievance mechanisms	Adhere to labor regulations and human rights policies to prevent all forms of forced labor and human trafficking	Obtain employee consent if there is need for overtime, subsequently provide overtime payments or compensatory leave, and track and review the total work hours for each department every month
Excessive working hours	1 Internal HR system attendance records 2 Supervisory units track work hours and overtime every week 3 Work hour management system 4 Regular review of production capacities and manpower needs 5 Grievance mechanisms	1 Adhere to labor regulations and human rights policies; provide fair and reasonable salaries, benefits, and work conditions; and track and avoid excessive working hours 2 Clearly stipulate “normal maximum working hours,” “monthly maximum working hour extensions,” and regulations regarding rest times and rest days following consecutive working hours for operational sites in all countries 3 Regular inspections of schedules, overtime, and vacations for each department to confirm compliance with labor regulations, and ensure that work hours, shift rotations, and overtime payments adhere to regulations 4 Provide reminders and formulate response measures for abnormal shift schedules by establishing attendance settings on HR system to prevent schedules that do not comply with regulations	1 Investigate and examine reasons for excessive working hours, and propose improvement plans 2 Implement internal penalties and improve systems if there are any regulatory violations 3 Establish flexible scheduling and manpower support systems to prevent recurrence
Unreasonable salaries	1 Grievance mechanisms 2 Participate in Willis Towers Watson (WTW) salary surveys 3 The human resources department regularly updates statutory minimum wage standards for all locations and analyzes employee salary conditions	1 Adhere to labor regulations and human rights policies, and provide equal, fair, and reasonable salaries and work conditions 2 Implement performance, promotion, and structural salary adjustments each year based on annual operational target achievements, personal performance appraisals, and outsourced surveys on salaries and benefits	If relevant grievances are substantiated, the human resources department immediately compensates losses of relevant parties, and reviews and adjusts salary systems

Significant Human Rights Issues	Impact Evaluation Mechanisms	Mitigation Actions	Remediation Actions
Discrimination and harassment	Grievance mechanisms	1. Adhere to labor regulations and human rights policies, realize equality and anti-discrimination, and do not allow any form of differential treatment or discrimination based on gender, sexual orientation, race, class, age, marital status, language, ideology, religion, political affiliation, place of origin, place of birth, appearance, facial features, or physical and mental disabilities 2. Established the "Work Rules," "Corporate Social Responsibility Best Practice Principles," "Codes of Ethical Conduct," "Workplace Sexual Harassment Prevention, Complaint, and Disciplinary Measures," and other bylaws 3. Organize anti-discrimination and anti-harassment employee education and training	1. After receiving grievance reports, the human resources department forms a workplace violence handling committee to commence investigation and review, following which we determine disciplinary measures for reported persons based on grievance severity or refer cases to judicial courts in accordance with law; we have also established tracking mechanisms to confirm grievance and judicial review results 2. For reports involving sexual harassment, the sexual harassment grievance handling committee imposes warnings, disciplinary actions, or other punishments on reported persons based on incident severity, and reported persons may even be terminated in serious cases 3. We conduct post-incident reviews of sexual harassment incidents to ensure that our disciplinary actions and coaching measures are operating effectively, and also adjust workplace environments and systems 4. We provide appropriate protections and placements for victims of bullying and trauma
Human trafficking	Grievance mechanisms	1. Adhere to labor regulations and human rights policies to prevent all forms of forced labor and human trafficking 2. Implement ethical management and integrity commitments in accordance with the "Principles of Ethical Corporate Management" and "Codes of Ethical Conduct", and execute effective systems and control measures to confirm that no human trafficking incidents occur within the operational scope	1. According to the "Principles of Ethical Corporate Management," subsequent measures should be adopted based on incident severity after investigations have concluded, and incidents should be reported to competent authorities or transferred to judicial authorities for further investigation 2. According to the "Principles of Ethical Corporate Management," if reports are substantiated, review and improvement plans should be proposed, and responsible units should report incident handling methods and subsequent review of improvement measures to the Board 3. According to the "Codes of Ethical Conduct," directors, supervisors, or managers in violation of the Codes of Ethical Conduct should be reported to the Board for review, and those involved in violations of government regulations should be held accountable for criminal and civil liabilities as well as claims for damages in accordance with laws and regulations; managers are subject to Work Rules regulations, and may be terminated for the most severe violations
Occupational Health and Safety	1. Grievance mechanisms 2. Taichung Plant: ISO 45001 Occupational Health and Safety Management System 3. Taipei Headquarters: Job Safety Analysis (JSA)	1. Adhere to labor regulations and the "Human Rights Policy"; strive to provide employees with safe and healthy work environments; comply with related regulations; and implement continued improvements to prevent accidents, lower risks of occupational accidents, and enhance employee physical and mental health 2. Adhere to the "Occupational Safety and Health Policy," "Health and Safety Work Rules," and "Maternal Health Protection Management Measures" to enhance employee health management, marital and maternity care, and health promotion initiatives 3. Established "Important Facility Operator Test," "Factory Health and Safety Regulations," "Contractor Factory Entry Procedures," and "Emergency Response Procedures" to regulate factory entry, facility operation, and factory safety processes, thereby ensuring health and safety of all personnel in factories 4. Employees regularly receive on-the-job health and safety training, personnel and operational supervisors are deployed according to law for statutory operation items, and non-operating personnel are not allowed to implement operational tasks 5. Thoroughly implement permit, chemical, machinery, and other management procedures	1. Implement emergency response procedures to prevent incident escalation and personnel injuries, prioritize personnel safety, and provide appropriate care for injured personnel 2. Notify unit managers and environmental safety units by phone or in person to request support at the first instance, and determine whether there is need to seek support from external institutes (the fire department or environmental incidents specialist teams) 3. Inventory equipment in accordance with the "Incident Investigation and Handling Regulations"; responsible supervisors convene related personnel to investigate incident causes and formulate corrective measures such as adding warnings, organizing personnel safety discussions and training, and rigorously observing equipment safety operations to ensure personnel safety

Transparent Internal Communication and Grievance Channels

PharmaEssentia has established a variety of grievance channels. All grievance reports are handled in accordance with grievance procedures and regulations, and grievant identities are keep confidential and anonymous. Our grievance channels include:

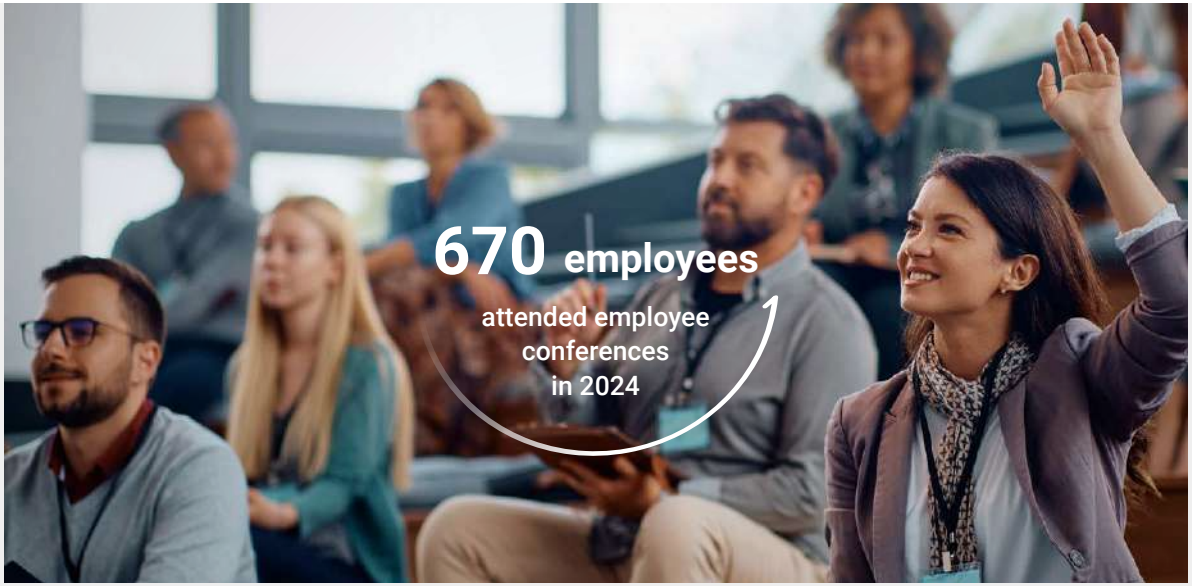
1. "Contact us" page on our official website to collect reports and feedback from external personnel.

2. Corporate grievance channels include our employee suggestion mailbox: voice@pharmaessentia.com, and mailbox for reporting unlawful infringement in the workplace: hr@pharmaessentia.com

No discrimination incidents occurred at all PharmaEssentia operational sites in Taiwan in 2024, and there were also no grievances associated with employment of child labor, forced labor, or freedom of association and collective bargaining violations.

Minimum Notice Periods for Operational Changes

PharmaEssentia hosts employee conferences every quarter to keep employees informed of corporate developments. Operational changes, if any, are announced in appropriate categories within notice periods in accordance with Labor Standards Act regulations for terminating labor contracts to help employees keep informed of company developments. Additionally, we collect employee suggestions through activity satisfaction surveys to improve plans for subsequent activities.



Diverse Labor-Management Communication Channels

Periodic labor-management meetings

Meetings are composed of 50% labor representatives and 50% management representatives. Management representatives communicate items related to employee health, environmental safety, salaries and benefits, and meeting minutes are released on internal websites for employee review. PharmaEssentia's Taipei Headquarters and Taichung branch office each convened 4 meetings in 2024.

Quarterly employee conferences

To build organizational consensus and targets, we host quarterly employee conferences to communicate important corporate matters and operational targets, helping our employees keep informed of the latest corporate developments. In 2024, PharmaEssentia and Panco hosted 2 employee conferences which were attended by all 670 employees.

Regular employee welfare committee meetings

We have established an employee welfare committee which convenes every quarter and invites employee proposals, following which the employee welfare committee jointly formulates employee benefits with company management.

Regular department meetings

We regularly convene department meetings with senior executives to form departmental consensus, enhance communication benefits, and convey senior executive expectations and understanding of department tasks.

5.2 Diversity and Inclusion

GRI 202-2

PharmaEssentia actively works to attract diverse talents and strives to build diverse and inclusive workplace environments. We uphold principles of fairness and justice so talent values and salaries are not impacted by age, gender, race, or region. We also ensure that those with the same job responsibilities and performance obtain fair remuneration, and we appoint supervisors based on capabilities and performance, strengthen organizational capabilities, cultivate well-rounded talents, and firmly prohibit all forms of discrimination.

In accordance with diversity and inclusiveness principles, we establish talent structures based on job positions, education levels, age, gender, nationality, race, and other diverse indicators. As of year-end 2024, PharmaEssentia's Taipei Headquarters and Taichung Plant had a total of 342 employees; 98.5% were Taiwanese employees and the remaining 1.5% were foreign employees. The ratio of male to female employees was 1:1, and the proportion of female supervisors was 42%, higher than the average proportion released by the Ministry of Labor (28%), fully demonstrating PharmaEssentia's continued implementation of gender equality and empowerment. Panco extends our head office's commitment to employees: The company is led by a female general manager who actively encourages new talents in hopes that young talents with good potential can bring innovation and vitality to the company. PharmaEssentia (Taiwan) emphasizes employment and cultivation of local talent; 98.5% of employees are Taiwanese, 0.9% are American, and 0.6% are from other countries. All executives are Taiwanese, so 100% of managers are local residents. All of Panco's employees are Taiwanese, PharmaEssentia Japan's employees are all Japanese, and the majority of PharmaEssentia US employees are American, with the remainder being from China, Canada, Spain, and Taiwan. PharmaEssentia US employs employees of Asian, African, Caucasian, and Pacific Islander descent, as well as employees from other regions and multiracial employees, demonstrating that our employee recruitment is not impacted by race or region. All PharmaEssentia (Taiwan) and Panco employees are of Asian descent.

PharmaEssentia (Taiwan)/Panco 2024 Employee Structure Table

Category	Group	PharmaEssentia (Taiwan)						Panco Healthcare					
		Male		Female		Total		Male		Female		Total	
		Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Employees (Position)	Management executives (Vice presidents and above)	3	75%	1	25%	4	1%	0	0%	1	100%	1	4%
	Senior executives (Directors and above)	9	53%	8	47%	17	5%	0	0%	1	100%	1	4%
	Mid-level executives (Managers and above)	31	69%	14	31%	45	13%	2	67%	1	33%	3	13%
	Entry level managers (Team leaders)	16	46%	19	54%	35	10%	3	100%	0	0	3	13%
	General employees	107	44%	134	56%	241	71%	10	67%	5	33%	15	65%
	Total employees	**166**	**49%**	**176**	**51%**	**342**	**100%**	**15**	**65%**	**8**	**35%**	**23**	**100%**
Employees (Age)	Age 30 and under	23	39%	36	61%	59	17%	0	0%	0	0%	0	0
	Age 31-50	123	49%	126	51%	249	73%	14	74%	5	26%	19	83%
	Age 51 and above	20	59%	14	41%	34	10%	1	25%	3	75%	4	17%
	Total employees	**166**	**49%**	**176**	**51%**	**342**	**100%**	**15**	**65%**	**8**	**35%**	**23**	**100%**
Employees (Education)	Doctorate degree	26	70%	11	30%	37	11%	1	100%	0	0	1	4%
	Master's degree	98	47%	112	53%	210	61%	4	67%	2	33%	6	26%
	Bachelor's degree	39	46%	46	54%	85	25%	10	63%	6	38%	16	70%
	Other	3	30%	7	70%	10	3%	0	0%	0	0	0	0
	Total employees	**166**	**49%**	**176**	**51%**	**342**	**100%**	**15**	**65%**	**8**	**35%**	**23**	**100%**
Non-employees	Taipei Headquarters	0	0	1	100%	1	100%	0	0	0	0	0	0
	Taichung Plant	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**1**	**100%**	**1**	**100%**	**0**	**0**	**0**	**0**	**0**	**0**
Total		**166**	**-**	**177**	**-**	**343**	**-**	**15**	**-**	**8**	**-**	**23**	**-**

Note: Non-employees work on general administrative tasks, and relevant fees are paid to staffing agencies

PharmaEssentia US and PharmaEssentia Japan 2024 Employee Structure Table

Category	Group	PharmaEssentia US						PharmaEssentia Japan					
		Male		Female		Total		Male		Female		Total	
		Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Employees (Position)	Management executives (Vice presidents and above)	2	25%	6	75%	8	6%	3	100%	0	0%	3	6%
	Senior executives (Directors and above)	5	56%	4	44%	9	6%	12	75%	4	25%	16	33%
	Mid-level executives (Managers and above)	31	43%	41	57%	72	51%	18	64%	10	36%	28	57%
	Entry level managers (Team leaders)	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
	General employees	28	54%	24	46%	52	37%	0	0%	2	100%	2	4 %
	Total employees	**66**	**47%**	**75**	**53%**	**141**	**100%**	**33**	**67%**	**16**	**33%**	**49**	**100%**
Employees (Age)	Age 30 and under	4	40%	6	60%	10	7%	0	0%	0	0%	0	0%
	Age 31-50	38	54%	33	46%	71	50%	17	74%	6	26%	23	47%
	Age 51 and above	24	40%	36	60%	60	43%	16	62%	10	38%	26	53%
	Total employees	**66**	**47%**	**75**	**53%**	**141**	**100%**	**33**	**67%**	**16**	**33%**	**49**	**100%**
Employees (Education)	Doctorate degree	13	57%	10	43%	23	16%	6	75%	2	25%	8	16%
	Master's degree	22	52%	20	48%	42	30%	3	100%	0	0%	3	6%
	Bachelor's degree	30	40%	45	60%	75	53%	19	59%	13	41%	32	65 %
	Other	1	100%	0	0%	1	1%	5	83%	1	17%	6	12.2%
	Total employees	**66**	**47%**	**75**	**53%**	**141**	**100%**	**33**	**67%**	**16**	**33%**	**49**	**100%**
Non-employees		0	0%	0	0%	0	0%	4	36%	7	64%	11	100%
Total		**66**	**-**	**75**	**-**	**141**	**-**	**37**	**-**	**23**	**-**	**60**	**-**

Note: Non-employees work on general administrative tasks, and relevant fees are paid to staffing agencies

2024 Employee Structure Table by Nationality GRI 202-2

Category	Group	China		Mississauga Facility		Spain		Taiwan		US		Total	
		Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Employees (Position)	Management executives (Vice presidents and above)	0	0%	0	0%	0	0%	0	0%	8	100%	8	5.67%
	Senior executives (Directors and above)	1	11.11%	1	11.11%	1	11.11%	0	0%	6	66.67%	9	6.38%
	Mid-level executives (Managers and above)	0	0%	0	0%	0	0%	0	0%	72	100%	72	51.06%
	Entry level managers (Team leaders)	0	-	0	-	0	-	0	-	0	-	0	0
	General employees	1	1.92%	0	0%	0	0%	1	1.92%	50	96.15%	52	36.88%
	Total	**2**	**1.42%**	**1**	**0.71%**	**1**	**0.71%**	**1**	**0.71%**	**136**	**96.45%**	**141**	**100%**

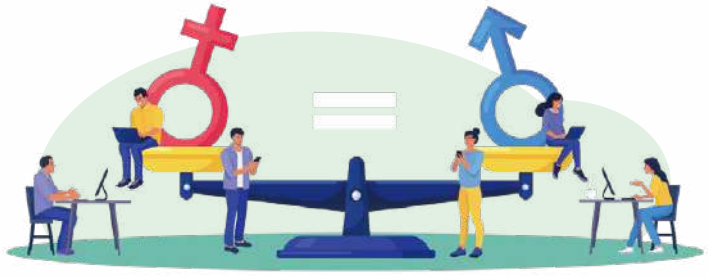
2024 Employee Structure Table by Ethnicity

Group	Asian		African		Caucasian		Pacific Islander or other regions		Multiracial		Other		Total	
	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Management executives (Vice presidents and above)	2	25%	0	0%	6	75%	0	0%	0	0%	0	0%	8	5.7%
Senior executives (Directors and above)	1	11.1%	1	11.1%	3	33.3%	1	11.1%	0	0%	3	33.3%	9	6.4%
Mid-level executives (Managers and above)	9	12.5%	5	6.9%	41	57%	0	0%	2	2.8%	15	20.8%	72	51.1%
Entry level managers (Team leaders)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General employees	6	11.54%	4	7.7%	30	57.7%	0	0%	1	2.0%	11	21.2%	52	36.9%
Total employees	**18**	**12.8%**	**10**	**7.1%**	**80**	**56.7%**	**1**	**0.7%**	**3**	**2.1%**	**29**	**20.6%**	**141**	**100%**

Female-to-Male Basic Salary Ratio GRI 405-2

As there are only a few staff members at Panco, salary details are not disclosed to protect employee privacy.

Category	Group	PharmaEssentia (Taiwan)		PharmaEssentia USA		PharmaEssentia Japan	
		Male salary	Female salary	Male salary	Female salary	Male salary	Female salary
Employees (Position)	Management executives (Vice presidents and above)	1	1.17	1	0.87	1	-
	Senior executives (Directors and above)	1	1.10	1	1	1	0.96
	Mid-level executives (Managers and above)	1	1.17	1	1	1	0.88
	Entry level managers (Team leaders)	1	0.96	-	-	-	-
	General employees	1	0.96	1	1.11	-	1



PharmaEssentia 2024 Personnel Structure of Revenue-Generating Departments

In 2024, our revenue-generating departments had a total of 74 employees; 58.11% were male and 41.89% were female.

Revenue-generating departments	PharmaEssentia (Taiwan)				Panco Healthcare			
	Male		Female		Male		Female	
	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Executives	1	33%	2	67%	3	100%	0	0
Non-executives	0	0%	2	100%	4	67%	2	33%
Total	1	20%	4	80%	7	78%	2	22%

Revenue-generating departments	PharmaEssentia USA				PharmaEssentia Japan			
	Male		Female		Male		Female	
	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Executives	6	86%	1	14%	13	93%	1	7%
Non-executives	16	41%	23	59%	0	0%	0	0
Total	22	48%	24	52%	13	93%	1	7%

Note: Definition of revenue-generating department: (1) PharmaEssentia (Taiwan) and Panco: Sales departments that directly come into contact with end users; (2) PharmaEssentia Japan: Sales departments and marketing departments; (3) PharmaEssentia US: Hematology Account Manager, Regional business Director, Sr Area Business Director, SVP Sales and Marketing

2024 STEM Personnel Structure

In 2024, we had 269 STEM talents across the Group; 53.3% were male and 46.47% were female.

Company STEM Units

PharmaEssentia (Taiwan)	Including R&D department, quality assurance department, production and manufacturing department, information and statistics department
Panco Healthcare	Including medical affairs, project, and quality assurance departments
PharmaEssentia USA	Including R&D, medical affairs, supply chain, quality assurance, and IT departments
PharmaEssentia Japan	Including R&D, medical affairs, supply chain, quality assurance, IT, and special medical consulting departments

Note: STEM refers to employees with relevant Science, Technology, Engineering, and Mathematics capabilities

	PharmaEssentia (Taiwan)				Panco Healthcare			
Category	Male		Female		Male		Female	
	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
STEM	113	51%	110	49%	4	50%	4	50%
Non-STEM	53	45%	66	55%	11	73%	4	27%
Total	166	49%	176	51%	15	65%	8	35%

	PharmaEssentia USA				PharmaEssentia Japan			
Category	Male		Female		Male		Female	
	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
STEM	14	70%	6	30%	13	72%	5	28%
Non-STEM	52	43%	69	57%	21	68%	10	32%
Total	66	47%	75	53%	34	69%	15	31%

New Employees and Exited Employees GRI 401-1

In 2024, PharmaEssentia (Taiwan) and Panco had a total of 56 new employees, most aged between 31-50 years, yielding a new employee rate of 15.34% and an employee growth rate of 7.35%. We actively work to attract external talents and promote outstanding internal employees. PharmaEssentia headquarters promoted 53 employees based on 2024 performance appraisal results, and 34% of senior executive positions were filled by promoted internal employees. To lower personnel turnover, we established a comprehensive retention program based around professional competency training blueprints to provide employees with personal development plans. In 2024, PharmaEssentia (Taiwan) and Panco had a total of 31 exited employees, with an involuntary turnover rate of 0%; the total turnover rate and involuntary turnover rate both decreased compared to 2023.

2024 New Employee Rates

	PharmaEssentia (Taiwan)				Panco Healthcare			
Age	Male		Female		Male		Female	
	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Age 30 and under	3	30%	7	70%	0	0	0	0
Age 31-50	19	51%	18	49%	4	80%	1	20%
Age 51 and above	2	50%	2	50%	0	0	0	0
Subtotal	24	47%	27	53%	4	80%	1	20%

	PharmaEssentia USA				PharmaEssentia Japan			
Age	Male		Female		Male		Female	
	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion	Number of employees	Proportion
Age 30 and under	2	50%	2	50%	0	0%	0	0%
Age 31-50	6	37.5%	10	62.5%	1	100%	0	0%
Age 51 and above	10	53%	9	47%	1	33%	2	67%
Subtotal	18	46%	21	54%	2	50%	2	50%

2024 Employee Turnover Rate

2024 Employee Turnover Rate by Age

PharmaEssentia (Taiwan) / Panco Healthcare

Age	Male		Female		Total	Male		Female		Total
	Number of employees	Proportion	Number of employees	Proportion		Number of employees	Proportion	Number of employees	Proportion	
Age 30 and under	3	60%	2	40%	5	0	0%	0	0%	0
Age 31-50	11	58%	8	42%	19	1	100%	0	0%	1
Age 51 and above	3	50%	3	50%	6	0	0%	0	0%	0
Subtotal	17	57%	13	43%	30	1	100%	0	0%	1

PharmaEssentia USA / PharmaEssentia Japan

Age	Male		Female		Total	Male		Female		Total
	Number of employees	Proportion	Number of employees	Proportion		Number of employees	Proportion	Number of employees	Proportion	
Age 30 and under	0	0%	0	0%	0	0	0%	0	0%	0
Age 31-50	7	32%	15	68%	22	0	0%	0	0%	0
Age 51 and above	7	78%	2	22%	9	5	83%	1	17%	6
Subtotal	14	45%	17	55%	31	5	83%	1	17%	6

2024 Employee Turnover Rate by Management Position

Category	PharmaEssentia (Taiwan)	Panco Healthcare	PharmaEssentia USA	PharmaEssentia Japan
Entry level executives	0	0	16	0
Mid-level executives	6	0	9	6
Senior executives	5	0	4	0
Non-executives	19	1	2	0

Total Turnover Rate and Voluntary Turnover Rate

Category		PharmaEssentia (Taiwan)	Panco Healthcare	PharmaEssentia USA	PharmaEssentia Japan
Voluntary turnover rate	Senior executives	1.5%	0%	2%	0%
	Mid-level executives	1.8%	0%	6%	12%
	Professional personnel	0%	0%	0%	0%
	Other	5.7%	1%	14%	0%
	Total	9%	1%	22%	12%
Involuntary turnover rate	Senior executives	0%	0%	1%	0%
	Mid-level executives	0%	0%	1%	0%
	Professional personnel	0%	0%	0%	0%
	Other	0%	0%	0%	0%
	Total	0%	0%	2%	0%
Turnover rate		9%	1%	24%	12%

Note: Annual turnover rate = Number of exited employees in 2024 / [(Number of employees at the end of 2023 + Number of employees at the end of 2024) / 2]

Employee Exit Procedures

We pay special attention to management of employee exit processes. Apart from ensuring that all procedures are legal and respectful, we also take employee exits as an important opportunity for continued optimization of workplace environments. When employees tender their resignations, their direct supervisors and the human resources department organizes exit interviews to understand their reasons for resignation, and incorporates interview records into personnel systems and welfare mechanisms for continued improvement and reference. For involuntary employee exits involving unsatisfactory performance and other factors, we strictly adhere to labor laws in conducting notice procedures as well as provide statutory severance pay and notice period wages to protect employee work and basic living rights. For changes or adjustments to internal duties, supervisors must fully communicate and negotiate with employees beforehand, strive to complete relevant announcements several weeks prior, ensure smooth handover of job responsibilities, and respect employee work arrangements. Employee exit information is regularly compiled and analyzed by the human resources department to serve as a reference for improving management systems, enhancing employee satisfaction, and lowering turnover rates so we can strive to build transparent, friendly workplace environments with good potential for sustainable development.

2024 Employee Absence Rates

Absence rates at PharmaEssentia (Taiwan), Panco, PharmaEssentia US, PharmaEssentia Japan

2023	2024			
	PharmaEssentia (Taiwan)	Panco Healthcare	PharmaEssentia USA	PharmaEssentia Japan
1.6%	2.09%	0.331%	8.55%	2%

Note: Definitions of absence rates and absence days in 2024
- Absence rate (AR): (Total absence days/Total work days) x 100%, truncating to the third decimal place
- Absence days: Employee absences from job positions due to loss of working capabilities. Includes sick leave (general sick leave, hospitalization leave, menstrual leave), personal leave (personal leave, family care leave), work-related injury leave, and work-related ill health leave; but does not include approved vacation days (annual leave), maternity leave, paternity leave, and bereavement leave

5.3 Talent Cultivation and Career Progression

Material Topics

Talent Cultivation and Career Progression

Description of Impacts

In an era of rapidly changing global markets and intense competition, talent has become an important sustainability cornerstone for corporations. PharmaEssentia generates positive benefits through talent cultivation.

Policies and Commitments

PharmaEssentia's talent cultivation and development framework has three main axes (build diverse training channels, encourage independent learning, and cultivate international professional talents) linked to corporate culture, core values, and global strategies to enable mutual organizational growth.

Responsible Unit

- Executive Center for Corporate Sustainability-Employee Care Team
- Human resources department and management
- Unit and department heads

Response Measures and Management Actions

- Established digital training and learning platform: To enhance independent learning in employees and effective management of training information and records, we established a digital training and learning platform in 2024, which was completed in the fourth quarter of 2024
- Online English learning program: To cultivate international talents and improve their language capabilities, our Taiwan Headquarters launched an online English learning program; the program garnered a target achievement rate of 84% and total learning hours amounted to 7,000 hours
- Internal visits: To promote career developments of internal talents, strengthen understanding of different departments and company products, and enhance recognition of company values, we hosted an internal visit in the fourth quarter of 2024 which was attended by 150 participants, around 45% of total company personnel
- R&D talent cultivation program: Identify key talents and provide development opportunities, including personal potential and career planning as well as domestic and foreign rotation and training opportunities

Evaluation Mechanisms

"New employee appraisals," "routine appraisals," and "annual appraisals" are used as a reference for cultivation and development, rotation, promotion, salary adjustments, and career planning

- Dual communication mechanisms: Supervisors regularly review performance; implement real-time tracking and guidance of corrections and feedback; adjust personal targets and implementation plans as necessary based on organizational needs; compile records of quarterly performance interviews; and set clear targets, action plans, and subsequent review times
- Interim target management: Our colleagues update target achievement status and meet with supervisors to review discrepancies between actual progress and targets, receive feedback on completed targets, and formulate improvement plans for unachieved targets to build consensus and adjust targets for the second half of the year as needed
- Performance self-assessments: Our colleagues complete performance self-assessments at the end of the year, and supervisors evaluate overall annual performance and capabilities of employees, conduct interviews to provide feedback, and work with employees to formulate work performance and capability development plans for the next year

Targets and Achievements in 2024

Indicators

- At least 15 hours of education and training
- Invest more than NT$7.5 million in education and training costs and achieve 100% budget execution
- Manager retention rate >86%
- Performance appraisal completion rate of 100%
- Complete establishment of digital training and learning platform

Achievement status

- Average training hours per person at PharmaEssentia (Taiwan) exceeded 27 hours
- PharmaEssentia (Taiwan) invested NT$7.5 million in education and training costs
- Manager retention rate >80%
- Performance appraisal completion rate was 100%
- Digital training and learning platform was completed in December 2024

Targets

Short-Term Targets (1-2 Years):

1. Improve new employee training and on-the-job training

- Establish systemic new employee training programs to help new employees quickly integrate corporate culture and master work skills
- Provide training associated with professional skills, interdepartmental collaborations, legal knowledge, and foreign language skills to current employees to improve overall team capabilities
- Provide flexible and diverse learning resources through digital learning platform to meet employee independent learning needs

2. Strengthen cultivation of international talents

- Provide employees with language training and cross-cultural communication courses to enhance internal competitiveness
- Organize overseas exchanges and training programs to build international perspectives, and provide opportunities to conduct professional technical exchanges with overseas subsidiary personnel

Targets

Mid-Term Targets (3-5 Years):

1. Establish key talent cultivation program

- Identify employees with good potential and provide customized development plans to cultivate future mid- to high-level leadership talent, reducing talent shortage risks and ensuring supply of talent for key positions
- Encourage employees to participate in interdepartmental programs that expand their perspectives and skills, thereby cultivating well-rounded talents

2. Optimize personnel career developments

- Formulate personal career development pathways based on performance appraisal results and help employees understand their strengths and development paths to enhance work satisfaction
- Formulate career development blueprints encompassing capability and position considerations so employees can plan career developments accordingly

Long-Term Goals (More Than 5 Years):

1. Build systems to enhance knowledge exchanges

- Build knowledge management systems to promote knowledge sharing and transfer, creating a constantly learning organization
- Tracking learning achievements, assess return on talent development investments, and continue to optimize talent development strategies

2. Promote diversity, mutual prosperity, and sustainable development

- Build friendly work environments to promote exchanges and collaborations between employees with different backgrounds
- Promote corporate social responsibilities and encourage employees to participate in volunteer services and charity activities
- Incorporate sustainable development into talent development strategies to cultivate employees with a sense of social responsibility

3. Use technology to improve talent development efficiency

- Introduce talent management systems to improve recruitment, training, and performance management efficiency
- Use data analytics to predict talent needs, assess talent potential, and provide more accurate talent development suggestions
- Use artificial intelligence to provide employees with personalized learning suggestions and career development plans

Talent Cultivation Strategies

PharmaEssentia cultivates talent from three functional aspects (core values, management and leadership, and professional capabilities) to build comprehensive talent cultivation systems that link corporate culture, core values, and global strategies; create a dual-track training framework that balances management and professional competency developments; and focus on continued cultivation of mid- and high-level talent as well as key talent.

Cultivation methods include:

- On-the-job training and practical learning
- Diverse learning channels including physical courses, digital resources, independent learning, and workplace coaching systems
- Overseas study and international rotation opportunities to strengthen global competitiveness

In 2024, PharmaEssentia officially introduced **the Group digital learning platform** to incorporate common competencies and global legal compliance courses in multiple languages. There are currently more than 3,000 courses on the platform, which greatly enhanced learning convenience and coverage.

We plan to assess achievements and optimize content after the platform has been live for more than a year. In future, we will continue to add learning resources, encourage employees to formulate customized learning plans based on personal development targets, build an independent learning culture, and cultivate key talents to support sustainable corporate development.

Dual-Track Diverse Talent Development Framework

PharmaEssentia has designed a dual-track diverse talent development framework to nurture diversified talents. Our development framework combines the two development tracks of "professional competencies" and "management competencies," and incorporates diverse learning and career development plans to help employees with different needs and potential levels. PharmaEssentia is also cultivating management and professional talents that can become mid- and high-level executives in future, thereby ensuring talent supply and lowering talent shortage risks. A detailed description of our systems are as follows:

Management competencies

We provide leadership, team management, project management, and other management competency training to employees with management potential, thereby building a management system and cultivating future management talent. 1

Professional competencies

We provide advanced professional competency training and development opportunities to professional employees in the R&D, production, and medical regulation domains, thereby building a professional system and helping these professional talents improve and gain a sense of achievement in technical domains. 2

Dual-Track Diverse Talent Development Framework

To ensure effective implementation of talent development systems, we continually optimize our systems through PDCA cycle adjustments. Implementations and assessments are as follows:

Plan

Demand analysis
- Understand employee development needs through performance appraisals, employee surveys, and supervisor interviews
- Predict future talent needs based on corporate global strategies

Design plans
- Design customized training courses, digital learning resources, and project training plans based on demand analysis results
- Clarify targets, content, times, locations, and participants of each development activity

Do

Invest resources:
- Invest sufficient capital, manpower, and time to ensure that all development activities run smoothly
- Complete establishment of comprehensive digital learning platform to provide a rich variety of online resources

Implement and track:
- Regularly track progress and effectiveness of various development activities
- Collect employee feedback and suggestions for continued optimization of development plans

Check

Assess learning effectiveness:
- Assess employee learning results through tests, practices, and project reports
- Track employee behavioral changes and performance enhancements at work

Assess satisfaction of development activities:
- Understand employee satisfaction toward various development activities through surveys and interviews

Act

- Continue to adjust and optimize talent development plans based on learning effectiveness and satisfaction evaluations

Employee Education and Training in 2024

GRI 404-1 GRI 404-2

In 2024, PharmaEssentia Taiwan invested more than NT$7.5 million in employee education and training, with specific implementations including establishing an online digital learning platform that officially went live in the fourth quarter, launching an online English learning project to cultivate international talents and build language capabilities; and implementing a R&D talent cultivation plan to evaluate key talent. PharmaEssentia Japan invested ¥5.7 million in training costs, with specific implementations including providing surveys of corrective measures and leadership training to the leadership team. PharmaEssentia US invested US$500,000 in training costs, providing on-the-job training, digital learning, cross-competency training, self-learning and lecturer-led courses, and other diverse learning channels; leadership development and succession plans for employees with good potential; and on-site training, including but not limited to 3 professional sales certification courses and 48 hours of training per year. Panco invested NT$100,000 in training costs, mainly focusing on quality regulation training to strengthen the fundamental knowledge of employees. We invested more than NT$24 million in training costs in 2024. We cherish our talents and invite retired employees to serve as company consultants so they can train new employees while enjoying their retirement. Two of our employees applied for retirement in 2024 and were invited to consult, but both employees declined our invitation and chose full retirement.

2024 Employee Training Hours by Position

(Unit: Hours)

PharmaEssentia (Taiwan)

Employee type	Total training hours			Average training hours		
	Male	Female	Total	Male	Female	Total
Executives	1,824.5	425	2,249.5	35	17	29
Non-executives	3,512	4,508.5	8,020.5	23.8	27.5	27.2
Total	5,336.5	4,933.5	10,270	29	26	27.6

Panco Healthcare

Employee type	Total training hours			Average training hours		
	Male	Female	Total	Male	Female	Total
Executives	82	13	95	16.4	4.3	11.9
Non-executives	64.5	28.5	93	6.5	5.7	6.2
Total	146.5	41.5	188	9.8	5.2	8.2

PharmaEssentia USA

Employee type	Total training hours			Average training hours		
	Male	Female	Total	Male	Female	Total
Executives	4,881	4,795	9,676	125	94	108.7
Non-executives	155	540	695	5.5	22.5	13.4
Total	5,036	5,335	10,371	76.3	71.1	73.55

PharmaEssentia Japan

Employee type	Total training hours			Average training hours		
	Male	Female	Total	Male	Female	Total
Executives	1,748	76	1,824	52.9	5.42	38.8
Non-executives	0	0	0	0	0	0
Total	1,748	76	1,824	52.9	4.75	37.22

Note: Executives refer to managers and above. Training hours are rounded off to the first decimal point

2024 Employee Training Hours by Age

(Unit: Hours)

PharmaEssentia (Taiwan)

Employee type	Total training hours			Average training hours			Panco Healthcare: Total training hours			Panco Healthcare: Average training hours		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Age 30 and below	329	653.5	982.5	12.7	16.7	15	0	0	0	0	0	0
Age 31-50	4,610.5	3,766	8376.5	34.4	28	31.3	143.5	28.5	172	10.3	5.7	9.5
Age 51 and above	397	514	911	17.3	32	23.4	3	13	16	3	4.3	4
Total	5,336.5	4,933.5	10,270	29	26	27.6	146.5	41.5	188	9.8	5.2	8.2

PharmaEssentia USA

Employee type	Total training hours			Average training hours			PharmaEssentia Japan: Total training hours			PharmaEssentia Japan: Average training hours		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Age 30 and below	216	216	432	54	36	43.2	0	0	0	0	0	0
Age 31-50	2,941	3,820	6,761	77.21	115.8	95	1,140	76	1,216	67.06	12.67	52.86
Age 51 and above	1,879	1,299	3,178	78.2	36	52.9	608	0	608	38	0	23.38
Total	5,036	5,335	10,371	76.3	71.1	73.55	1,748	76	1,824	52.9	4.75	37.22

Note: Employee training hours include training provided to exited employees before they left the company
Note: PharmaEssentia (Taiwan), Panco, PharmaEssentia US, and PharmaEssentia Japan all used the same calculation basis

PharmaEssentia provides general training as well as appropriate employee training based on employee needs, including QPharma Learning Management System and KnowBe4 IT Training courses in the US, and compliance training and PC training courses in Japan. We also offer English enhancement programs and key talent cultivation programs.

2024 Employee Training Hours by Training Type

(Unit: Hours)

類型	PharmaEssentia (Taiwan)			Panco Healthcare			PharmaEssentia USA			PharmaEssentia Japan		
	Male	Female	Total hours	Male	Female	Total hours	Male	Female	Total hours	Male	Female	Total hours
Executive and general employee training	1,612	1,684	3,296	146.5	41.5	188	4,692	4,981	9,673	1,748	76	1,824
English enhancement program	3,724.5	3,249.5	6,974	-	-	-	-	-	-	-	-	-

Note: Executive and general employee training: Included training provided in Taiwan, QPharma Learning Management System and KnowBe4 IT Training courses in the US, and compliance training and PC training courses in Japan
Note: Key talent cultivation programs include Courageous Conversations, Communicating with Courage, Radical Candor Accelerated Leadership Group courses, which are external leadership courses provided in the US

Performance Appraisals GRI 404-3

PharmaEssentia conducts two performance appraisals each year to help employees and supervisors gain consensus on work targets through a circular process of goal setting, mid-year interviews, and year-end appraisals. This process also allows us to understand areas requiring improvement in employee work. The human resources department organizes employee participation in appropriate courses to improve work methods and efficiency so we can improve work capabilities and achieve corporate targets. Employees that perform well on annual performance appraisals receive awards and bonuses as incentives. New employees that have completed probation periods undergo performance interviews and appraisals conducted by their unit supervisors regarding their work during probation periods. Those who fail appraisals may have their employment contracts terminated in accordance with relevant regulations, or, upon mutual agreement, extend their probation period. Performance appraisal results are also used as a reference for reviewing employee career developments. Employees and supervisors use performance appraisals and corporate professional competency training blueprints to formulate personal career development plans, uncover employee potential, and continue to cultivate outstanding internal corporate talent. In 2024, all employees at PharmaEssentia (Taiwan), Panco Healthcare, PharmaEssentia US, and PharmaEssentia Japan (not including employees who had not completed their probation period or employees on leave without pay) underwent performance appraisals and career development reviews, achieving an employee appraisal rate of 100%.

Based on appraisal results for 2024:

PharmaEssentia headquarters

commended	promoted
44 employees	53 employees 34% of middle and senior management positions were filled by promoted internal employees

Panco Healthcare

commended	promoted
5 employees	2 employees

To improve personal performance, motivate continued improvement in our colleagues, and build high-performance teams and organizations, PharmaEssentia appraised the following items:

New employee appraisals

Appraisal target: New employees

Appraisal method:
The human resources department provides work review information to new employees before the end of their probation periods in accordance with probation period stipulations in employment contracts. Completed work reviews are submitted to responsible supervisors for evaluation. Those who pass reviews are confirmed as regular employees, and those who fail to meet standards are informed by department supervisors whether their probation periods can be extended (and extension limits), or are handled in accordance with the Labor Standards Act.

Regular appraisals

Appraisal target: All employees

Appraisal method:
Managers of all levels regularly review work progress and deviations from targets (including gaps between behavioral performance and expectations) with their subordinates, provide timely feedback to those that have reached their targets, and formulate improvement action plans for those that fail to meet expectations. Managers also continue to review and record performance to serve as a reference for annual appraisals.

Annual appraisals

Appraisal target: All employees

Appraisal method:
We conduct two annual appraisals each year, an appraisal for the first half of the year in June and an appraisal for the second half of the year in December. The appraisal for the first half of the year covers January 1 to June 30, and the appraisal for the second half of the year covers July 1 to December 31.

Number of Appraised Employees GRI 404-3

Performance appraisals by gender

(Unit: Persons)

Type	PharmaEssentia (Taiwan)				Panco Healthcare				PharmaEssentia USA				PharmaEssentia Japan			
	Male		Female		Male		Female		Male		Female		Male		Female	
	Number of appraised employees	All employees	Number of appraised employees	All employees	Number of appraised employees	All employees	Number of appraised employees	All employees	Number of appraised employees	All employees	Number of appraised employees	All employees	Number of appraised employees	All employees	Number of appraised employees	All employees
Annual performance appraisals	156	166	162	176	15	15	7	8	61	61	66	66	27	33	15	16

Note: Employees that had not completed their probation periods or who were on leave without pay did not undergo performance appraisals

Performance appraisals by position

(Unit: Persons)

職級	PharmaEssentia (Taiwan)		Panco Healthcare		PharmaEssentia USA		PharmaEssentia Japan	
	Number of appraised employees	All employees	Number of appraised employees	All employees	Number of appraised employees	All employees	Number of appraised employees	All employees
General employees	225	243	16	16	9	9	2	2
Entry level managers (Team leaders)	34	34	1	1	1	1	0	0
Mid-level executives (Managers and above)	39	44	4	4	18	18	21	28
Senior executives (Directors and above)	17	18	1	1	95	95	16	16
Management executives (Vice presidents and above)	3	3	0	1	4	4	3	3

Note: Employees that had not completed their probation periods or who were on leave without pay did not undergo performance appraisals

5.4 Talent Attraction and Retention

Material Topics	Description of Impacts	Policies and Commitments	Responsible Unit
Talent Attraction and Retention	In an era of rapidly changing global markets and intense competition, talent has become an important sustainability cornerstone for corporations. Therefore, we consider talent attraction and retention to be important development items and work to establish diverse recruitment channels, maintain industry-academia collaborations, optimize promotions, cultivate talent, and build international competitiveness.	Talent cultivation is PharmaEssentia's responsibility and commitment toward employees. We will continue industry-academia collaborations and expand diverse recruitment channels to attract outstanding talent, build friendly and safe work environments that can inspire employee motivation and commit them to long-term career developments, thereby retaining talent. PharmaEssentia established internal talent cultivation and development policies in the third quarter of 2024 to provide more diverse incentives.	• Sustainability Development Center-Employee Wellbeing Team • Human resources department and management • All unit managers

Response Measures and Management Actions

- Implemented performance, promotion, and structural salary adjustments based on annual operational target achievements, personal performance appraisals, and outsourced surveys on salaries and benefits in response to government salary adjustment policies, establishing related procedures and incentives to protect the salaries and benefits of entry-level employees
- Implemented "Education and Training Management Regulations" and "Talent Recommendation and Incentive Regulations" to provide talent training and development, thereby retaining talent
- Provided flexible work conditions exceeding Labor Standards Act standards to attract talent
- Hosted competitions to identify outstanding employees, recognize outstanding employee performance, and enhance employee sense of belonging
- Planned and implemented diverse recruitment plans, and used "AI tools" and "orientation tests" for objective talent selection
- Formulated long-term benefits for female employees and raised the proportion of female executives
- Long-term incentives: Provided new restricted employee shares (see PharmaEssentia's company prospectus) to new employees as well as supervisors and key talent that made special contributions to important corporate developments, and also offered employee stock options to attract and retain outstanding talent (see PharmaEssentia's company prospectus)
- Established long-term organizational development plans
- Planned regular participation in market salary surveys to ensure provision of salaries with market competitiveness, and developed diverse incentive measures to provide timely rewards for different employee groups
- Conducted employee satisfaction and employee engagement surveys in the fourth quarter of 2024
- Promoted talent reserve mechanisms to integrate employee career developments and corporate development needs
- Implemented employee assistance programs using external professional resources, and provided employee consultation and guidance to ensure that employees receive comprehensive care and support associated with psychological fitness, career management, health enhancement, and quality of life
- Hosted regular employee activities to improve employee quality of life and ensure that employees lead healthy and happy lives

Evaluation Mechanisms

- Use regular performance appraisals and career development reviews to serve as a basis for education and training/promotion/coaching/incentives (employee performance appraisals are conducted every June and December)
- Employee satisfaction surveys

Targets and Achievements in 2024

- Turnover rate was lower than 10%
- Employee care and friendly work environment: 0 legal violations
- Participated in 2024 Willis Towers Watson (WTW) salary survey to understand salary and benefit standards for continued maintenance of industry-leading standards
- Occupational health and safety: 0 legal violations
- Global employee growth rate: 19.1%
- Average global employee retention rate: 90.7%
- Employee care and friendly work environment: 0 legal violations
- Conducted global employee engagement surveys in 2024 to collect employee feedback, serving as a basis for adjusting HR policies/measures in 2025
- 100% of employees were appraised

Targets

Short-Term Targets (1-2 Years):

Quickly attract talent in response to rapid corporate growth and manpower needs from completed factories

1. Optimize recruitment processes

- Simplify employment processes and establish recruitment systems to improve recruitment efficiency and digital management.
- Utilize diverse recruitment channels (LinkedIn, job banks, social media)

2. Improve employer brand visibility

- Post corporate culture and benefits systems on corporate website and social media platforms
- Promote future corporate potential talent markets at all campuses

3. Optimize performance and incentive systems

- Establish transparent and fair performance assessment systems
- Design incentive bonus systems and promotion channels

Mid-Term Targets (3-5 Years):

Implement the following mechanisms to improve retention rates as well as establish stable teams and culture

1. Establish effective employee training and development mechanisms

- Strengthen new employee training and on-the-job training programs
- Provide professional certification subsidies and interdepartmental rotation opportunities

2. Build good working atmospheres

- Regularly conduct employee satisfaction surveys and make improvements
- Strengthen internal communication mechanisms and supervisor coaching

Long-Term Goals (More Than 5 Years):

Establish talent sustainability strategies and corporate competitive advantages

1. Develop talent reserve and succession plans

- Establish succession teams for key positions
- Provide leadership cultivation programs for high potential (HiPo) talents

2. Build an attractive corporate culture

- Build a value-oriented (innovative, respectful, and sustainable) corporate culture
- Develop diversity, equity, and inclusion (DEI) strategies to attract talents with international diverse backgrounds

3. Strengthen long-term influence of employer brand

- Become the industry employer of choice
- Actively participate in social responsibility and sustainable development issues to enhance corporate image

Remuneration System GRI 2-20

PharmaEssentia adheres to local labor standard laws and formulates remuneration policies (including highest governance policies and remuneration for senior management) based on salary management regulations, performance management regulations, and our articles of incorporation. Please refer to 2.1 Corporate Governance Framework for more information. We strive to maintain industry-leading remuneration standards with performance, promotion, and structural salary adjustments adhering to annual operational conditions, personal annual performance appraisals, and third-party remuneration and benefits surveys and reports. PharmaEssentia US remuneration policies reference local regulations and AoN Radford Lifesciences Benchmarking Data, offering competitive salaries and bonuses. We also provide "employee stock options," "employee subscriptions in cash capital increases," "new restricted employee shares," and other rewards to retain talent using revenue-sharing systems. If there is surplus at the end of the fiscal year, employee bonus distribution ratios for the year should be formulated, approved by the Board, and submitted to the shareholders meeting for ratification after taxes have been paid and any accumulated losses from previous years have been offset.

Ratio of Wages for Entry-Level Employees to Local Minimum Wage

GRI 202-1

In 2024, PharmaEssentia (Taiwan) and PharmaEssentia US both provided salaries exceeding local minimum wage, which not only benefited employees, but also demonstrated our salary competitiveness.

Operational sites	Ratio of wages for male entry-level employees to local minimum wage	Ratio of wages for female entry-level employees to local minimum wage
PharmaEssentia (Taiwan)	1.35：1	1.4：1
Panco Healthcare	1.79：1	1.64：1
PharmaEssentia USA	5.5：1	6.4：1
PharmaEssentia Japan	3.7：1	2.7：1

Full-Time Employee Salaries

Over the past three years, PharmaEssentia average and median salaries for non-executive full-time employees has increased year by year.

PharmaEssentia salaries for non-executive full-time employees over past 3 years

PharmaEssentia (Taiwan) (Unit: Thousand TWD)

	2022	2023	2024
Total number of employees	232	282	305
Total salaries	270,448	332,713	362,962
Average salaries	1,166	1,180	1,190
Median salaries	907	918	936

PharmaEssentia US (Unit: Thousand TWD)

	2022	2023	2024
Total number of employees	92	127	101
Total salaries	626,438	779,324	627,072
Average salaries	6,809	6,136	6,209
Median salaries	7,165	6,240	6,538

PharmaEssentia Japan (Unit: Thousand TWD)

	2022	2023	2024
Total number of employees	-	-	27
Total salaries	-	-	66,464
Average salaries	-	-	2,462
Median salaries	-	-	2,567

Note 1: Employee numbers were defined in accordance with the definition of "full-time employees not holding managerial positions" stipulated by the Taiwan Stock Exchange, including all Taiwanese and foreign employees (and permanent employees) within the corporation, but excluding employees in managerial positions, employees at overseas branches, part-time employees, and other exempt personnel

Note 2: Employee numbers at our US and Japanese subsidiaries were calculated according to the definition used for Taiwan

Employee Benefits and Care

PharmaEssentia established the employee welfare committee in 2013. The committee convenes 4 times every year, and works with company management to jointly formulate employee benefits and activities. In 2024, total expenditures for employee benefits at PharmaEssentia and Panco amounted to NT$6.16 million, an increase of 56% compared to the previous year, and a total of 1,491 employees applied for these benefits. We plan to establish emergency relief regulations in 2025 so our employees who are unable to work and face financial difficulties due to serious diseases and other factors can apply for emergency relief support to cover their basic living needs.

To attract talent, PharmaEssentia not only provides labor insurance and health insurance in accordance with law, but also provides the following employee benefits and care items superior to market standards:

- Five days of sick leave with full pay, superior to the stipulations of the Labor Standards Act, which only offer half of regular payments for sick leave days
- Bonuses for three major festivals, project bonuses
- Long-term employee incentive programs such as employee stock options, new restricted employee shares, and employee subscriptions in cash capital increases
- Insurance plans: Group insurance and overseas travel insurance
- Employee activities: Health examinations, weight loss activities, relaxing massages, general leave without pay, EAP health lectures, commendations of outstanding employees, special store discounts, and free taxis for night shift workers
- Flexible leave system: Some components superior to Labor Standards Act leave systems
- Flexible working hours: We help our employees balance work and family time through flexible working hours (8:00-9:30 at Taipei office and 8:00-8:30 at Taichung Plant) so they can use their time more effectively
- Remote work
- Friendly workplace environments: Provide employee maternity allowances, childcare services, wedding subsidies, and marital leave
- Child-friendly measures: Convenient parking spaces during pregnancy; lactation rooms established according to law; maternity allowance of NT$6,000; childcare programs offered by collaborating kindergartens; maternal health protection (pre-partum/post-partum) regulations; and pregnancy, childbirth, and parental leave without pay. PharmaEssentia provides full pay for 10.975 weeks of maternity leave and paternity leave

Retirement System GRI 401-2 GRI 404-2

PharmaEssentia appropriate pensions in accordance with law. Employees eligible for the old pension system deposit 2% of monthly salaries into a pension reserve account at Bank of Taiwan. Employees under the new pension system appropriate 6% of salaries each month to their personal pension accounts based on their pension levels. Panco employees all participate in the new pension system, and 6% of salaries are appropriated to their personal pension accounts based on their pension levels.

Parental Leave Policies and Current Conditions

To help employees achieve balance between work and family, PharmaEssentia (Taiwan), Panco, PharmaEssentia Japan, and PharmaEssentia US all provide parental leave benefits. PharmaEssentia Japan also offers flexible working hours and work-from-home opportunities. Primary caregivers can apply for more than 30 weeks of paid leave and non-primary caregivers can apply for more than 4 weeks of paid leave. In 2024, 26 employees at PharmaEssentia (Taiwan) and Panco were eligible to apply for parental leave without pay, and 3 employees actually applied for parental leave without pay. Reinstatement rates and retention rates all reached 100%. No employees at PharmaEssentia Japan were eligible to apply for parental leave without pay.

2024 Parental Leave Reinstatement and Retention Statistics GRI 401-3

Indicator	PharmaEssentia (Taiwan)		Panco Healthcare		PharmaEssentia USA	
	Male	Female	Male	Female	Male	Female
Number of employees eligible for parental leave without pay in 2024	11	12	2	1	6	6
Actual number of applicants for parental leave without pay in 2024	0	3	0	0	0	3
Number of expected reinstatements in 2024 (A)	1	4	0	0	0	1
Number of actual reinstatements in 2024 (B)	1	4	0	0	0	1
Reinstatement rate for 2024 (B/A)(%)	100%	100%	0	0	0	100%
Number of total reinstatements in 2023 (C)	1	3	0	0	0	0
Number of people still in service 12 months after reinstatement in 2023 (D)	1	3	0	0	0	0
Retention rate for 2024 (D/C)(%)	100%	100%	0	0	0	0

Note: Based on the number of employees who applied for maternity leave or paternity leave from January 1 to December 31, 2024, and who were still employed as of December 31, 2024

Maternal Care and Breastfeeding Rooms

In response to government maternity and child health and safety policies, we provide nursing care services covering consultations and follow-ups on physical and ergonomic hazards, work-related stresses, and personal health risks for pregnant employees starting from pregnancy until one year after childbirth to prevent and reduce potential maternal hazards. To protect infant and child health, we also stipulate that female employees are not allowed to work at tasks that are harmful to infants during pregnancy and breastfeeding periods. PharmaEssentia set up breastfeeding rooms in accordance with law and received the Taipei City Government Department of Health Excellent Breastfeeding Room Certification in 2023. This certificate is valid from 2023 to 2026.

PharmaEssentia Excellent Breastfeeding Room Certification

Employee Assistance Program

We offer on-site health services, EAP counseling, return-to-work assessments, assistance on major events, and other diverse employee assistance programs to care for employee health while building a healthy and friendly workplace environment.

On-site health care services	Physicians provide three 2-hour on-site services every year, nurses provide three 2-hour on-site services every month, and rehabilitation physicians provide non-periodic on-site factory services. As of 2024, a total of 41 employees at our Taichung Plant participated in health education activities and received face-to-face guidance	Implementation Results
EAP counseling services	Professional certified personnel provide employee counseling and support on issues that could affect work productivity. As of 2024, a total of 13 employees have received counseling	Implementation Results
Employee return-to-work assessments	Provide employee return-to-work assessments to match employees with suitable jobs	Implementation Results
Support for major events	We provide care and support to employees affected by major incidents, serious injuries, or serious illnesses; support basic needs for families of deceased employees; and offer funeral allowances to bereaved families when necessary	Implementation Results

Employee Satisfaction Surveys

We commissioned a third-party consulting company (WTW) to conduct an employee engagement survey in the fourth quarter of 2024. A total of 433 employees around the globe participated in this survey, achieving an overall participation rate of 72%. Survey results indicated that more than 90% of employees understood their job responsibilities and clearly understood our vision and overall targets; our employees also expressed high levels of recognition toward our communications associated with targets and their job responsibilities, as well as the support received from direct supervisors. Compared to industry peers, our management team's communications on change management and work environments encouraging innovation received high recognition from our colleagues. However, there was still room for improvement on realizing employee potential and fostering trust in leadership. Our colleagues also hope to see appropriate authorizations and more client-oriented company processes, as well as clearer career development pathways to help them realize their full potential. We reported the results of the employee engagement survey to senior management to help the management team understand employee opinions, and our human resources department will help to organize improvement action workshops to propose specific action plans for important improvement items, facilitate subsequent implementation and tracking, compile improvement strategies and employee communication results, and incorporate corporate strategies and targets.

5.5 Occupational Health and Safety

Occupational Health and Safety Management Systems GRI 403-1

PharmaEssentia formulated the "Environmental Health and Safety Policy" and adheres to environmental protection and occupational health & safety regulations. We provide internal environmental protection and occupational health & safety training to improve employee awareness of environmental protection and health & safety topics, and strive to achieve zero disasters, energy conservation, and waste reduction. PharmaEssentia has formed an occupational health and safety committee, and formulated the "Occupational Safety and Health Policy," which has been approved by our chairperson. The Occupational Safety and Health Policy encompasses the 368 full-time employees at our Taipei Headquarters, Taichung Plant, and Panco Healthcare, achieving a coverage rate of 100%. We strive to build safe and healthy work environments that protect the health and safety of employees and related personnel, preventing injuries from happening and reducing operational risks. Occupational Safety and Health Policy management targets and indicators are as follows:

- Incorporate ISO 45001 Occupational Health and Safety Management System
- Formulate occupational health and safety policies
- Set health and safety indicators to reduce occupational injuries
- Implement comprehensive health and safety education and training to enhance awareness
- Comply with local occupational health and safety laws, regulations, and standards
- Continue to improve occupational health and safety performance to achieve sustainable development targets

Our Taichung Plant incorporated the ISO 45001 Occupational Health and Safety Management System in 2024, formed an implementation team, executed management systems, provided complete education and training, and obtained SGS third-party verification in December 2024, establishing comprehensive hazard identification, risk assessment, and incident investigation measures. Our Taipei Headquarters plans to introduce the ISO 45001 Occupational Health and Safety Management System in 2026.

We also implemented permit, chemical, machinery, and other management procedures, achieving the following results:

Management Measures: Permit management

Our Taichung Plant stipulates that employees and contractors should apply for permits and complete related protective measures before implementing high-risk operations. In 2024, our Taichung Plant implemented 59 high-risk operations (including 59 hot work operations and 1 power outage maintenance operation), and factory hot work operations were managed appropriately to maintain equipment and personnel safety.

Implementation Results

Management Measures: Chemical management

PharmaEssentia is gradually establishing a chemical registry to improve operational procedures.

Implementation Results

Management Measures: Management of machinery & other items

All factories adhere to regulatory requirements. All machinery and tools need to pass verifications and obtain safety certifications before entering factories, and use of non-qualified machinery is prohibited.

Implementation Results

Occupational Health and Safety Committee

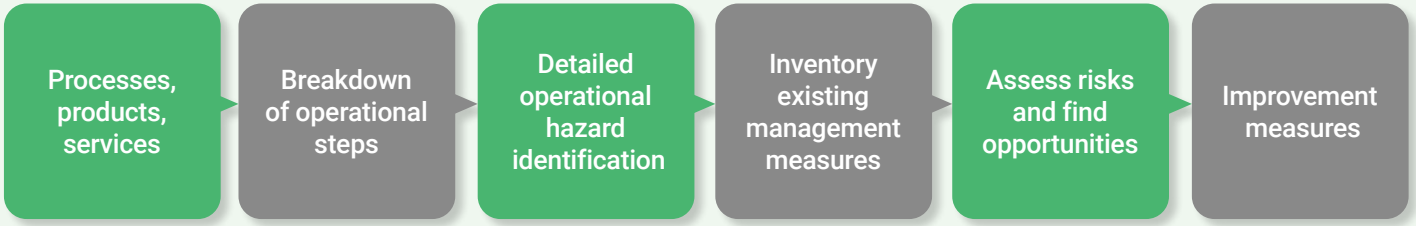
Our Taichung Plant has established an occupational health and safety committee in accordance with law, with labor representatives accounting for more than one-third of committee members. The committee convenes every quarter, and is responsible for reviewing, coordinating, and suggesting health and safety matters. We have also established a level 1 occupational health and safety management unit which is responsible for planning, supervising, and promoting occupational health and safety matters. We review the applicability and effectiveness of all operations to facilitate effective risk management, and adopt other effective control measures when necessary to build a safe, healthy, comfortable, and friendly workplace.

Hazard Identification, Risk Assessment, and Incident Investigation

To ensure effectiveness and applicability of risk assessments during the initial stages of ISO 45001 management system incorporation at our Taichung Plant, the implementation team conducts annual health and safety risk assessments for high-risk items, and a comprehensive hazard identification and risk assessment will be regularly conducted every 3 years. Hazards and risks from activity changes are identified before changes can be made to related equipment processes, raw materials, products, services, and associated activities. Department hazard identification and risk assessment results for 2024 found 809 occupational health and safety risks and opportunities; 5% (44 items) of identified items scored 320 points and we implemented a total of 2 health and safety management plans. After conducting environmental health and safety risk assessments on internal and external communicated issues according to management guidelines, we confirmed that “fire alarms that cannot be promptly and effectively verified during non-working hours” was a risk item that required priority handling. We have formulated corresponding action plans for identified risks and opportunities, and strengthened response capabilities and notification mechanisms. The 2 health and safety management plans were also handled effectively.

Our Taipei Headquarters referenced the Job Safety Analysis (JSA) when formulating current management processes to ensure that we can identify hazards, assess risks, find opportunities, and explore improvement measures. PharmaEssentia actively established hazard identification, risk assessment, and incident investigation measures to build safe, healthy, zero-disaster workplace environments.

Management process



Occupational Safety and Incident Prevention Mechanisms/Impact Assessments

PharmaEssentia established the "Labor Safety and Health Work Guidelines" and "Emergency Response Procedures" to regulate various safety inspection measures, and regularly conducts response drills associated with various emergency incidents to prevent industrial safety incidents from happening. Employees receive periodic on-the-job health and safety training, personnel and operational supervisors are deployed according to law for statutory operation items, and non-operating personnel are not allowed to implement operational tasks. Our factories have established the "Important Facility Operator Test," "Factory Health and Safety Regulations," and "Contractor Factory Entry Procedures" to regulate factory entry, facility operation, and factory safety processes, thereby ensuring health and safety of all personnel in factories.

Our Taichung Plant incorporated the ISO 45001 management system in 2024, and handles risk and opportunity measures in accordance with the ISO 45001 system. All PharmaEssentia factory employees have the right to refuse unsafe work, and we have established hazard identification as well as risk and opportunity assessment and management procedures. All unit workers participated in unit hazard identification and risk assessment operations used to formulate management regulations. The aforementioned workers have all completed pre-job training, on-the-job training, and necessary certification training for specific operations, so possess hazard identification and risk assessment capabilities. We regulate all safety inspection measures and regularly organize response drills associated with various emergency incidents to prevent industrial safety incidents from happening. Employees regularly receive on-the-job health and safety training, personnel and operational supervisors are deployed according to law for statutory operation items, and non-operating personnel are not allowed to implement operational tasks, thereby ensuring the health and safety of all factory personnel.

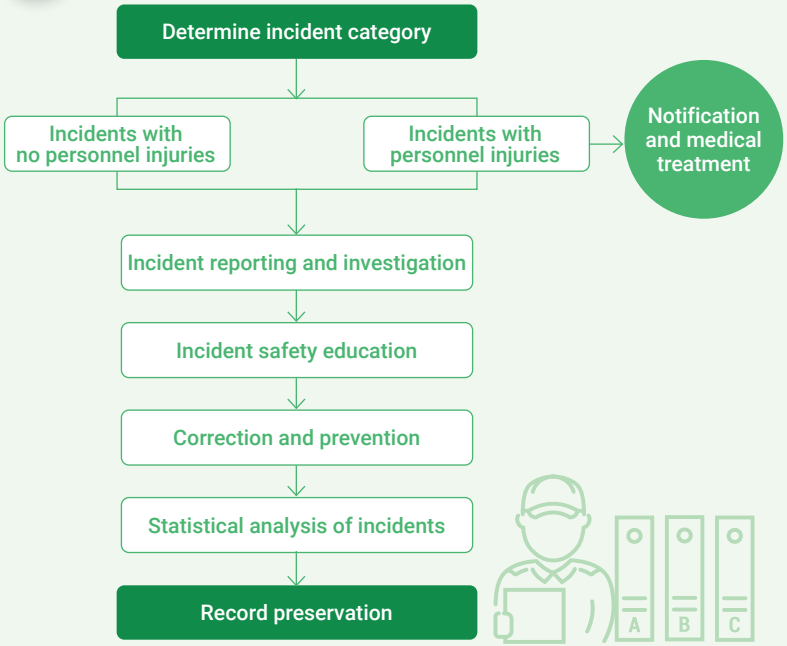
To prevent injuries associated with occupational health and safety, and to ensure that all equipment operate normally, Panco Logistics Center established the "Logistics Center Safety Management Procedures" and "Emergency Response Handling Procedures." In the event of an emergency, the logistics center manager is immediately notified, and the emergency response team is activated to rescue and evacuate personnel or report injured persons for medical treatment.

Incident Investigation Processes

1 Implement emergency response procedures in the event of fires, explosions, chemical spills, and natural disasters to prevent incident escalation and personnel injuries, prioritize personnel safety, and provide appropriate care for injured personnel.

2 Notify unit managers and environmental safety units by phone or in person to request support at the first instance, and determine whether there is need to seek support from external institutes (the fire department or environmental incidents specialist teams).

3 Post-incident investigation processes



Contractor Safety Management

We have established contractor management regulations as well as management mechanisms that should be implemented before construction, before entering factories, and during construction to protect employee and contractor safety, ensuring safety and reliability in work environments. In 2024, no contractor occupational injury incidents or occupational diseases occurred in PharmaEssentia and Panco workplaces.

Before construction

- Vendors sign the "Contractor Safety, Health, and Environmental Commitment Statement," "Contractor Factory Entry Affidavit," and "Workplace Environment and Hazard Factor Notification Form"
- Vendors submit construction personnel insurance information, 6-hour health and safety training certificates, authorization for personal data usage, and reports for health examinations conducted within the past 2 years
- Related information is retained by our environmental safety units

Before factory entry

- Construction units provide construction application forms
- Special operations need to apply for special operations permits
- Related information is retained by our environmental safety units

During construction

- Units undergoing construction must ensure that contractors comply with the provisions of the "Contractor Environmental Protection Health and Safety Management Guidelines"
- Training certificates need to be provided when implementing special operations
- Our environmental safety units conduct random inspections, and work is immediately suspended if there are any safety concerns

Occupational Health and Safety Training GRI 403-5

A total of 800 employees at PharmaEssentia and Panco participated in occupational health and safety training in 2024 and total training hours amounted to 4,098 hours. PharmaEssentia's Taipei Headquarters and Panco conduct external evacuation training each year as well as non-periodic training associated with emergency response, first-aid, occupational health and safety, chemical labeling, and general rules. Our Taichung Plant regularly hosts education and training, including but not limited to internal biosafety response training every year; fire and toxic chemical disaster training, ISO 45001 system incorporation training, basic environmental health and safety certification training, and on-the-job training every six months; and 3-hour general hazard training as well as health and safety training every three years. PharmaEssentia also regularly conducts fire drills and first-aid (AED & CPR) courses. We conducted a fire drill in November 2024 and implemented evacuation broadcasts, evacuation headcounts, shutdowns of important facilities, and fire extinguishing training. Our Taichung Plant conducted AED and CPR courses attended by 22 participants in 2024.

PharmaEssentia US and PharmaEssentia Japan did not conduct any occupational health and safety training in 2024.

PharmaEssentia Occupational Health and Safety Training in 2024

Factory	Indicator	Total sessions	Participants	Total training hours (hours)	Note (frequency)
Taipei Headquarters/ Panco	Emergency evacuation and first-aid skills (internal training)	3	130	845	Non-periodically
	General occupational health and safety training (internal training)	4	86	258	Non-periodically
	Hazardous chemical labeling and general rules (internal training)	2	27	81	Non-periodically
	Park evacuation training (external training)	1	80	80	Annually
Taichung Plant	Self-defense firefighting training (internal training)	2	86	172	Once every six months
	Toxic chemical disaster response drills (internal training)	2	8	2	Once every six months
	Biosafety response drills (internal training)	1	12	18	Annually
	Practical AED & CPR training	1	22	24	Non-periodically
	ISO14001 & ISO45001 system incorporation training (external training)	6	99	1,782	Non-periodically
	Basic environmental health and safety certification training and on-the-job training (external training)	23	23	155	Non-periodically
	(On-the-job) General hazard education and training	1	84	252	3 hours of training every 3 years
	(On-the-job) General health and safety education and training	1	143	429	3 hours of training every 3 years
Total		47	800	4,098	

PharmaEssentia Emergency Fire Response and First-Aid Courses in 2024

Emergency first-aid course



Evacuation broadcast

Evacuation headcount



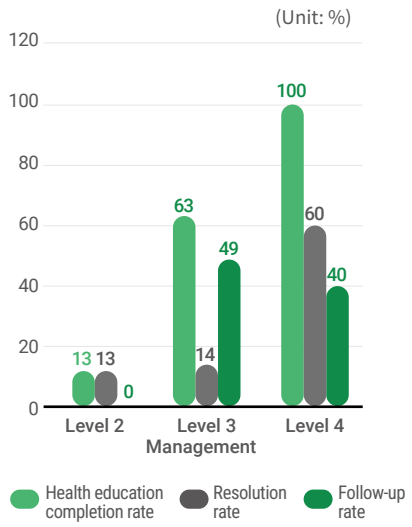
Shutdown of important facilities

Fire extinguishing training (sunny day training)

Occupational Health Services and Activities GRI 403-3

PharmaEssentia provides various occupational health services in accordance with the "Occupational Safety and Health Act" and the "Labor Health Protection Rules," including annual physical examinations, non-periodic health promotion lectures, special health examinations, and workplace maternal health protection. Illnesses triggered by abnormal workloads are addressed through workload questionnaires, 10-year cardiovascular disease risk assessments, and preventive measures for ergonomic hazards. We arrange for professional therapists, physicians, or nurses to provide on-site services every year. In 2024, we organized 39 physician/nurse on-site factory service sessions in Taichung and Taipei, providing services that included health management, care for middle-aged and elderly persons, and maternal health promotion to 189 personnel who participated in health education activities, received face-to-face guidance, and accepted work adjustments to reduce potential health risks. PharmaEssentia's Taipei Headquarters and Taichung Plant have obtained the Ministry of Health and Welfare Health Promotion Administration "Accredited Healthy Workplace Health Promotion Certificate," which is valid for 3 years. We strive to reduce occupational injury risks and build work environments that promote employee physical and mental balance, health, and happiness.

2025 Health Management Consultation Completion Rate



Accredited Healthy Workplace Health Promotion Certificate

Taichung Plant Accredited Healthy Workplace Health Promotion Certificate

Health promotion competition award

Voluntary corporate rapid tests

PharmaEssentia Occupational Health Services in 2024

Physical examinations superior to regulations


- Conducted annual physical examinations by age in accordance with Occupational Safety and Health Act and Pharmaceutical Good Manufacturing Practice (GMP) regulations
- Added abdominal and neck ultrasounds, lung function tests, bone density scans, cancer screenings, and electrocardiograms

Social club and course subsidies


Badminton club


Road running club- LINE Road Run event

- Formed power walking club, badminton club, and road running club, and provided social club operational expense subsidies every six months
- Road running club: 3 activities with 33 participants
- Badminton club: 14 activities with 115 participants
- Power walking club: 6 activities with 91 participants, including 20 family members

Hiking and trekking activities


Power walking club at Ruijing Hiking Trail


Power walking club at Huoyan Mountain

- All social clubs organized non-periodic hiking and trekking activities, and participated in various road running activities
- Our power walking activity accumulated a total of 38.83 million steps, equivalent to 31,067 km, reducing 3,417 kg in carbon emissions

  (Note: Estimated using carbon emissions of 0.11 kgCO_2e per km from driving a 1,800 cc car)

Massage services

- We employed 1 visually impaired masseuse starting in 2014 and established a massage station to promote both public welfare and employee health
- In 2024, a total of 481 people in Taipei utilized these services

On-site contract medical services

Signed contracts with consulting companies based on company personnel numbers:

- Physicians provide three 2-hour on-site services each year
- Nurses provide three 2-hour on-site services each month

Therapists and rehabilitation physicians provide non-periodic on-site services. In 2024, therapists provided 6 on-site service sessions, physicians provided 3 on-site service sessions, and nurses provided 30 on-site service sessions, with each session lasting for 2 hours; a total of 61 personnel received face-to-face guidance, follow-up, and care services

Paid sick leave and influenza vaccination subsidies

- Five days of paid sick leave every year
- Influenza vaccination subsidies of NT$600 for each employee and inclusion in the 2024 health promotion points reward program

Fitness and stress-relief activities


Lectures on exercise: Muscle building and fat loss for better fitness


Relaxing DIY class

- Body mass index (BMI) management and weight reduction activity with 38 participants reduced 124.6 kg of weight in total
- Hosted 2 muscle-building and fat-loss lectures on fitness exercises with 35 participants
- Organized 1 relaxing DIY class with 20 participants

Occupational Disaster Incident Rate

No occupational injuries (excluding traffic accidents) or occupational diseases occurred at PharmaEssentia Taipei Headquarters and Taichung Plant, Panco, PharmaEssentia US, and PharmaEssentia Japan in 2024.

Near Misses

No near misses occurred at PharmaEssentia's Taipei Headquarters or Panco in 2024. There was 1 near miss at PharmaEssentia's Taichung Plant involving battery abnormalities, but the incident was resolved following testing and replacement. This incident was not associated with manufacturing processes, and did not lead to loss of working hours or personnel injuries.

06

Contributors Participating in Society

Achievement Highlights

1,448

Total number of clinical trial patients worldwide

54

Number of patients benefiting from compassionate treatment

3 activities

Invited to participate in 3 local community MPN empowerment activities in Taiwan

Our remote health promotion rural area charity project for the elderly was incorporated into SROI assessments for 2024

Each NT$1 invested generated NT$6.34 in social benefits

MPN Asia

Hosted 7th Annual MPN Asia symposium in Osaka Japan to promote academic exchanges between MPN experts

We utilized our core advantages and focused on minorities in society such as patients, the elderly, schoolchildren, and women, using access to medicine strategies as we continue to promote treatment and services for MPN patients around the world, ensuring accessibility, affordability, and availability of new drugs, as well as emphasizing and supporting global MPN community activities. We established a comprehensive MPN health education and communication platform in Taiwan, Japan, the US, and China, and participated in international academic seminars and local symposiums as part of our contributions to MPN.

PharmaEssentia works with relevant academic groups every year to sponsor/host MPN Asia in either Taiwan, Japan, Korea, or China, inviting international MPN experts to conduct academic exchanges and MPN physicians to participate in meetings, with around 100 attendees each year.

Material Topics

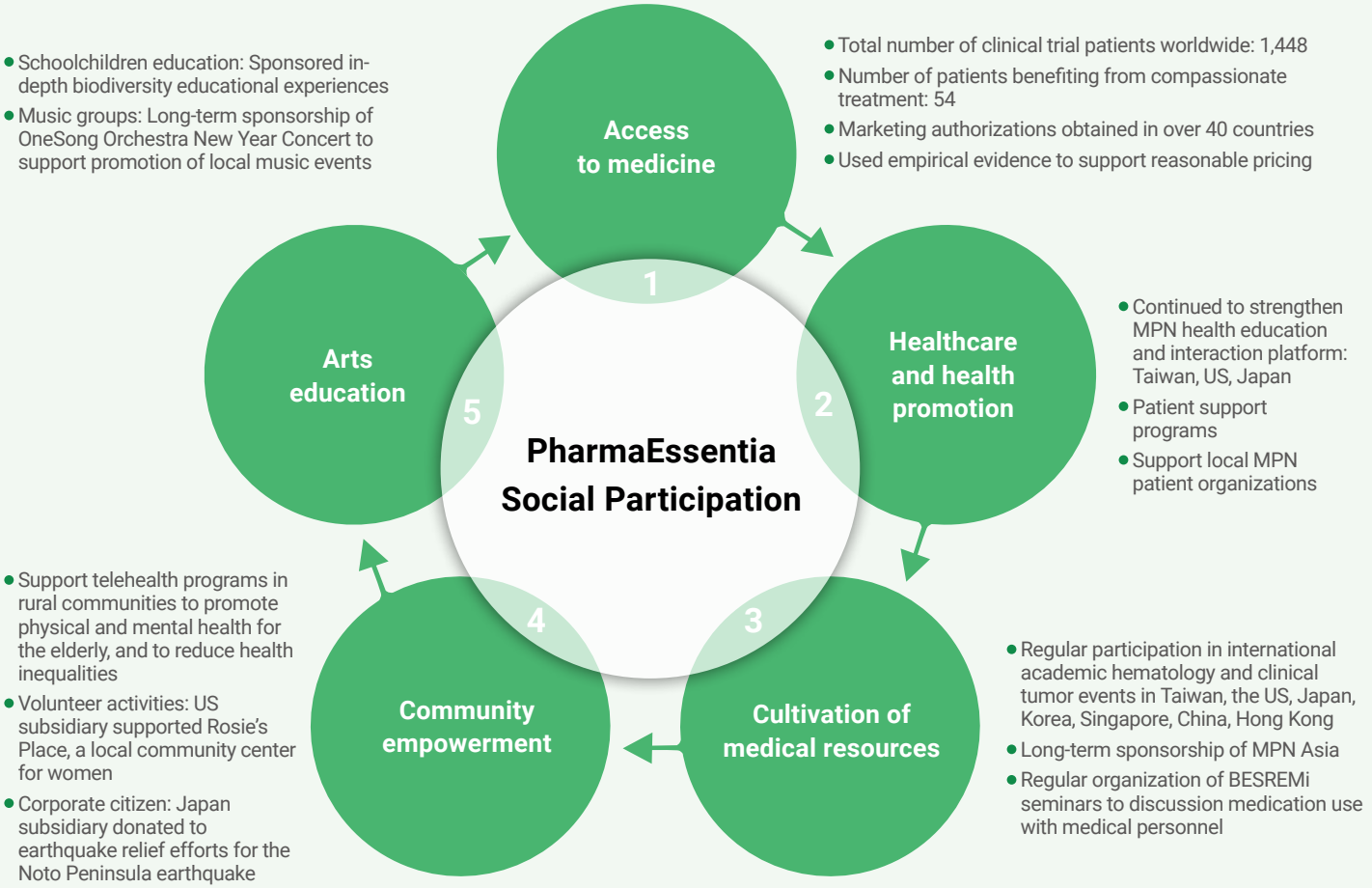
- Access to Medicine
- Doctor-Patient Relationships and Local Empowerment

Main Stakeholders

- Patients
- Medical Personnel
- Shareholders and Investors
- Commissioned Research/ Experiment Units
- Local Communities
- NPOs/NGOs

PharmaEssentia Social Participation Focuses

PharmaEssentia focuses on the research, development, and application of MPN drugs; supports MPN care and cultivation of global medical resources; and emphasizes international and local health and social issues. PharmaEssentia's social participation focuses include access to medicine, patient care and health promotion, MPN medical training, arts education, and public welfare. We continue to contribute to relevant issues through long-term support of related research and discussion activities, as well as by supporting and sponsoring local organizations.



6.1 Access to Medicine Management

Material Topics

Access to Medicine

Description of Impacts

The mission of the biopharmaceutical industry is to promote human health and well-being. PharmaEssentia is driven by patient needs and works to meet unsatisfied patient needs through research & development as well as innovation. We provide patients with compassionate treatment and opportunities to participate in clinical trials for pre-launch drugs. We work with our overseas subsidiaries and strategic partners to accelerate marketing authorization for approved drugs in different markets to increase drug availability and fair accessibility.

Policies and Commitments

We are committed to providing high-quality medicines to more patients with unmet medical needs through our efforts in research, development, and innovation, working with our supply chain partners to accelerate marketing authorization so we can satisfy the needs of patients requiring treatment. We also conduct cost analyses to demonstrate the cost effectiveness of Ropeg and to build a foundation for responsible pricing.

Responsible Unit

- Taiwan headquarters and subsidiary marketing departments and medical affairs teams
- The Executive Center for Corporate Sustainability Access to Health Care Team is responsible for compiling and managing material sustainability issues

Response Measures and Management Actions

- Research and development: Apart from MPN, we also used our patented PEGylation technology to develop PEG-GCSF for treating neutropenia, PEG-IL-2 for treating inflammatory and immune diseases, and Anti PD-1 for treating solid tumors, and we are also jointly developing TCR-T cell therapies with external collaborators
- Continue to promote participation in global clinical trials
- Continue to promote compassionate treatment worldwide
- Continue to obtain marketing authorizations
- Continue to attain milestones in various projects, including marketing authorizations, fair access strategies, and other achievements
- Improve affordability of new drugs: Fair and reasonable prices, pricing strategies, drug delivery, and drug donations

Evaluation Mechanisms

(Channels and Systems for Tracking Effectiveness of Response Measures and Management Actions)

In accordance with Access to Medicine guidelines, we use (1) Number of products developed/clinical trial patients, (2) Number of patients using BESREMi, and (3) Time to obtain marketing authorization in various countries as indicators to describe how our company satisfies unmet medical needs

Targets and Achievements in 2024

- Global clinical trial participants: 1,448 people
  - P1101: According to annual clinical trial data from our DSUR, the total number of global clinical trial participants from July 15, 2023 to July 14, 2024[1] was 1,430 people
  - Long-acting granulocyte-colony stimulating factor (P2203): According to annual clinical trial data from our DSUR, the total number of clinical trial participants in Taiwan from May 2, 2024 to May 1, 2025[2] was 18 people
- Number of medicine users: In 2024, more than 10,000 patients benefited from Ropeg
- Number of patients benefitting from compassionate treatment: 54
- Marketing authorization: More than 40 countries
- Scientific innovations in product development:
  (1) In 2024, global R&D expenses reached NT$2.59 billion, a 16.3% increase from the previous year, and marketing expenses amounted to approximately NT$2.42 billion, a 13.6% increase compared to the previous year
  (2) PharmaEssentia has recently accelerated development of Ropeg for various indications, collaborating with our partners to develop new medicines and expand into new therapeutic areas. We currently have 4 new indications under trial and 6 new drugs and drug combinations which are rapidly being developed

Targets

Short-Term Targets (1-2 Years):

Obtain Ropeg marketing authorization for PV treatment in Canada and Latin American countries (such as Brazil)

Mid-Term Targets (3-5 Years):

Obtain Ropeg marketing authorization for ET treatment in Oman, Singapore, Malaysia, and China, and work to strengthen patient and physician understanding of this medicine

Long-Term Goals (More Than 5 Years):

Continue to conduct clinical trials for new Ropeg indications and obtain marketing authorizations in various countries

Note 1: The time period used for disclosure of P1101 clinical patients in this Report adhered to the figures from our latest DSUR (July 15, 2023 to July 14, 2024), which differs from the time period used for our 2023 Sustainability Report
Note 2: The time period used for disclosure of P2203 clinical patients in this Report adhered to the figures from our latest DSUR (May 2, 2024 to May 1, 2025)

1. Commit to providing high-quality medicines to more patients with unmet medical needs

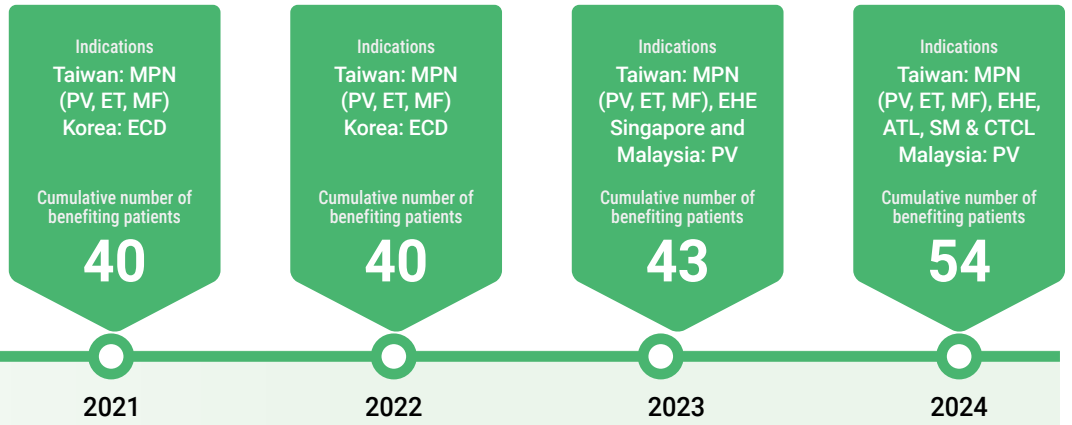
Compassionate treatment

In regions where our drugs have not been approved or for MPV patients with severe or life-threatening conditions but do not qualify for clinical trials, PharmaEssentia provides compassionate treatment to eligible patients following review by the MLR Committee.

PharmaEssentia has established standard operating procedures to manage provision and execution of medications under compassionate use. As of year-end 2024, 54 patients have benefited from this program.

Compassionate treatment achievements over the past four years

Medication donated: New-generation long-acting interferon alfa-2b

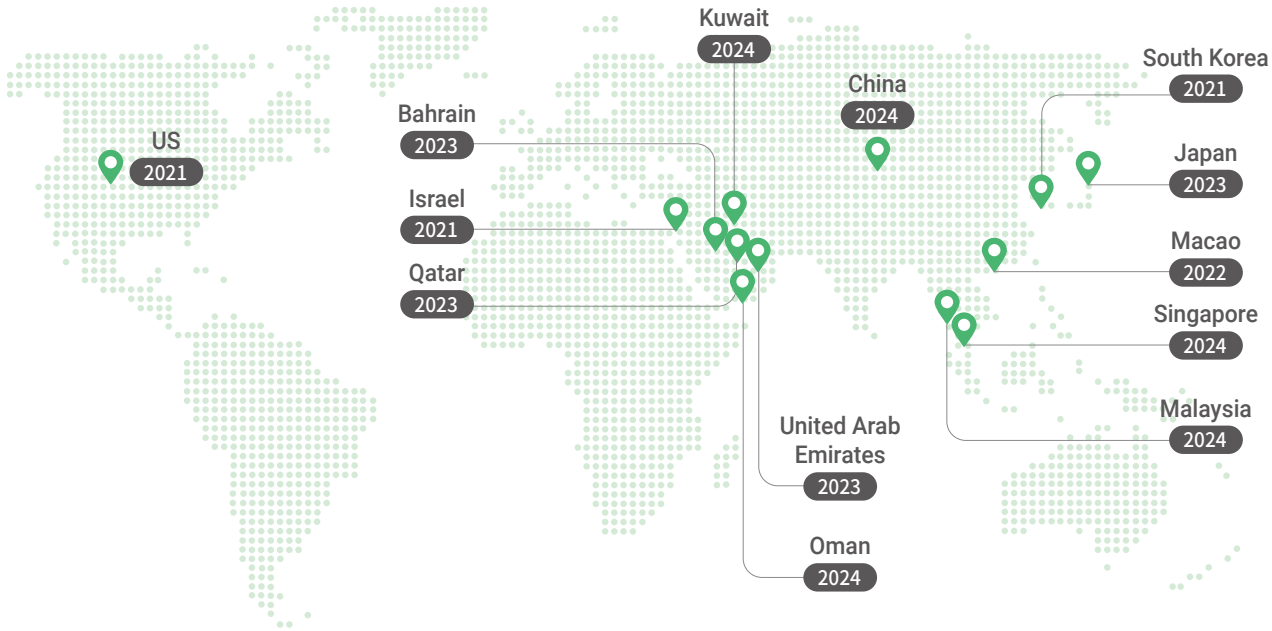


Accelerating Drug Approval

Ropeg obtained its first marketing authorization in 2019 and has since obtained marketing authorizations in more than 40 countries worldwide, including the US, Japan, Korea, Israel, China, Singapore, Malaysia, and many countries in Europe. We are currently working to obtain marketing authorizations in Brazil, Argentina, Columbia, Mexico, and Hong Kong. PharmaEssentia continues to expand the global market share of Ropeg by establishing subsidiaries and working with strategic partners to provide new drug options for more patients, reduce treatment burdens for rare diseases, and provide benefits for more patients.

Ropeg marketing authorization regions and timelines over the past four years

Year	Country	Indications
2021	Israel, Korea, US	PV
2022	Macao	PV
2023	Japan, United Arab Emirates, Bahrain, Qatar	PV
2024	China, Singapore, Malaysia, Oman, Kuwait	PV



Product Delivery

Product delivery is an important component of ensuring access to medicine. As different countries have differing drug packaging and labeling requirements, PharmaEssentia works with local stakeholders in the US, Korea, Japan, Singapore, Malaysia, and other countries; signed contract manufacturing agreements with local GMP-compliant pharmaceutical manufacturers; and signed delivery contracts with local GDP-compliant pharmaceutical delivery companies to ensure that our drug labels adhere to local requirements and to facilitate product delivery. We are also formulating relevant measures to prevent against counterfeit drugs (Please refer to 2.6 Sustainable Supply Chain Management and 3.2 Drug Quality and Product Safety).

Focus on Patient Needs and Providing Comprehensive Support

US subsidiary: Patient Support SOURCE Program

Suitable for current BESREMi prescription holders. Provides comprehensive support encompassing insurance information, self-pay discount programs, medication guidance, and medication renewal processes, enhancing convenience for patients who might not be able to use the medication due to delayed insurance payments or insufficient insurance coverage. The program also provides free medication for uninsured or underinsured patients. Our goal is to ensure a stable supply of PharmaEssentia medications to patients and reduce their financial burdens.

Taiwan and Japan subsidiaries: Patient Support Programs

PharmaEssentia's subsidiaries in Taiwan and Japan promote "patient support programs" that provide patients with MPN health education information, medication guidance, and related advice and resources.

Taiwan TMPNA "Finding Peace in MPN: MPN health education lecture in Kaohsiung"

Japan subsidiary "Toward Tomorrow" website

1. **Taiwan:** PharmaEssentia collaborated with the Taiwan Myeloproliferative Neoplasms Association (TMPNA) in 2024 to host "MPN Health Education Lectures" in Taichung and Kaohsiung in May and November, inviting physicians, nutritionists, and university professors to share MPN disease course information, precautions, and dietary suggestions for patients. We also organized symposiums to facilitate discussions with attending patients and their family members. Additionally, we hosted the "2024 Healing MPN with Heart: MPN Awareness Day and Second TMPNA Member Conference" in Taipei in September to help patients understand and obtain MPN resources through themed lectures and face-to-face discussions with experts. TMPNA was founded in 2021 and had 70 members as of 2024. We hope to expand community links for MPN patients and their families through related collaborations and promotions.
2. **Japan:** Continued to provide patient support in 2024 by providing health education and guidance, diagnosis resources, consultations with specialists, customer services, medical insurance information, self-pay discount programs, and medication guidance through the MPN Navigator website to help patients reduce financial burdens from self-payments. Additionally, we launched the new "Toward Tomorrow" website in 2024 and opened up member registrations for patients using Ropeg. Members can receive free advice on medical costs, medication guidance, health education information, and email newsletters through the website. The website's support center is staffed by professional nurses who provide professional advice to patients and help patients maintain peace of mind during treatment.

2. Responsible pricing strategies to create medical values and cost-effectiveness

Equitable access to medicine strategies: Enhance product efficiency

Providing innovative drugs with medical contributions that alleviate burdens on healthcare insurance systems and meet medical needs is a top-priority goal for PharmaEssentia. The medical value of BESREMi has been endorsed by European Leukemia Net (ELN) guidelines[1] since 2021. Global authority National Comprehensive Cancer Network (NCCN)[2] has also included BESREMi in its guidelines as the preferred medication for treating adults with polycythemia vera (PV), regardless of previous treatments or high-risk status. We completed a comprehensive health economics evaluation (including cost-benefit, cost-utility, and cost-effectiveness analyses) of BESREMi when launching the drug in Europe to analyze product impacts on healthcare costs, and we are actively collecting data to support subsequent health technology assessments that can certify the medical value of BESREMi.

Note 1: ELN is a platform composed of members spanning 45 countries, 220 institutions, and involving over 1,000 researchers and clinical personnel. ELN aims to integrate 120 pioneering leukemia clinical trial groups in Europe, along with resources from collaborating institutes, the industry, and associated enterprises to jointly promote the importance of leukemia treatments

Note 2: NCCN is a nonprofit organization in the US comprised of a coalition of 33 cancer centers, most of which have been designated as Comprehensive Cancer Centers by the National Cancer Institute

Improving Affordability of New Drugs: Fair and Reasonable Pricing

SASB HC-BP-240b.2, b.3

Ropeg is the first interferon approved for PV treatment by the US FDA which has been granted orphan drug status and has been listed as preferred treatment by US NCCN guidelines. Developing orphan drugs requires significant R&D investments and financial resources, and we have invested substantial amounts of resources to ensure that patients can obtain required medicines as soon as they are launched in accordance with access to medicine principles.

Fair and Reasonable Pricing Processes

Step1 Tiered Pricing

Implement tiered pricing for sales regions based on levels of national development

Step2 Determine whether there are national reimbursements

If yes, move to Step 3.a

If no, move to Step 3.b

Step3a Medication prices determined by national insurance agencies

In regions like Taiwan, medication prices are set according to National Health Insurance pricing principles in consideration of clinical opinions, proof of efficacy, and current treatment costs. Payment standards are proposed along with a five-year budget plan based on drug prices, financial impact analyses, and pharmacoeconomics analyses to establish medication prices that benefit the maximum number of patients

Step3b Pricing strategy for private health insurance systems

1. **Affordability:** Set prices based on affordability levels of each country
2. **Economic data:** National GDP, private medical insurance costs, and drugs with similar indications
3. **Product value analysis:** Based on pharmacoeconomics, health technology assessments (HTAs), and other methodologies
4. **Medical contribution assessments:** Analyze product benefits and risks for national medical and economic systems

Pricing Strategies

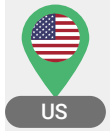
PharmaEssentia prioritizes patient interests when setting drug prices and also considers factors such as R&D costs, number of patients targeted during the patent period, competitive product pricing, expected profits, reimbursements from third-party insurance companies, and health insurance payments by national regulatory authorities. Prices are then set based on each country's ability to afford medical costs, economic development levels, and pharmaceutical costs. We also reference the "WHO Guideline on Country Pharmaceutical Pricing Policies" to establish fair and reasonable drug prices.

Evidence-Based Reasonable Pricing

PharmaEssentia evaluates product impacts on medical costs using health economics methodologies (such as cost-benefit, cost-utility, and cost-effectiveness analyses) to assess the costs associated with BESREMi versus standard therapies and other competitive innovative products. This approach has been validated in our main markets.

Reasonable Pricing Achievements

In Ireland, BESREMi passed the HTA review, which analyzed the drug's safety, efficacy, and quality of life data, and confirmed that it was more cost-effective compared to standard treatment options.



In the US market, our US subsidiary conducted cost-effectiveness analyses from the perspective of US healthcare payers and also confirmed greater cost-effectiveness compared to standard treatments.

Our Japanese subsidiary analyzed the cost-effectiveness of BESREMi and submitted the results to the Japanese Ministry of Health, Labour and Welfare to serve as evidence for HTAs, emphasizing that use of BESREMi is more cost-effective compared to traditional therapies and competitive products.

PharmaEssentia actively participates in empowerment programs and key stages along all stages in our value chain, for example by establishing our AI-driven PIRC to help the US MPN Research Foundation build search tools for clinical trials. We have launched patient support programs in Taiwan, the US, and Japan to enhance access to medicines for patients who require financial assistance, and are working to expand these programs to other countries. We have also planned a series of health promotion activities for patients who are already using BESREMi to extend their medication times and improve their treatment course.

6.2 Patient Care and Global Health Empowerment

Material Topics	Description of Impacts
Doctor-Patient Relationships and Local Empowerment	PharmaEssentia focuses on patients and works to enhance HCP knowledge of diseases to strengthen doctor-patient relationships and help patients receive appropriate medications. We also use industrial empowerment activities to ensure that more patients can gain access to high-quality medications

Policies and Commitments

Implement various action plans associated with patient health

- Utilize a variety of channels for reporting adverse drug events to ensure comprehensiveness of safety data and ensure accurate reporting in accordance with regulations
- Ensure that patients using PharmaEssentia drugs clearly understand disease characteristics, drug mechanisms of action, and drug efficacy
- Promote disease knowledge, provide advice on disease courses, and offer transfer services
- Patient care and continuous follow-up during treatment course
- Promote empowerment of local healthcare and medical industries to expand the external social influence of PharmaEssentia

Responsible Unit

- Taiwan headquarters and subsidiary marketing departments and medical affairs teams
- The Executive Center for Corporate Sustainability Access to Health Care Team is responsible for compiling and managing material sustainability issues

Evaluation Mechanisms

(Channels and Systems for Tracking Effectiveness of Response Measures and Management Actions)

- Regular review of all budgets and executions associated with marketing activities and seminars hosted over the year by the marketing departments and medical affairs teams at Taiwan headquarters and subsidiaries
- Regular review of plans and executions for industrial exchange activities

Response Measures and Management Actions

- Our Taiwan headquarters and all subsidiaries actively participate in and share experiences through medical lectures, and enthusiastically participate in local community activities to promote local empowerment
- Our subsidiary Panco has established an MPN health education platform where patients can interact with physicians, and assisted TMPNA in hosting MPN Awareness Day health education lectures and the first TMPNA member conference to support health education for patients in Taiwan
- Our US subsidiary launched the patient support program SOURCE and BESREMi.com
- Our Japanese subsidiary launched a patient support program in Japan which included a website and related supporting activities

Targets and Achievements in 2024

US:

- Patients can now obtain BESREMi through specialty pharmacies which provide insurance and financial guidance services as well as prescription renewal reminders. If treatment is interrupted, patient service departments and financial assistance managers will provide additional assistance
- SOURCE provides additional resources to help patients navigate insurance and medication acquisition processes. Patient support specialists also make regular phone calls to patients before and after they use medications to provide guidance. In 2024, free injections provided through SOURCE accounted for 5.7% of total injections distributed

Taiwan:

- Panco hosted more than 25 large and small seminars to help HCPs and patients enhance their understanding of MPN, drug treatment options, and professional medical knowledge
- Invited to participate in 3 local community MPN empowerment activities in Taiwan
- Provide summer internships to cultivate new industrial talent

Targets

Short-Term Targets (1-2 Years):

Taiwan:

- Continue to provide the latest MPN health education information
- Continue to work with TMPNA to host patient health education activities
- Provide assistance to Chiayi Chang Gung Memorial Hospital for health education activities

US:

- Continue to promote US patient support program SOURCE and assist US patients while also promoting a patient care specialist program that provides comprehensive support for patient services

Japan:

- Promote patient support program to help patients understand MPN and reduce self-payment burdens

Mid-Term Targets (3-5 Years):

- Continue to work with patient organizations from various countries in joint promotion of BESREMi and related health education activities to strengthen understanding of disease treatment
- Continue to strengthen expansion of diversified activities and stakeholder engagement to additional local medical organizations and institutes
- Promote patient support programs in countries where BESREMi has been approved and increase global coverage rate
- Accelerate R&D of BESREMi in other MPN disease domains and expand use of BESREMi to treatment of other diseases
- Track international initiatives and issues, and review investable resources and benefits
- Help patient organizations in Taiwan connect with international patient organizations to share treatment experiences

Long-Term Goals (More Than 5 Years):

- Obtain drug approval for BESREMi in more countries around the globe, and establish comprehensive local medical care and community participation measures for rare diseases to make positive contributions toward and exert our influence on global rare disease medical systems and the industry and society in general
- Help patient organizations in Taiwan connect with international patient organizations to share treatment experiences

PharmaEssentia focuses on MPN issues and provides long-term health education and healthcare resources to patients, HCPs, and medical experts to help patients and related personnel better understand disease courses while also helping patients obtain complete care and support. We provide health services for all stages of the patient journey, including disease awareness and screening, MPN diagnosis confirmation and treatment, and all-encompassing post-diagnosis patient care as part of our comprehensive services.

1. Patients: Accompanying and caring for patients on the MPN journey

PharmaEssentia accompanies patients through all stages of their treatment and continues to enhance patient understanding of their diseases and treatments through patient associations and patient support programs. Our services include disease awareness and screening, diagnosis confirmation and treatment, and complete patient care cycles. We not only help patients obtain comprehensive medical and healthcare resources, but also share the latest information on MPN medications with medical personnel and healthcare professionals through regular academic seminars to make positive contributions to related communities and patients.

MPN Patient Journey

Disease Awareness and Screening

Support and empowerment
- Disease knowledge
- Understanding of medical specialties
- Seeking medical attention and undergoing the right examinations

Stakeholders
Patients, patient families, medical personnel

STAGE 1

Diagnosis Confirmation and Treatment

Support and empowerment
- Diagnosis confirmation
- Timely treatment
- Appropriate medications

Stakeholders
Patients, patient families, medical personnel, experts

STAGE 2

Complete Patient Care Cycle

Support and empowerment
- Complete treatment cycles
- Progress tracking

Stakeholders
Patients, patient families, medical personnel

STAGE 3

Patient Health Education Activities

PharmaEssentia continues to support patient health education activities in countries where we have obtained marketing authorization, and we have established the following online health education websites in accordance with local regulations:

WHAT'S NEXT PV:

One of the main health education websites in the US, which aims to help the public understand disease knowledge and disease risks. We hope this platform can connect patient communities and enable each patient to receive comprehensive physical and mental support during their treatment courses, while also promoting smooth communications with medical personnel.

www.Besremi.com:

Helps patients in the US understand medications and treatments

Case Management and Community Empowerment

To help patient receive comprehensive care, PharmaEssentia has established patient support programs which actively support patient health education activities and case management, continued safety monitoring, reduction of patient financial burdens, and promotion of complete treatments. In Taiwan, we helped to establish the Taiwan Myeloproliferative Neoplasms Association (TMPNA), and also supported Patient Power programs and the MPN Research Foundation in the US.

Key achievements were as follows:

Post-market surveillance

In countries where BESREMi has been approved, PharmaEssentia continues to collect safety information which is used for updating DSURs/PSURs and for assessing BESREMi risks and benefits. So far, there have been no violations of health and safety regulations for products and services

Continued sponsorship of TMPNA

We sponsored a total of 3 MPN patient health education lectures in 2024 and also participated in patient support programs

TMPNA 台灣骨髓增生性腫瘤關懷協會 Taiwan Myeloproliferative Neoplasms Association

MPN iCare

Added 26 interactive health education articles and more than 150 patient and patient family participants in 2024

MPN 好醫 iCare 相髓

US Patient Power

Provides support for PV patients during the treatment course and promotes treatment principles, conducts patient education and training through online digital programs, facilitates doctor-patient dialogue, and enhances public understanding of comprehensive patient care

MPN Research Foundation and clinical trial search engine

Helped to establish the MPN Research Foundation clinical trial search engine which provides matchmaking channels that assist MPN patients and their doctors in finding appropriate clinical trials for subsequent treatment

Support for MPN patient organizations and international education activities

Supported the activities of major patient organizations in North America, including MPN Research Foundation, Canadian MPN Research Foundation, MPN Advocacy & Education International, Patient Power, and PV Reporter, providing online information sharing and physical activities to enhance patient education and exchanges as well as dissemination of information related to disease diagnosis, treatment targets, and disease course, while also helping the MPN community better understand the medical benefits of BESREMi

Support for patient case management

- **Case management in Taiwan:** Track treatment courses and subsequent reactions to medication of individual patients on a project basis. As of 2024, a total of 63 patients have joined the case management and care program
- **US drug compliance tracking:** If patients discontinue medication use due to adverse reactions, PharmaEssentia will receive discontinuation notifications through specialty pharmacies, and these discontinuations are recorded in drug monitoring plans for subsequent tracking

Patient support program

(Please refer to 6.1 Access to Medicine Management)

Compassionate treatment

(Please refer to 6.1 Access to Medicine Management)

2. Medical and professional personnel: Clinical trials and healthcare knowledge exchanges

In terms of diagnosis confirmation and treatment, PharmaEssentia has hosted many disease education events in markets around the world, and has published various research and development achievements in medical journals. We support physicians from Taiwan in attending international hematology meetings to promote international exchanges of medical knowledge and to expand and enhance public health and medical health achievements.

Key events in 2024 were as follows:

2024 American Society of Clinical Oncology (ASCO) Annual Meeting: Presented the EXCEED-ET clinical trial research methodology

2024 American Society of Hematology (ASH): Presented progress on research into primary myelofibrosis (PMF)

Education and training for medical personnel in the US: Our US subsidiary sponsored Continuing Medical Education (CME) institutes in offering more medical education resources, including medical conferences and on-demand educational content

2024 Japanese Society of Hematology (JSH) Annual Meeting: Supported 2 Taiwanese physicians in presenting research progress on Ropeginterferon

PharmaEssentia supported Taiwanese physicians in attending exchanges at the Japanese Society of Hematology (JSH) Annual Meeting

Collaborations and academic exchanges with domestic academic organizations/associations: Hosted health education activities in collaboration with the Hematology Society of Taiwan, Taiwan Society of Blood and Marrow Transplantation, and pharmacist associations to enhance physician knowledge of new information in the MPN domain and treatment efficacy of long-acting interferon alfa-2b

PharmaEssentia sponsored 2024 Joint Annual Congress of Taiwan Society of Blood and Marrow Transplantation (TBMT) and Hematology Society of Taiwan (HST)

MPN Asia Annual Meeting: PharmaEssentia has sponsored the MPN Asia Annual Meeting since 2016 to promote sustainable health and social inclusion. As of 2024, the MPN Asia Annual Meeting has successfully been hosted 7 times, rotating through four cities in Asia, demonstrating PharmaEssentia's innovations, contributions, and social influence in the MPN rare disease domain, for which we have received great acclaim

PharmaEssentia hosted MPN Asia 2024 in Osaka, Japan, and around 60 important stakeholders around the globe were in attendance

Chiayi Chang Gung Memorial Hospital MPN Treatment and Research Center: Renewed our agreement to support promotion of MPN treatment and related knowledge in the southern Chiayi region in 2024, and enhanced MPN treatment standards to align with the latest medical technologies through exchange and training activities for domestic and overseas physicians Additionally, we also invited Japanese physicians to conduct medical exchanges with Chiayi Chang Gung Memorial Hospital through our Japanese subsidiary

PharmaEssentia continues to conduct exchanges with and host education and training for medical personnel to bring more attention and progress to MPN issues, and to improve overall disease care and treatment. Related activities were hosted by our Panco, our subsidiary in Taiwan, as well as our subsidiaries in Japan and the US. In 2024, PharmaEssentia and Panco jointly supported 25 large and small seminars to help HCPs and patients enhance understanding of professional medical knowledge, disease knowledge, and drug treatment options.

Main activities in Taiwan in 2024

Activity	Activity aim	Frequency
MPN Asia Annual Meeting	Enhance understanding of MPN and drug treatment options	Annually
Joint Annual Congress of Taiwan Society of Blood and Marrow Transplantation (TBMT) and Hematology Society of Taiwan (HST)		Annually
Regional seminars		Once each quarter
Hospital seminars		Once every two months
MPN case manager training	Enhance understanding of MPN and patient care	Once each year

Main activities of Japanese subsidiary in 2024

Activity	Activity aim	Frequency
BESREMi online seminar	Promote BESREMi usage information to enhance understanding of MPN and drug treatment options	Monthly
First BESREMi multinational activity		Annually
Collaborated with and participated in various annual meetings of medical societies in Japan, including Japanese Society for Transplantation and Cellular Therapy (JSTCT), Japanese Society on Thrombosis and Hemostasis (JSTH), and Japanese Society of Hematology (JSH)		Annually

Main activities of US subsidiary in 2024

Activity	Activity aim	Frequency
Hospital seminars, national/state/local seminars	Promote BESREMi and PV information to medical and healthcare professionals and key stakeholders	Non-periodic activities

Hosted one-day training course for MPN case managers

Jointly hosted seminar for medical professionals in 2024 with Taiwan Society of Blood and Marrow Transplantation: Molecular Testing Innovations and Rare Hemato-Oncological Disorders

PharmaEssentia collects stakeholder feedback and perspectives through seminars and exchange activities, including Taiwanese physician clinical treatment goals for PV, improved understanding of PV in patients and their families, and discussions of how to enhance muscle strength and reduce sudden bleeding risks through rehabilitation. PharmaEssentia will continue to provide professional health education and drug information to patients, patient families, and HCPs to improve patient care and quality.

US subsidiary participated in Leukemia & Lymphoma Society Light the Night event

US subsidiary participated in ASH Foundation charity run/walk event

PharmaEssentia's US subsidiary continued to sponsor MPN associations and activities in 2024, including MPN Advocacy & Education International, MPN Research Foundation, National Organization for Rare Disorders, Cancer Research & Treatment Fund, Leukemia & Lymphoma Society (New England Chapter). In 2024, our cumulative sponsorship amount reached US$236,500. Additionally, our US subsidiary participated in leukemia community activities in 2024, including the Light the Night event hosted in Boston by the Leukemia & Lymphoma Society, which walks with patients, patients in remission, and family members. Our US subsidiary also participated in the charity run/walk event hosted by ASH Foundation. Our employees supported increased awareness of leukemia issues through these practical actions.

Summer Internship Program

PharmaEssentia is committed to supporting talent development and enhancing educational opportunities. We established an internship program to provide students with practical experiences, promote industry and academic alignment, and to strengthen their understanding of the biotechnology industry. In 2024, we recruited 12 graduate and undergraduate students from 8 universities around Taiwan for internships that lasted for 4-8 weeks. To help our interns quickly integrate into their environment and learn, PharmaEssentia organized a variety of courses covering an introduction to the company, an introduction to the biotechnology industry, and quality systems (such as basic GMP concepts). We also allowed our interns to participate in routine department tasks so they could better understand the work associated with R&D, clinical trials, production, and quality management. This year, our internship program provided more than 30 hours of courses and practical guidance, and program received high acclaim from participating students. The results of our intern satisfaction survey indicated that average intern satisfaction scores reached 4.65 out of 5 points, demonstrating that our talent cultivation measures and workplace learning environment were well-received by our interns.

Patient exchange: US subsidiary participated in MPN international patient symposium

In 2024, the Cancer Research & Treatment Fund hosted The International Patient Symposium on Myeloproliferative Neoplasms to gather patients, family members, and caregivers from all over the world to learn about MPN and the latest treatments. Our US subsidiary participated in this symposium and communicated with many patients, listening to their stories and needs to understand how medicines change patient lives.

6.3 Philanthropic Activities

PharmaEssentia is focused on patients, the elderly, schoolchildren, women, and other minorities in society. Apart from the aforementioned access to MPN medicines and healthcare empowerment, we also use our manpower and financial resources to provide long-term support for many charity activities such as health promotion in rural areas, biodiversity education for schoolchildren, and sponsorships for local classical music activities. Additionally, our Japanese subsidiary also donated to local disaster relief funds following the Noto Peninsula earthquake, and we continue to accumulate social influence through long-term issues and emergency incidents.

Seniors:
Health promotion program for rural areas to eliminate health inequality

We extended our core expertise into health and long-term care issues, collaborating with the NPO Digital Humanitarian Association, which has long focused on telehealth issues, to gather physicians, nutritionists, nurses, physical therapists, and sports coaches at community long-term care sites in Taitung lacking medical resources. We also organized monthly online health education courses to provide health promotion knowledge and services to elderly people. Additionally, health promotion managers provide online consultations and work with local caregivers and family members to understand the needs of seniors so customized courses can be organized. PharmaEssentia fully funded projects at three long-term care sites in Taitung from January to December 2024 to help seniors prevent and delay disability and chronic diseases. We also responded to digital gaps and discrepancies in healthcare resources in rural areas of Taiwan by making investments to enhance the availability of health and healthcare resources in these areas, ensuring they were not limited by geographical factors or existing resources.

PharmaEssentia achievements on remote health promotion and charity projects for seniors in rural areas in 2024

Target

Taitung Second Dementia Care Building, Taimali Dawang Site, Donghe Taiyuan Social Welfare C Site

Remote health promotion charity activity for seniors- Zhongyan New Village in Nangang, Taipei

Remote health promotion charity activity for seniors- Taiyuan Community in Donghe, Taitung

Stakeholders

- Seniors served by community sites
- Health promotion managers
- Local caregivers and family members
- Medical and health experts

Number of beneficiaries

Assisted

27,044

seniors

Inputs

- PharmaEssentia invested NT$600,000
- Digital Humanitarian Association helped to organize at least 142 remote health promotion courses
- PharmaEssentia Executive Center for Corporate Sustainability employee on-site participation

Benefits

- According to SROI evaluations, each NT$1 invested in social projects in 2024 generated NT$6.34 in social benefits
- We participated in stakeholder engagement and found that our main positive impacts were helping seniors to establish remote health promotion habits and promoting community cohesion
- We corrected and optimized project operations based on stakeholder engagement results to enhance availability of medical and healthcare resources
- Saved approximately 21,300 kgCO_2e of carbon emissions from transportation by replacing physical classes with online health promotion courses

SDGs

Children: Support in-depth educational experiences and cultivate biodiversity awareness

PharmaEssentia worked with the NPO Jane Goodall Institute to help elementary school students cultivate an interest in plants, the environment, and animals, aiming to cultivate green youth leaders and encourage the next general of citizens to continue taking action to protect the Earth and their everyday environments.

PharmaEssentia 2024 Biodiversity Hope Box project achievements

Service sites

Jane Goodall Sustainability Academy, Jiqing Elementary School in Ruifang District, New Taipei City

Stakeholders

- School teachers
- Students

Number of beneficiaries

A total of **75** teachers & students participated in the course and shared their achievements

Inputs

- PharmaEssentia invested NT$100,000
- The Jane Goodall Institute helped to organize courses such as botanical dyeing activities and creative biodiversity shadow play shows, and also guided students in learning and sharing their achievements
- PharmaEssentia Executive Center for Corporate Sustainability employee on-site participation

Benefits

- Enhanced student understanding of biodiversity and conservation concepts, as well as links between environmental health, animal health, and human health

SDGs

Pinglin Elementary School Taiko Club spring banquet performance

PharmaEssentia also emphasizes educational and after-school activities in rural schools. In 2024, we invited the Taiko club from Pinglin Elementary School in New Taipei City to perform at the PharmaEssentia spring banquet, using practical actions to support these schoolchildren in developing and demonstrating their skills while also providing a stage for these schoolchildren to showcase their achievements to all of our employees and more stakeholders.

Women: US subsidiary participate in Rosie's Place volunteer activities

Rosie's Place is a community center in Boston, USA, which helps local women who are impoverished or homeless by providing emergency shelter, meals, food items, English for Speakers of Other Languages (ESOL) courses, legal aid, healthcare, one-on-one support, housing, and job seeking services, as well as community outreach. Our US subsidiary supported Rosie's Place and participated in volunteer activities. Our colleagues from the Boston PIRC and US subsidiary teams helped to prepare meals and clean up for events held in August and November 2024, interacting with Rosie's Place and local communities with supportive actions and care.

Rosie Place volunteer activity

Local music group: Sponsored OneSong Orchestra New Year Charity Concert

PharmaEssentia has sponsored the OneSong Orchestra New Year Concert, which focuses on local and classical music, for 6 consecutive years to support local music groups and cultural arts developments. We invited 32 PharmaEssentia employees, employee family members, and stakeholders to attend the concert to promote public understanding of localized classical music.

SDGs

Appendix 1. GRI Standards Index

GRI Standards Index

GRI 2: General Disclosures 2021

GRI Disclosures	Corresponding Sections	Page
2-1 Organizational details	About PharmaEssentia	6
2-2 Entities included in the organization's sustainability reporting	About This Report	3
2-3 Reporting period, frequency and contact point	About This Report	3
2-4 Restatements of information	About This Report	3
2-5 External assurance	About This Report	3、140-143
2-6 Activities, value chain and other business relationships	About PharmaEssentia	6
2-7 Employees	5.2 Diversity and Inclusion	95
2-8 Workers who are not employees	5.2 Diversity and Inclusion	95
2-9 Governance structure and composition	2.1 Corporate Governance Framework	29
2-10 Nomination and selection of the highest governance body	2.1 Corporate Governance Framework	29
2-11 Chair of the highest governance body	2.1 Corporate Governance Framework	29
2-12 Role of the highest governance body in overseeing the management of impacts	1.2 Sustainable Governance Organizational Structure	14
2-13 Delegation of responsibility for managing impacts	1.2 Sustainable Governance Organizational Structure	14
2-14 Role of the highest governance body in sustainability reporting	1.2 Sustainable Governance Organizational Structure	14
2-15 Conflicts of interest	2.1 Corporate Governance Framework	29
2-16 Communication of critical concerns	1.3 Management of Materiality Assessment	16
2-17 Collective knowledge of the highest governance body	2.1 Corporate Governance Framework	29

GRI Disclosures	Corresponding Sections	Page
2-18 Evaluation of the performance of the highest governance body	2.1 Corporate Governance Framework	29
2-19 Remuneration policies	2.1 Corporate Governance Framework	29
2-20 Process to determine remuneration	2.1 Corporate Governance Framework	29
2-21 Annual total compensation ratio	2.1 Corporate Governance Framework	29
2-22 Statement on sustainable development strategy	Message from the Management Team	4
2-23 Policy commitments	5.1 Human Rights Assurance	91
2-24 Embedding policy commitments	5.1 Human Rights Assurance	91
2-25 Processes to remediate negative impacts	2.3 Risk Management 5.1 Human Rights Assurance	40 91、92、93
2-26 Mechanisms for seeking advice and raising concerns	2.3 Risk Management 5.1 Human Rights Assurance	40 92、93、94
2-27 Compliance with laws and regulations	2.2 Business Integrity and Legal Compliance	36
2-28 Membership associations	2.1 Corporate Governance Framework	29
2-29 Approach to stakeholder engagement	1.4 Stakeholder Engagement	22
2-30 Collective bargaining agreements	No unions have been established at the Company, and therefore we have no collective bargaining agreements. We organize regular labor-management meetings to serve as a communication channel for employees.	94

GRI Standards	GRI Disclosures	Corresponding Sections	Page
GRI 3: Material Topics 2021	3-1 Process to determine material topics	1.3 Management of Materiality Assessment	16
	3-2 List of material topics	1.3 Management of Materiality Assessment	16
1. Drug Quality and Product Safety			
GRI 3: Material Topics 2021	3-3 Management of material topics	1.3 Management of Materiality Assessment 3.2 Drug Quality and Product Safety	16 64
GRI 416: Customer Health and Safety	416-1 Assessment of the health and safety impacts of product and service categories	3.3 Drug Safety Management and Marketing Ethics (Note: BESREMi, PharmaEssentia's only marketed product, has passed all relevant drug safety supervisory measures)	70
2. Talent Attraction and Retention			
GRI 3: Material Topics 2021	3-3 Management of material topics	1.3 Management of Materiality Assessment 5.4 Talent Attraction and Retention	16 107
GRI 202: Market Presence	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	5.4 Talent Attraction and Retention	107
	202-2 Proportion of senior management hired from the local community	5.2 Diversity and Inclusion	95
GRI 401: Employment	401-1 New employee hires and employee turnover	5.2 Diversity and Inclusion	95
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	5.4 Talent Attraction and Retention	107
	401-3 Parental leave	5.4 Talent Attraction and Retention	107
GRI 402: Labor/Management Relations	402-1 Minimum notice periods regarding operational changes	5.1 Human Rights Assurance	91
3. Business Integrity and Ethical Management			
GRI 3: Material Topics 2021	3-3 Management of material topics	1.3 Management of Materiality Assessment 3.3 Drug Safety Management and Marketing Ethics	16 70
GRI 416: Customer Health and Safety	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	3.3 Drug Safety Management and Marketing Ethics	70
GRI 417: Marketing and Labeling	417-1 Requirements for product and service information and labeling	3.3 Drug Safety Management and Marketing Ethics	70
	417-2 Incidents of non-compliance concerning product and service information and labeling	3.3 Drug Safety Management and Marketing Ethics	70
	417-3 Incidents of non-compliance concerning marketing communications	3.3 Drug Safety Management and Marketing Ethics	70

GRI Standards	GRI Disclosures	Corresponding Sections	Page
4. Talent Cultivation and Career Progression			
GRI 3: Material Topics 2021	3-3 Management of material topics	1.3 Management of Materiality Assessment 5.3 Talent Cultivation and Career Progression	16 100
GRI 404: Training and Education	404-1 Average hours of training per year per employee	5.3 Talent Cultivation and Career Progression	100
	404-2 Programs for upgrading employee skills and transition assistance programs	5.3 Talent Cultivation and Career Progression	100
	404-3 Percentage of employees receiving regular performance and career development reviews	5.3 Talent Cultivation and Career Progression	100
5. Access to Medicine			
GRI 3: Material Topics 2021	3-3 Management of material topics	1.3 Management of Materiality Assessment 6.1 Access to Medicine Management	16 120
Self-Defined Topic: Self-Defined Indicator	Patient numbers	6.1 Access to Medicine Management	120
	Number of drug licenses obtained	6.1 Access to Medicine Management	120
6. New Drug Research & Development and Innovation Management			
GRI 3: Material Topics 2021	3-3 Management of material topics	1.3 Management of Materiality Assessment 3.1 New Drug Research & Development and Innovation Management	16 57
Self-Defined Topic: Self-Defined Indicator	R&D expenses as a percentage of revenues	3.1 New Drug Research & Development and Innovation Management	57
7. Doctor-Patient Relationships and Local Empowerment			
GRI 3: Material Topics 2021	3-3 Management of material topics	1.3 Management of Materiality Assessment 6.2 Patient Care and Global Health Empowerment	16 124
Self-Defined Topic: Self-Defined Indicator	Organization of health education activities	6.2 Patient Care and Global Health Empowerment	124
8. Evaluation of Environmental Impacts from Drug Production Processes			
GRI 3: Material Topics 2021	3-3 Management of material topics	1.3 Management of Materiality Assessment 4.1 Environmental Impact and Management in Production Process	16 75
GRI 306: Waste	306-1 Waste generation and significant waste-related impacts	4.5 Waste and Pollution Management	87
	306-2 Management of significant waste-related impacts	4.5 Waste and Pollution Management	87
	306-3 Waste generated	4.5 Waste and Pollution Management	87
	306-4 Waste diverted from disposal	4.5 Waste and Pollution Management	87
	306-5 Waste directed to disposal	4.5 Waste and Pollution Management	87

Appendix 2. United Nations Global Compact Comparison Table

▶ United Nations Global Compact Comparison Chart

The Ten Principles of the UN Global Compact			Page
Human Rights	1. Businesses should support and respect the protection of internationally proclaimed human rights	**5.1 Human Rights Assurance** We adhere to the "Universal Declaration of Human Rights," "United Nations Global Compact," "UN Guiding Principles on Business and Human Rights," "International Labour Convention," "ILO Declaration on Fundamental Principles and Rights at Work," "ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy," "OECD Guidelines for Multinational Enterprises," and other international human rights conventions	91
	2. Businesses should make sure that they are not complicit in human rights abuses		
Labour	3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	**5.1 Human Rights Assurance** We convene regular labor-management meetings as well as quarterly employee conferences. PharmaEssentia was not involved in any freedom of association or collective bargaining rights violations in 2024	94
	4. Businesses should uphold the elimination of all forms of forced and compulsory labour	**5.1 Human Rights Assurance** We pledge to ensure equality and anti-discrimination, prohibit employment of child labor and trafficking of forced labor, protect freedom of association and collective bargaining rights, promote fair and reasonable remuneration and safe & healthy workplace environments, and implement information security. No incidents related to discrimination, employment of child labor, or forced labor occurred at PharmaEssentia in 2024	91 - 93
	5. Businesses should uphold the effective abolition of child labour		
	6. Businesses should uphold the elimination of discrimination in respect of employment and occupation		
Environment	7. Businesses should support a precautionary approach to environmental challenges	**4.2 Climate and Nature Actions** We used TCFD frameworks to determine possible financial impacts from climate-related risks and opportunities under different scenarios, and gradually introduced ISO environmental management systems	77、81
	8. Businesses should undertake initiatives to promote greater environmental responsibility	**4.3 Energy Management, 4.4 Water Stewardship, 4.5 Waste and Pollution Management** We continue to enhance energy efficiency and optimize water stewardship, and do not use or discharge ozone-depleting substances (ODS) or persistent organic pollutants (POPs) listed in the Montreal Protocol on Substances that Deplete the Ozone Layer	85、86、87
	9. Businesses should encourage the development and diffusion of environmentally friendly technologies		
Anti-Corruption	10. Businesses should work against corruption in all its forms, including extortion and bribery	**2.2 Business Integrity and Legal Compliance** Our Principles of Ethical Corporate Management contains clear anti-corruption and anti-bribery stipulations, and we regularly educate our employees	36

Appendix 3. SASB Index

▶ Biotechnology & Pharmaceuticals

Disclosure Topics	Code	Disclosure	Description	Corresponding Sections	Page
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	Clinical trials are performed in accordance with local regulatory requirements and approved trial plans. None of our clinical trials were suspended due to GCP (Good Clinical Practice) violations in 2024	3.1 New Drug Research & Development and Innovation Management	57
	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)	No associated incidents occurred in 2024	-	-
	HC-BP-210a.3	Total amount of monetary losses as a result of legal proceedings associated with clinical trials in developing countries	No associated incidents occurred in 2024	-	-
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	• BESREMi is mainly used for treatment of all severities of Polycythemia Vera (PV), and is not included in the List of Prequalified Medicinal Products used for treating HIV/AIDS, malaria, tuberculosis and other diseases, and for reproductive health • However, PharmaEssentia still adhered to the Access to Medicine framework in formulating the Group's "Access to Medicine" strategy, executive plans, annual achievements, and future goals, and we implement this framework through drug license acquisitions and applications, doctor-patient interactions, and academic seminars	6.1 Access to Medicine Management	120
	HC-BP-240a.2	List of products on the WHO List of Prequalified Medicinal Products as part of its Prequalification of Medicines Programme (PQP)	• Not applicable • The medicines listed on the List of Prequalified Medicinal Products are mainly used for treating HIV/AIDS, malaria, tuberculosis and other diseases, and for reproductive health. PharmaEssentia's only marketed product, BESREMi, is a long-acting interferon mainly used for treatment of all severities of Polycythemia Vera (PV), and therefore this indicator is not applicable	-	-
Affordability & Pricing	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	Percentage changes in average list prices and average net prices for BESREMi from 2023 to 2024 were as follows: (1) List price: 8.03% (2) Net price: 4.16%	6.1 Access to Medicine Management	120
	HC-BP-240b.3	Percentage change in: (1) list price and (2) net price of product with largest increase compared to previous year			
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	No associated incidents occurred in 2024	-	-
	HC-BP-250a.2	Number of fatalities associated with products as reported in the FDA Adverse Event Reporting System	No associated incidents occurred in 2024	-	-
	HC-BP-250a.3	Number of recalls issued; total units recalled	No associated incidents occurred in 2024	3.3 Drug Safety Management and Marketing Ethics	70
	HC-BP-250a.4	Total amount of product accepted for takeback, reuse, or disposal	No associated incidents occurred in 2024	3.3 Drug Safety Management and Marketing Ethics	70
	HC-BP-250a.5	Number of FDA enforcement actions taken in response to violations of current Good Manufacturing Practices (cGMP), by type	No associated incidents occurred in 2024	-	-

Disclosure Topics	Code	Disclosure	Description	Corresponding Sections	Page
Counterfeit Drugs	HC-BP-260a.1	Description of methods and technologies used to maintain traceability of products throughout the supply chain and prevent counterfeiting	We established a global product traceability mechanism and introduced drug serialization in accordance with the Drug Supply Chain Security Act (DSCSA), and implement drug packaging and serialization procedures to maintain drug quality and safety	3.3 Drug Safety Management and Marketing Ethics	70
	HC-BP-260a.2	Discussion of process for alerting customers and business partners of potential or known risks associated with counterfeit products	We initiate product recall procedures for products with known or potential quality issues in accordance with the "Return and Recall Procedures" for appropriate handling of recalled products, and notify local competent authorities	3.3 Drug Safety Management and Marketing Ethics	70
	HC-BP-260a.3	Number of actions that led to raids, seizure, arrests, and/or filing of criminal charges related to counterfeit products	No associated incidents occurred in 2024	-	-
Ethical Marketing	HC-BP-270a.1	Total amount of monetary losses as a result of legal proceedings associated with false marketing claims	No associated incidents occurred in 2024	3.3 Drug Safety Management and Marketing Ethics	70
	HC-BP-270a.2	Description of code of ethics governing promotion of off-label use of products	The Medical, Legal, and Regulatory Affairs Review Committee conducts medical, legal, and regulatory reviews	3.3 Drug Safety Management and Marketing Ethics	70
Employee Recruitment, Development & Retention	HC-BP-330a.1	Discussion of talent recruitment and retention efforts for scientists and research and development personnel	We established fair, just, diverse, and inclusive workplace environments, and set up a dual-track diverse talent development framework to cultivate management and professional talents	5.2 Diversity and Inclusion 5.4 Talent Attraction and Retention	95 107
	HC-BP-330a.2	(1) Voluntary and (2) involuntary turnover rate for: (a) executives/senior managers, (b) midlevel managers, (c) professionals, and (d) all others	Please refer to the corresponding section	5.2 Diversity and Inclusion	95
Supply Chain Management	HC-BP-430a.1	Percentage of (1) entity's facilities and (2) Tier 1 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	• PharmaEssentia does not currently have plans to join the Rx-360 International Pharmaceutical Supply Chain Consortium, but official agencies such as EMA and TFDA all have relevant GDP regulations to ensure supply chain management associated with drug transportation and storage, and we conduct regular audits, verifications, and certification updates • Additionally, PharmaEssentia's sustainable supply chain management procedures also ensure supplier quality and performance of other sustainability indicators. Please refer to 2.6 Sustainable Supply Chain Management	2.6 Sustainable Supply Chain Management	47
Business Ethics	HC-BP-510a.1	Total amount of monetary losses as a result of legal proceedings associated with corruption and bribery	No associated incidents occurred in 2024	2.2 Business Integrity and Legal Compliance	36
	HC-BP-510a.2	Description of code of ethics governing interactions with health care professionals	All employees are required to abide by seven major business conduct and ethics rules, uphold principles of fairness and justice, and avoid profiting from their positions or manipulating or misusing information obtained through their roles	2.2 Business Integrity and Legal Compliance	36
Activity Metrics	HC-BP-000.A	Number of patients treated	More than 10,000 patients have been treated as of year-end 2024	-	-
	HC-BP-000.B	Number of drugs (1) in portfolio and (2) in research and development (Phases 1-3)	(1) 1 (BESREMi) (2) 13	3.1 New Drug Research & Development and Innovation Management	57

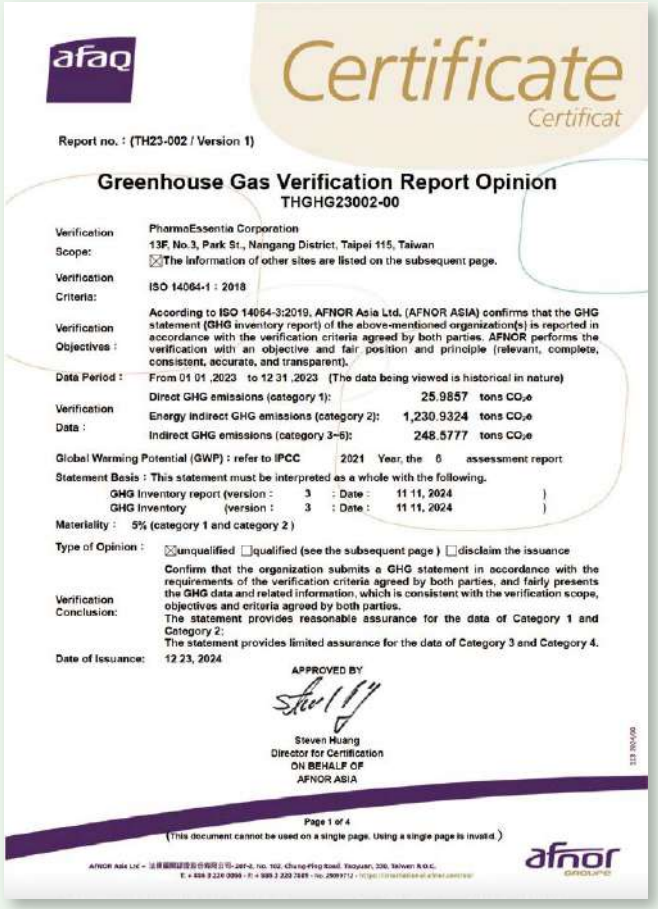
Appendix 4. TCFD Index

▶ TCFD Index

Governance		Corresponding Sections	Page
Governance	a) Describe the board's oversight of climate-related risks and opportunities	**4.2 Climate and Nature Actions-Governance** The Board of Directors is the highest climate governance unit, and is responsible for supervising and formulating strategies associated with climate change, as well as responding to domestic and foreign net zero initiatives. The Board authorizes the Executive Center for Corporate Sustainability and the Environmentally Friendly Team to promote climate change management actions	78
	b) D Describe management's role in assessing and managing climate-related risks and opportunities		
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	**4.2 Climate and Nature Actions-Strategy** We implement management and adaptation actions for severe climate risks over the short-term (1-3 years) to reduce risk impacts and medium to long-term effects, and also discuss possible climate-related opportunities	79
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	**4.2 Climate and Nature Actions-Strategy** In consideration of future carbon management measures, we continued to implement ISO 14064-1:2018 organizational inventory processes in 2024	81
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	**4.2 Climate and Nature Actions-Strategy** Assessed impacts on major plants under three United Nations Intergovernmental Panel on Climate Change scenarios (RCP 2.6, RCP 4.5, and RCP 8.5) using current information	80
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks	**4.2 Climate and Nature Actions-Risk Management** We have established internal risk management policies, procedures, and internal controls. The Board approves the Company's risk management targets and policies each year and assigns executives to various risk topics. We continued to inventory main operational risks in 2024 and ensured that all departments implemented specific practices for handling various risks	83、84
	b) Describe the organization's processes for managing climate-related risks		
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management		
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	**4.2 Climate and Nature Actions-Metrics and Targets** We formulated responses and metrics & targets for carbon management, material costs, and typhoons, floods, and other extreme weather events, and disclosed achievements in 2024	84
	b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks		
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets		

Appendix 5.

► Taipei Headquarters ISO 14064-1 2018 Greenhouse Gas Inventory Report



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Certificate

Certificat

Report no. : (TH23-002 / Version 1)

Greenhouse Gas Verification Report Opinion

THGHG23002-00

Verification Scope:	PharmaEssentia Corporation 13F, No.3, Park St., Nangang District, Taipei 115, Taiwan ☒The information of other sites are listed on the subsequent page.
Verification Criteria:	ISO 14064-1 : 2018
Verification Objectives :	According to ISO 14064-3:2019, AFNOR Asia Ltd. (AFNOR ASIA) confirms that the GHG statement (GHG inventory report) of the above-mentioned organization(s) is reported in accordance with the verification criteria agreed by both parties. AFNOR performs the verification with an objective and fair position and principle (relevant, complete, consistent, accurate, and transparent).
Data Period :	From 01 01 ,2023 to 12 31 ,2023 (The data being viewed is historical in nature)
Verification Data :	Direct GHG emissions (category 1): 25.9857 tons CO_2e Energy indirect GHG emissions (category 2): 1,230.9324 tons CO_2e Indirect GHG emissions (category 3~6): 248.5777 tons CO_2e
Global Warming Potential (GWP) : refer to IPCC	2021 Year, the 6 assessment report
Statement Basis : This statement must be interpreted as a whole with the following.	GHG Inventory report (version : 3 : Date : 11 11, 2024) GHG Inventory (version : 3 : Date : 11 11, 2024)
Materiality :	5% (category 1 and category 2)
Type of Opinion :	☒unqualified ☐qualified (see the subsequent page) ☐disclaim the issuance
Verification Conclusion:	Confirm that the organization submits a GHG statement in accordance with the requirements of the verification criteria agreed by both parties, and fairly presents the GHG data and related information, which is consistent with the verification scope, objectives and criteria agreed by both parties. The statement provides reasonable assurance for the data of Category 1 and Category 2: The statement provides limited assurance for the data of Category 3 and Category 4.
Date of Issuance:	12 23, 2024

APPROVED BY

Steven Huang
Director for Certification
ON BEHALF OF
AFNOR ASIA

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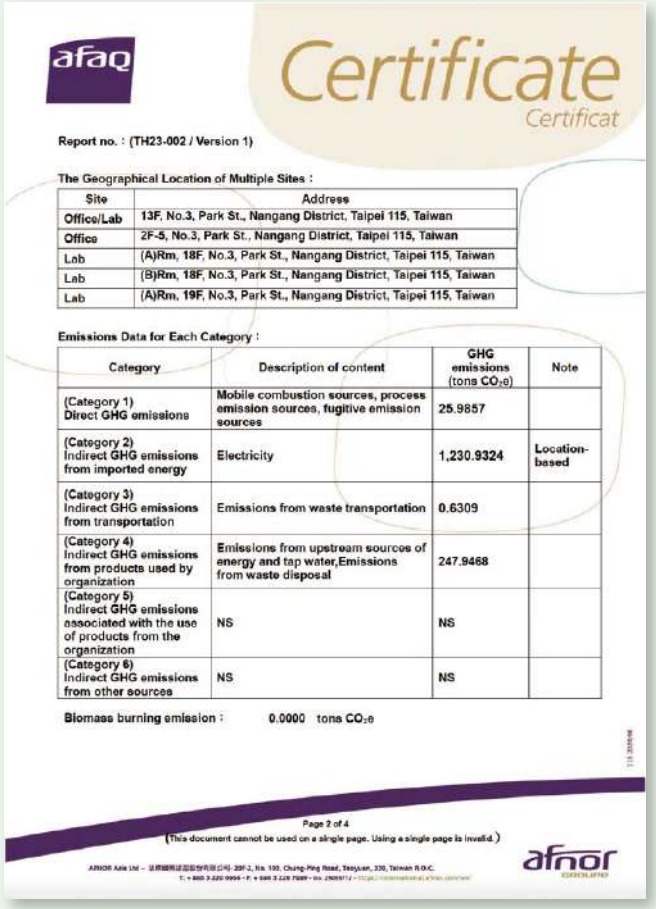

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Certificate

Certificat

Report no. : (TH23-002 / Version 1)

The Geographical Location of Multiple Sites :

Site	Address
Office/Lab	13F, No.3, Park St., Nangang District, Taipei 115, Taiwan
Office	2F-5, No.3, Park St., Nangang District, Taipei 115, Taiwan
Lab	(A)Rm, 18F, No.3, Park St., Nangang District, Taipei 115, Taiwan
Lab	(B)Rm, 18F, No.3, Park St., Nangang District, Taipei 115, Taiwan
Lab	(A)Rm, 19F, No.3, Park St., Nangang District, Taipei 115, Taiwan

Emissions Data for Each Category :

Category	Description of content	GHG emissions (tons CO_2e)	Note
(Category 1) Direct GHG emissions	Mobile combustion sources, process emission sources, fugitive emission sources	25.9857	
(Category 2) Indirect GHG emissions from imported energy	Electricity	1,230.9324	Location-based
(Category 3) Indirect GHG emissions from transportation	Emissions from waste transportation	0.6309	
(Category 4) Indirect GHG emissions from products used by organization	Emissions from upstream sources of energy and tap water,Emissions from waste disposal	247.9468	
(Category 5) Indirect GHG emissions associated with the use of products from the organization	NS	NS	
(Category 6) Indirect GHG emissions from other sources	NS	NS	

Biomass burning emission : 0.0000 tons CO_2e

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Appendix 5.

▶ Taichung Plant ISO 14064-1 2018 Greenhouse Gas Inventory Report

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Certificate
Certificat

Report no. : (TH24-512 / Version 1)

Greenhouse Gas Verification Report Opinion
THGHG24512-00

Verification Scope:	PharmaEssentia Corporation, Taichung Plant 3F., No. 6, Zhongke Rd., Daya Dist., Taichung City 428203 , Taiwan (R.O.C.) ☒The information of other sites are listed on the subsequent page.
Verification Criteria:	ISO 14064-1 : 2018
Verification Objectives :	According to ISO 14064-3:2019, AFNOR Asia Ltd. (AFNOR ASIA) confirms that the GHG statement (GHG inventory report) of the above-mentioned organization(s) is reported in accordance with the verification criteria agreed by both parties. AFNOR performs the verification with an objective and fair position and principle (relevant, complete, consistent, accurate, and transparent).
Data Period :	2023/01/01~2023/12/31 (The data is historical data.)
Verification Data :	Direct GHG emissions (category 1): 690.1062 tons CO_2e Energy indirect GHG emissions (category 2): 2900.1029 tons CO_2e Indirect GHG emissions (category 3~6): 869.6112 tons CO_2e

Global Warming Potential (GWP) : refer to IPCC 2021 Year, the 6 assessment report

Statement Basis : This statement must be interpreted as a whole with the following.
GHG Inventory report (version : 3 : Date : 09 11, 2024)
GHG Inventory (version : 3 : Date : 09 11, 2024)

Materiality : 5% (category 1 and category 2)

Type of Opinion : ☒unqualified ☐qualified (see the subsequent page) ☐disclaim the issuance

Verification Conclusion: Confirm that the organization submits a GHG statement in accordance with the requirements of the verification criteria agreed by both parties, and fairly presents the GHG data and related information, which is consistent with the verification scope, objectives and criteria agreed by both parties.
Declares that the reasonable assurance level of the inventory data is category 1 and category 2.

Date of Issuance: 12 21, 2024

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Steven Huang
Director for Certification
ON BEHALF OF
AFNOR ASIA

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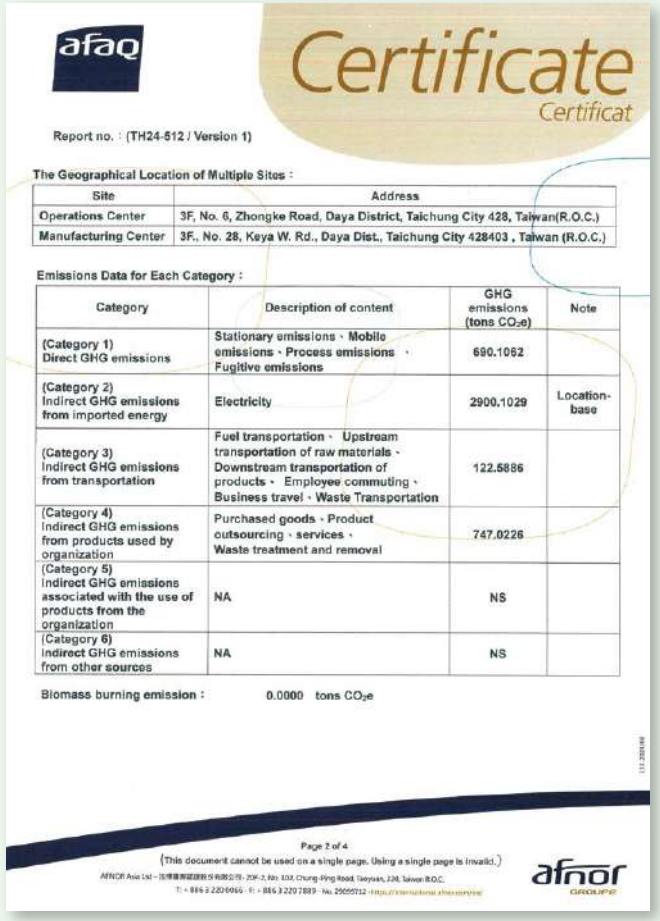

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Certificate
Certificat

Report no. : (TH24-512 / Version 1)

The Geographical Location of Multiple Sites :

Site	Address
Operations Center	3F, No. 6, Zhongke Road, Daya District, Taichung City 428, Taiwan(R.O.C.)
Manufacturing Center	3F., No. 28, Keya W. Rd., Daya Dist., Taichung City 428403 , Taiwan (R.O.C.)

Emissions Data for Each Category :

Category	Description of content	GHG emissions (tons CO_2e)	Note
(Category 1) Direct GHG emissions	Stationary emissions、Mobile emissions、Process emissions、Fugitive emissions	690.1062	
(Category 2) Indirect GHG emissions from imported energy	Electricity	2900.1029	Location-base
(Category 3) Indirect GHG emissions from transportation	Fuel transportation、Upstream transportation of raw materials、Downstream transportation of products、Employee commuting、Business travel、Waste Transportation	122.5886	
(Category 4) Indirect GHG emissions from products used by organization	Purchased goods、Product outsourcing、services、Waste treatment and removal	747.0226	
(Category 5) Indirect GHG emissions associated with the use of products from the organization	NA	NS	
(Category 6) Indirect GHG emissions from other sources	NA	NS	

Biomass burning emission : 0.0000 tons CO_2e

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Appendix 5.

▶ Taichung Plant ISO 14001 2015 Environmental Management System Certificate / Taichung Plant ISO 45001 2018 Occupational Health and Safety Management Systems Certificate / Taipei Plant ISO27001 2022 Information Security Management System Certificate

Certificate TW24/00000998 / 證書 TW24/00000998

The management system of / 下述組織

PHARMAESSENTIA CORPORATION,TAICHUNG PLANT
藥華醫藥股份有限公司台中分公司

3F, No. 28, Keya W. Rd., Daya Dist., Taichung City 428403, Taiwan (R.O.C.)
428403 台中市大雅區科雅西路 28 號 3 樓

has been assessed and certified as meeting the requirements of
的管理系統已經過審核，並被證明符合下述要求

ISO 14001:2015

For the following activities / 所涵蓋的活動範圍
Manufacture of pharmaceutical products

醫藥產品製造

This certificate is valid from 04 December 2024 until 04 December 2027 and remains valid subject to satisfactory surveillance audits.
此證書的有效期自 2024 年 12 月 04 日 至 2027 年 12 月 04 日 且其有效性應依持續符合的定期稽核

Issue 1. Certified since 04 December 2024
版次 1. 初始註冊日期 2024 年 12 月 04 日

L. Moran

Authorised by / 簽署
Liz Moran
Business Manager

SGS United Kingdom Ltd
Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN, UK
t +44 (0)151 350-6666 - www.sgs.com

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Certificate TW24/00000999 / 證書 TW24/00000999

The management system of / 下述組織

PHARMAESSENTIA CORPORATION,TAICHUNG PLANT
藥華醫藥股份有限公司台中分公司

3F, No. 28, Keya W. Rd., Daya Dist., Taichung City 428403, Taiwan (R.O.C.)
428403 台中市大雅區科雅西路 28 號 3 樓

has been assessed and certified as meeting the requirements of
的管理系統已經過審核，並被證明符合下述要求

ISO 45001:2018

For the following activities / 所涵蓋的活動範圍
Manufacture of pharmaceutical products

醫藥產品製造

This certificate is valid from 04 December 2024 until 04 December 2027 and remains valid subject to satisfactory surveillance audits.
此證書的有效期自 2024 年 12 月 04 日 至 2027 年 12 月 04 日 且其有效性應依持續符合的定期稽核

Issue 1. Certified since 04 December 2024
版次 1. 初始註冊日期 2024 年 12 月 04 日

Authorised by / 簽署
Stephen Pan
Director

SGS Taiwan Limited
No. 136-1, Wu Kung Road, New Taipei Industrial Park, Wu Ku District, New Taipei City 24803, Taiwan
t +886 (2) 2299 3939 - www.sgs.com.tw

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Certificate TW24/00000563

The management system of

PharmaEssentia Corp.

12F., 2F-5, No.3, Park St., Nangang District., Taipei 115, Taiwan
has been assessed and certified as meeting the requirements of
ISO/IEC 27001:2022

For the following activities
The provision of development and operation of Enterprise Resource Planning system(ERP), network and server room facility maintenance via Information Technology Department in accordance with the Statement of Applicability version 1.0.

This certificate is valid from 09 July 2024 until 09 July 2027 and remains valid subject to satisfactory surveillance audits.

Issue 1. Certified since 09 July 2024

Authorised by
Jonathan Hall
Global Head - Certification Services

SGS United Kingdom Ltd
Rossmore Business Park, Ellesmere Port, Cheshire, CH65 3EN, UK
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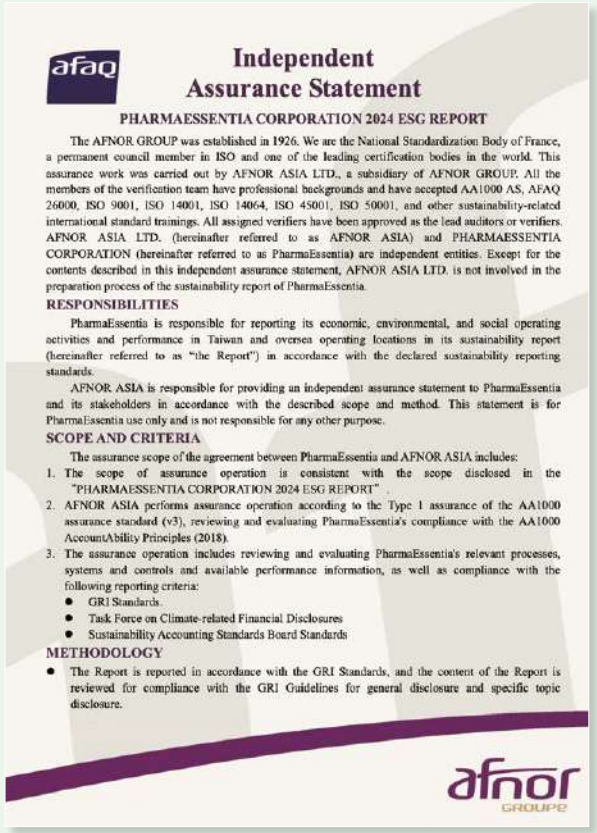
Appendix 5.

▶ Statement of Independent Assurance Opinion



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Independent Assurance Statement

PHARMAESSENTIA CORPORATION 2024 ESG REPORT

The AFNOR GROUP was established in 1926. We are the National Standardization Body of France, a permanent council member in ISO and one of the leading certification bodies in the world. This assurance work was carried out by AFNOR ASIA LTD., a subsidiary of AFNOR GROUP. All the members of the verification team have professional backgrounds and have accepted AA1000 AS, AFAQ 26000, ISO 9001, ISO 14001, ISO 14064, ISO 45001, ISO 50001, and other sustainability-related international standard trainings. All assigned verifiers have been approved as the lead auditors or verifiers. AFNOR ASIA LTD. (hereinafter referred to as AFNOR ASIA) and PHARMAESSENTIA CORPORATION (hereinafter referred to as PharmaEssentia) are independent entities. Except for the contents described in this independent assurance statement, AFNOR ASIA LTD. is not involved in the preparation process of the sustainability report of PharmaEssentia.

RESPONSIBILITIES

PharmaEssentia is responsible for reporting its economic, environmental, and social operating activities and performance in Taiwan and oversea operating locations in its sustainability report (hereinafter referred to as "the Report") in accordance with the declared sustainability reporting standards.

AFNOR ASIA is responsible for providing an independent assurance statement to PharmaEssentia and its stakeholders in accordance with the described scope and method. This statement is for PharmaEssentia use only and is not responsible for any other purpose.

SCOPE AND CRITERIA

The assurance scope of the agreement between PharmaEssentia and AFNOR ASIA includes:

1. The scope of assurance operation is consistent with the scope disclosed in the "PHARMAESSENTIA CORPORATION 2024 ESG REPORT".
2. AFNOR ASIA performs assurance operation according to the Type 1 assurance of the AA1000 assurance standard (v3), reviewing and evaluating PharmaEssentia's compliance with the AA1000 AccountAbility Principles (2018).
3. The assurance operation includes reviewing and evaluating PharmaEssentia's relevant processes, systems and controls and available performance information, as well as compliance with the following reporting criteria:
   - GRI Standards.
   - Task Force on Climate-related Financial Disclosures
   - Sustainability Accounting Standards Board Standards

METHODOLOGY

- The Report is reported in accordance with the GRI Standards, and the content of the Report is reviewed for compliance with the GRI Guidelines for general disclosure and specific topic disclosure.

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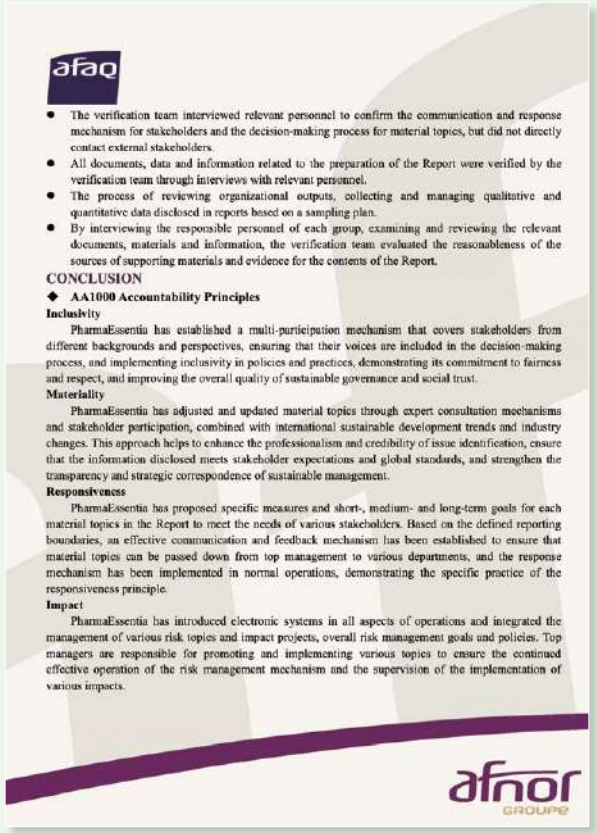

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- The verification team interviewed relevant personnel to confirm the communication and response mechanism for stakeholders and the decision-making process for material topics, but did not directly contact external stakeholders.
- All documents, data and information related to the preparation of the Report were verified by the verification team through interviews with relevant personnel.
- The process of reviewing organizational outputs, collecting and managing qualitative and quantitative data disclosed in reports based on a sampling plan.
- By interviewing the responsible personnel of each group, examining and reviewing the relevant documents, materials and information, the verification team evaluated the reasonableness of the sources of supporting materials and evidence for the contents of the Report.

CONCLUSION

◆ **AA1000 Accountability Principles**

Inclusivity

PharmaEssentia has established a multi-participation mechanism that covers stakeholders from different backgrounds and perspectives, ensuring that their voices are included in the decision-making process, and implementing inclusivity in policies and practices, demonstrating its commitment to fairness and respect, and improving the overall quality of sustainable governance and social trust.

Materiality

PharmaEssentia has adjusted and updated material topics through expert consultation mechanisms and stakeholder participation, combined with international sustainable development trends and industry changes. This approach helps to enhance the professionalism and credibility of issue identification, ensure that the information disclosed meets stakeholder expectations and global standards, and strengthen the transparency and strategic correspondence of sustainable management.

Responsiveness

PharmaEssentia has proposed specific measures and short-, medium- and long-term goals for each material topics in the Report to meet the needs of various stakeholders. Based on the defined reporting boundaries, an effective communication and feedback mechanism has been established to ensure that material topics can be passed down from top management to various departments, and the response mechanism has been implemented in normal operations, demonstrating the specific practice of the responsiveness principle.

Impact

PharmaEssentia has introduced electronic systems in all aspects of operations and integrated the management of various risk topics and impact projects, overall risk management goals and policies. Top managers are responsible for promoting and implementing various topics to ensure the continued effective operation of the risk management mechanism and the supervision of the implementation of various impacts.

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◆ **Global Reporting Initiative Sustainability Reporting Standards**

Based on the results of the review, it is confirmed that the general disclosures, specific topic disclosures, and material topics management disclosures in the Report have complied with the requirements of the GRI Standards. In the future, the organization can continue to strengthen sustainable governance, systematically identify stakeholders and material topics to update disclosure priorities, deepen inclusive management and diverse participation, and strengthen a culture of fairness and transparency in response to global trends and social expectations.

◆ **Task Force on Climate-related Financial Disclosures**

Based on the results of the review, the Report has revealed the impact of climate change on the company's operations, as well as measures to respond to risks and opportunities. In the future, the organization can continue to update climate scenarios and reveal the organization's strategies, goals and management results in response to changing scenarios.

◆ **Sustainability Accounting Standards Board Standards**

Based on the results of the review, the Report has disclosed relevant information based on the Sustainability disclosure topics & metrics and activity metrics of the SASB standards. In the future, the organization can collect, monitor and disclose information according to indicator requirements and integrate it into the company's internal information collection system.

ASSURANCE OPINION

AFNOR ASIA has developed a complete sustainability reporting assurance standard based on the verification guidelines of the AA1000 Assurance Standard (v3) and the GRI Standards. Based on the sufficient evidence provided by PharmaEssentia and the facts seen during on-site verification, we adhere to the principle of fairness and issue a statement on the global sustainability reporting standards followed by the organization. In our opinion, the information and data presented in the Report by PharmaEssentia provides a fair and balanced representation. We believe the focuses on economic, social, and environmental indicators in PharmaEssentia in 2024 are well represented.

ASSURANCE LEVEL

In accordance with the AA1000 Assurance Standard (v3), we verified this assurance statement corresponding to a moderate level. The scope and methods are as described in this statement.

For and on behalf of AFNOR：

AA1000
Licensed Report
000-84/V3-RPKKO

Dr. August Tsai
The Director for Certification and Assessment
Jul.03.2025

Verification team: PEI TONG HUANG (Lead Verifier), YU TAI CHIANG (Verifier), Jheng-Hao Jhan (Verifier).

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PharmaEssentia

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