PharmaEssentia

PharmaEssentia Corporation

2022 Sustainability Report

CONTENTS

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2022 Sustainability Report

Disclaimer:

The information contained in this report is for reference only and does not represent a comprehensive overview of our company operation. If any part of information disclosed involves market forecast, it may not completely reflect our future governance, or operational performance or financial soundness.

Preamble

1 About This Report

This report consists of six chapters. The preamble provides an overview of new drug development, global deployment, and sustainable value creation. Chapter 1 begins with the sustainable governance, detailing stakeholder engagement and material topics, which are covered throughout the rest of the report. Chapters 2 to 5 discuss strategies for climate change adaptation, human resources development and management, access to healthcare strategies, and our commitment to product quality management. Finally, Chapter 6 provides an overview of the corporate governance. The report systematically describes PharmaEssentia's (hereinafter referred to as the Group) efforts and achievements in the biopharmaceutical industry and sustainable blueprint and implements the promise of access to medicine throughout the different stages in the value chain.

Report Boundary GRI 2-2

The Group refers to PharmaEssentia Taiwan Headquarters (hereinafter referred to as PharmaEssentia/our company/we) and 9 related companies, all of which belong to the biotechnology service industry and are 100% owned by PharmaEssentia (reference to the annual report). The financial information in this report is derived from the consolidated financial report disclosed by the Group. Other information disclosure mainly covers PharmaEssentia (Taipei office and Taichung plant), and partially from the selected 2 subsidiaries as follow, we will gradually expand our boundary to cover disclosure of the entire Group in the future:

- Taiwan subsidiary Panco Healthcare (hereinafter referred to as Panco Healthcare) reports partial environmental and human resource information in Chapter 2 and Chapter 3. Chapter 4 and Chapter 5 include specific actions related to Panco Healthcare's business operations. Panco Healthcare's internal policies mainly follow those of PharmaEssentia Headquarters.
- The US subsidiary (PEC US) is included in this report with partial information from talent recruitment strategies in Chapter 3, specific actions related to the US business operations in Chapter 4, and global compliance strategies in Chapter 6.

Reporting Period and Contact Information GRI 2-3

This report is the fourth sustainability report issued by PharmaEssentia, published on June 30, 2023. The reporting period is from January 1, 2022, to December 31, 2022; the report covers our specific actions and performance in environmental (E), social (S), and governance (G) aspects. In order to fully present the performance of our medium to long-term projects, and to provide comparable and timely information, some content cover information up to February 25, 2023. The report will be issued on an annual basis, and we would like to hear from your suggestions and comments to our report. If you need any further information, please feel free to contact us.

- PharmaEssentia Execution Center for Corporate Sustainability
- Address: 13F., No. 3, Park St., Nangang Dist., Taipei City 115, Taiwan (R.O.C.) (Nangang Software Park, Building F)
- Phone: +886-2-2655-7688
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- Company ESG Website: www.pharmaessentia-esg.com

Reportng Principles and Data Recompilation GRI 2-4/2-5

The report follows the latest GRI Standards: 2021 published by the Global Reporting Initiative (GRI). In response to the transition to the new GRI standards, PharmaEssentia revisited our material topics at the end of 2022, and explored the impact of our value chain on external stakeholders and gained a deeper understanding of the scope of impacts and likelihood of occurrence. **PharmaEssentia's Execution Center for Corporate Sustainability (or ECCS)** decided to future management and to further assess the positive and negative impacts of these 11 material topics in response to the GRI Standards: 2021.

This report is also written with reference to the following guidelines:

- Account Ability Principles：2018
- UN Global Compact
- UN Sustainable Development Goals, SDGs
- ISO 26000: 2010 Guidance on Social Responsibility
- Sustainability Accounting Standard Board, SASB
- Task Force on Climate-Related Financial Disclosures, TCFD
- Access to Medicine Index 2020

The third-party verification included in this report are provided by the following parties

Type of information	Referencing standards	Name of third party organization
Financial Information	Financial Information International Financial Reporting Standards (IFRS)	Ernst & Young
Sustainability Information	AA 1000 Assurance Standard (v3)	AFNOR Group
	GRI Sustainability Reporting Standards (GRI Standards 2021)	
Environmental Information	ISO 14064-1:2018 Organization-Level Greenhouse Gas (GHG) Inventories	SGS Taiwan Ltd.

Management Process of the Report GRI 2-14

The Board of Directors of PharmaEssentia is the highest governing body and decision-making unit of the company. In response to the need for sustainability development, we established the Execution Center for Corporate Sustainability (ECCS) and 5 cross-functional Taskforces (which are Environmental Friendliness Taskforce, Employee Care Taskforce, Corporate Governance Taskforce, Product Quality and Patient Safety Taskforce, and Access to Medicine Taskforce). ECCS reports directly to the CEO and is responsible for planning and pushing forward issues related to the company's sustainable development policies, goals, strategies, and implementation plans. ECCS also reports the progress of projects related to the material topics to the Board on a quarterly basis.

The information disclosed in this sustainability report is provided by each responsible department and the subsidiaries. ECCS (Execution Center for Corporate Sustainability) is responsible for collecting and compiling the information, which is then reviewed and approved by the Head of each respective functional Taskforces and subsidiaries. The final report has acquired an AA1000 statement issued by the AFNOR Group.

2 Messages from the Management Team

GRI 2-22

Embracing change, embracing sustainability

"What matters in the biopharmaceutical industry?" This is a question that PharmaEssentia has been asking throughout our journey. In 2022, the third year after the pandemic broke out, we learned to live with the pandemic. How can we continue to exert our influence and fulfill our mission of "Better science, Better lives"? The answer is through scientific research and development of new drugs to alleviate suffering and bring better lives to all. This is a value we continue to seek and explore.

The COVID-19 pandemic has led us to explore the core value of the biopharmaceutical industry. We actively strive for innovation and drug development: in 2021, we obtained FDA and KFDA approval for BESREMi® for the treatment of polycythemia vera. In 2022, our Board of Directors approved the establishment of an innovation research center in the United States to enhance our global R&D capabilities. With tangible results from our new drugs, we bring hope to patients and bring change to the world. To date, our new drugs have reached over 30 countries and have been used by patients worldwide. We are approaching our goal of "devoting ourselves to solving the unmet medical needs around the world, to exploring and developing new drugs and technologies, and to providing patients with affordable and accessible drugs."

While committed to our core business, we also incorporate sustainability into our operations, and involve our employees in the process. In 2022, our sustainability report received the Platinum Award in the Healthcare Industry category at Taiwan Corporate Sustainability Awards (TCSA), as well as the Bronze Award at Global Corporate Sustainability Awards (GCSA). Continuously striving for excellence, we have responded to SDG 13 - Climate Action by adopting the Task Force on Climate-related Financial Disclosures (TCFD) framework for the first time in 2022, completing a climate change risk and opportunity assessment and laying the foundation for climate governance and contributing our efforts in achieving global emission reduction targets. Our efforts in ESG reporting are shown with improved results in Sustainalytics ESG risk assessments and the S&P Global Corporate Sustainability Assessment (CSA) of the Dow Jones Sustainability Index (DJSI). With the improvement of our ESG ratings at Sustainalytics Risk Ratings, and our CSA scores (published by S&P), we hope to build trust on PharmaEssentia and extend our influence to global stakeholders.

This report is the fourth sustainability report of PharmaEssentia, which presents our operational performance and sustainability efforts. We also welcome your comments to make us stronger in the pursuit of the "essence of medicine," to become a reliable and accountable biopharmaceutical company. Thank you!

Chairwoman **Ching-Leou Teng**

Prepare for global market expansion with innovation

The world is in a state of constant flux and circumstances occur often due to more than one single cause. Under the trend of globalization, many events are interconnected such as the COVID-19 pandemic, climate change, technological advancement, and geopolitical conflicts which all require us to adopt a global mindset and thus the core values and sustainability implications are even more important than ever.

Our key product, the new generation long-acting interferon Ropeg has been granted market approval in various countries, including the EU drug certificate for treating polycythemia vera (PV), and the Taiwan Food and Drug Administration certificate under the brand name for BESREMI®. In 2021, Ropeg also received market approval in Israel, South Korea, and the United States, and was included in the 2022 NCCN treatment guidelines as a treatment option for PV.

Additionally, we continue to conduct clinical trials in multiple countries for Ropeg in new indications such as primary thrombocythemia (ET), hepatitis virus infection, and tumor diseases, aiming for “multiple line extensions with one drug” to help more patients.

We strive to expand our product portfolio; in 2022, a phase 1b clinical trial using Anti-PD1 for hepatitis B and D has started patients’ recruitment. In addition, KX01, a new drug licensed from Athenex in the United States to treat actinic keratosis, has received market approval in Taiwan and to kick off a Phase 3 clinical trial in Japan to meet local regulatory requirements. We continue to integrate resources in new drug development, clinical trial, production and marketing, in order to construct a wholistic and innovative biopharmaceutical company. We embrace a sustainable development mindset and put into action in our R&D to improve patients’ health and well-being.

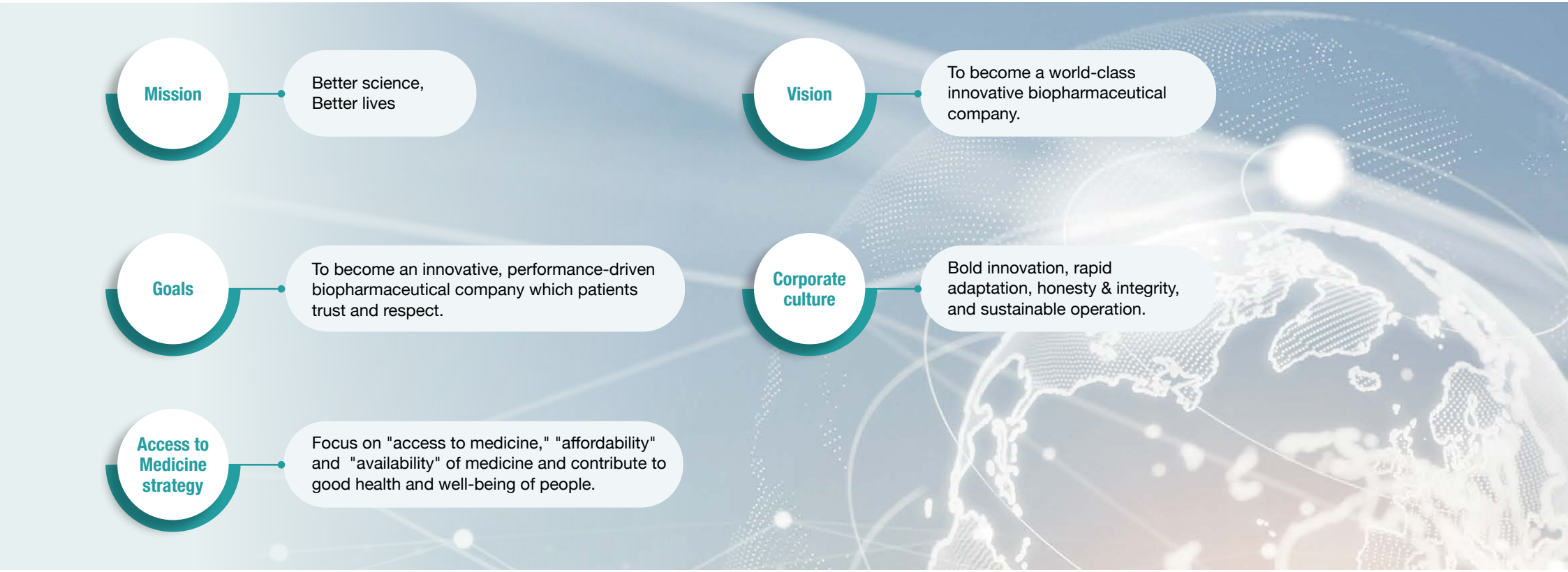
While we build up a solid operation in PharmaEssentia, we also expand our efforts to outside of PharmaEssentia to engage both internal and external stakeholders and realize our sustainable development roadmap. In 2022, we sponsored projects for the Digital / Tele-Medicine in Rural Area Program by Digital Humanitarian Association, with the goal to the help minority groups in rural areas to receive timely medical care with the help in a digital way. We also sponsored the Jane Goodall Institute on environmental hydrocarbon refrigerants. In the constantly changing world, we stand on a firm footing to face various upcoming challenges; just as we are rooted in Taiwan to march to the world. We hope to lead the biopharmaceutical industry to grow together and reach to new level.

CEO **Ko-Chung Lin**

3 PharmaEssentia's Mission and Vision

PharmaEssentia, headquartered in Taiwan, is a biopharmaceutical company dedicated to the R&D of new drugs serving global markets. We focus on "creating long-term shared value" and "stakeholder communications" and take proactive actions in corporate social responsibility while responding to regulatory requirement. Under the supervision of our board of directors, we fully bridge our ESG management with our operational strategies. While achieving our target on new drug research and development, we strive to create more positive impact and reduce negative impact on the economy, environment and people. This is in line with our mission: "Better science, Better lives".

Our area of focus includes four major disease areas including rare blood diseases, oncology, viral infections, and skin diseases. With sustainable development as the core, we are dedicated to developing innovative drugs and implementing global access to medicine strategy, and responding to SDG #3 Good Health and Wellbeing.



Milestones

2003

A group of scientists with years of experience in biotech abroad returned to Taiwan to establish PharmaEssentia.

2012

The ground-breaking ceremony for the production of API in Taichung was held.

2013

AOP Orphan initiated Phase III clinical trials for Ropeg.

2019

- AOP Orphan obtained EU marketing authorization for BESREMi®.
- Athenex licensed its oral paclitaxel formulation Oradoxel for the treatment of prostate cancer, and received approval from the Taiwan FDA to conduct Phase I clinical trials.
- The clinical trial plan for Phase II of polycythemia vera (PV) in Japan, conducted by a subsidiary, was successfully submitted to the PMDA.

2021

- BESREMi® was granted marketing authorizations in Israel and Korea.
- BESREMi® was granted FDA approval in the United States and orphan drug designation, with seven years of market exclusivity in the US.
- The clinical trial plan for the bridging Phase II study of PV in China, conducted with Ropeg, was approved by the Chinese NMPA.
- The clinical trial plan for Phase III in Japan for KX01 for actinic keratosis (AK) was approved by the PMDA.

A fully integrated innovative biopharmaceutical company

R&D and Innovation of New Drugs → Clinical trials → Production and manufacturing → International sales

2005

Developed flagship drug Ropeg

2009

- Signed authorization agreement with AOP Orphan of Austria
- Ropeg received FDA approval for entry into Phase I clinical trial

2016

Listed on Taiwan Stock Exchange

2018

- Taiwan plant received EU GMP certification
- Started commercial production
- AOP Orphan presented P1101 Phase III clinical data at the American Society of Hematology conference

2020

- Besremi® received approval from Taiwan FDA
- Aseptic filling manufacturing plant received certification from Taiwan FDA for GMP and GDP compliance
- Multicenter Phase III clinical trials for essential thrombocythemia (ET) initiated in the US, China, Japan, Korea, Taiwan, and Hong Kong
- Ropeg approved by Taiwan FDA for Phase Ib clinical trial for treating chronic hepatitis B or chronic hepatitis B with D

2022

- Besremi® included in Taiwan NHI coverage
- Ropeg included in US NCCN treatment guidelines
- Taiwan plant passed GMP inspection by PMDA of Japan
- Tirbanibulin (KX01) approved by Taiwan FDA for treatment of actinic keratosis (AK)
- Athenex, a collaborative partner, received GMP certification from Taiwan FDA for Tirbanibulin (KX01) formulation plant in the US.

4 About PharmaEssentia

GRI 2-1

PharmaEssentia is based in Taiwan. With a competitive advantage in the new drug manufacturing and production, we are committed to cultivating talent in the biopharmaceutical industry and are actively expanding to global markets and developing strategic alliance partners to lead the development of Myeloproliferative Neoplasms (MPN) field.

We have developed high quality "PEGylation technology platform" and small molecule synthesis technology. We utilize the technology to develope BESREMi® for the treatment of "polycythemia vera (PV) with asymptomatic splenomegaly for adult". After obtaining marketing approvals in multiple countries in Europe, we also receive approvals in Israel, Korea, and the United States for the treatment of PV for adult. In addition, we are actively preparing for drug license applications in Japan, China, Singapore and Hong Kong. For more information, please refer to our company website.

Mission and Vision

- To become a world-class innovative Biopharmaceutical company focused on protein therapeutics
- To establish the first fully-integrated protein therapeutic company in Taiwan that combines R&D, clinical trials, manufacturing, and sales.

Operational Locations

- Headquarters of PharmaEssentia is located in Taiwan
- With global operational locations including the United States, China, Japan, Korea, Singapore, and Hong Kong.

2022 Employee and Revenue Figures

- There are 287 employees in Taiwan and a total of 470 employees worldwide.
- The net revenue is approximately NT$2.8 billion.

Overview of Ropeg's global market approval

2019	2020	2021	2022
EU	Taiwan	Israel	Macau
	Switzerland	South Korea	In the process of obtaining certification in Japan
	Liechtenstein	United States	

Overview of Ropeg's Regulatory Approvals in Global Markets Ropeg is marketed and sold under the brand name BESREMi®/Besremi®. In the EU, it is used to treat adult patients with polycythaemia vera (PV) who are resistant to or intolerant of hydroxyurea and have non-splenomegaly-related symptoms. In the US, it is used to treat adult patients with PV. PV is a type of myeloproliferative neoplasms (MPN) that can progress to acute myeloid leukemia and pose a threat to life.

Value Chain Partners GRI2-6

In order to level up Taiwan's biotechnology, we actively collaborate with partners along our value chain toward sustainability. The table below summarizes how we work with different partners along the value chain:

	New drug research and development	Clinical trials
Value chain partners	Academic research institutions (such as Academia Sinica and domestic/foreign universities), licensed domestic biotech companies, and foreign licensed partner Axis Therapeutics	Clinical trial hospitals, contract research organizations, European strategic partner AOP Orphan, licensed partner Athenex
Collaboration Models	• Collaborate with universities worldwide in industry-academia partnerships to jointly develop potential drug candidates. • Technology licensing for preclinical development with domestic biotech companies. • Technology transfer and clinical development for solid tumor (TCR-T) with foreign licensing partner Axis Therapeutics.	• Collaborate with qualified and internationally accredited outsourcing research institutions. • Actively interact with research foundations, patient advocacy groups, and hospitals in various countries to understand disease trends and needs. • License international biopharmaceutical companies for clinical trials. • Maintain unimpeded channels of communication with international drug logistics companies and to enhance their operations through methods including internal audit in order to ensure timeliness and quality of drug transportation
Management Strategy and Performance	**Early Development: Continuous Development of Innovative Drugs** • Creating value through innovation and improvement of existing drugs to reduce the risk of developing new drugs • Effectively developing diverse products using technological platforms • In 2022, the total R&D expenditure reached NT$1.43 billion, with 123 R&D personnel worldwide dedicated to addressing unmet medical needs **Intellectual Property Management: Actively Collaborating with Industry and Academia** • Cross-border industry-academia collaboration with Athenex and Axis Therapeutics • Committed to considering the access to medicine in low-income countries and least developed countries when using or applying for patents • Conducting new drug clinical trials and sales globally through licensing and external authorization • Investing in the establishment of an innovative research center in the United States	**Clinical Trials: Global Medical Clinical Trials** • Initiate multi-country and multi-center clinical trials with operational procedures following relevant regulations • Commit to assisting eligible patients to obtain legal access to appropriate treatment channels • Already promoted more than 20 clinical trial cases, and the trial data can serve as the basis for future drug approval and physician prescription applications **Compassionate Use: Supporting Critical Patients** • Provide compassionate use for patients with serious or immediately life-threatening diseases who are unable to participate in clinical trials, and initiate their urgent treatment course • In 2022, the number of patients worldwide who have cumulatively used compassionate use therapy has reached 40.

Production and manufacturing

Drug application services

Marketing and sales

	Production and manufacturing	Drug application services	Marketing and sales
Value chain partners	Suppliers/contractors, outsourcing organizations, external consultants	International biopharmaceutical companies/contract research organizations with licensing cooperation, foreign pharmaceutical companies	Licensing strategy cooperation sales partners/ outsourced marketing channels, international pharmaceutical logistics providers
Collaboration Models	• Maintain good communication channels with international pharmaceutical transportation companies and improve their operations through internal audits to ensure the quality and timeliness of drug transportation. • Require manufacturers to sign a "Quality Agreement" to ensure mutual product and quality requirements are consistent. • Establish supplier management procedures that specify re-evaluation frequency and shorten the re-evaluation interval for high-risk suppliers to ensure product quality. • Collaborate with qualified and internationally accredited outsourced manufacturing/inspection institutions.	• License international biopharmaceutical companies or outsourcing research institutions for clinical trials and drug application.	• Strategically ally with foreign partners familiar with the local market or appoint commissioned sales channels to expand sales in local markets. • Maintain good communication channels with international pharmaceutical transportation companies and improve their operations through internal audits to ensure the quality and timeliness of drug transportation.
Management Strategy and Performance	**Product Quality: Rigorous and Legal Production of Products** • The production process has been approved and inspected, and complies with GMP certifications from the US FDA, EU EMA, Japan PMDA, Taiwan TFDA, and other agencies. **Transportation and Supply: Timely and Stable Supply of Medications** • Establishing a global safe and stable drug supply chain. • Stable and timely supply of raw materials from suppliers and production scheduling control through production management mechanisms to meet the needs of patients.	**Plan short and medium-term drug registration applications around the world.** • BESREMi® has currently obtained regulatory approval in 38 countries and is continuously increasing, expanding global patient access to equal medical rights. • Tirbanibulin (KX01) has recently passed the new drug verification and registration review of Taiwan's Ministry of Health and Welfare and is indicated for actinic keratosis (AK).	**Academic Exchange: Demonstrating the Value of Medical Products** • Sponsorship of the Annual Meeting of the Taiwan Society of Hematology • Collaborating with value chain partners to enhance the social impact of the local biopharmaceutical industry • Promoting advocacy on issues related to access to medicine and sponsoring related organizational activities **Medical Contribution: Enhancing awareness and sharing of experience in the effectiveness of new therapies** • Obtaining health insurance price listing benefits for more patients in 2022 • Organizing over 12 regional and healthcare professional medical lectures in 2022 • Holding 11 in-hospital seminars in 2022 • The board of directors has approved the terms for the distribution and authorization of Ropeginterferon alfa-2b products in Latin America.

Global Strategy

PharmaEssentia Corporation adopts two major strategies, namely "establishing multinational subsidiaries" and "licensing and cooperation alliances," as our global market deployment strategy. We also develop three major strategic directions and gather about 470 outstanding talents worldwide to dedicate ourselves to the field of rare blood diseases, particularly Myeloproliferative Neoplasms (MPN), which currently have no adequate treatment. We strive to continually improve drug development and market efficiency. Our independently developed Ropeg, used to treat polycythemia vera (PV) and marketed under the brand names BESREMi®, has obtained drug marketing approvals in over 30 countries worldwide, benefiting PV patients. We have also initiated phase III clinical trials of Ropeg for the treatment of essential thrombocythemia (ET) in many parts of the world, with the hope of offering treatment options for other patients as well. These achievements have proven that our core base of research and development and manufacturing in Taiwan can successfully expand to international markets.

Total global employees: **470**

Total global R&D clinical staff: **123**

Strategy 1

Maximizing the value of our technology platform and products to increase profitability

- Promoting Ropeg as the leading brand for the treatment of myeloproliferative neoplasms (MPNs) to increase patient loyalty
- Utilizing PEGylation as our technology platform, we will leverage the research and development expertise gained from the development of Ropeg to continuously develop new products for the treatment of other indications, shortening development timelines, reducing research risks, and costs.

Strategy 2

Recruiting exceptional talent and establishing sound operational management

- Combining our global strategy with the recruitment of local high-level talent in our subsidiaries, we aim to minimize differences between countries and accelerate market entry
- Establishing operational service centers for local patients in each subsidiary and implementing efficient operational management to reduce overall costs and benefit patients.

Strategy 3

Continuously innovating and developing to create long-term value for the company

- Expanding our product line through licensing, cooperation, or permission agreements with strategic alliance partners to jointly develop or introduce new drug candidates
- Establishing sustainable development, risk management, or other functional teams to plan, promote, execute, track, respond to, and optimize sustainability management issues, as well as enhance corporate governance and meet stakeholder expectations.

Establishment of cross-border subsidiary operation strategies

- Establishment of operational bases in the United States, China, Japan, South Korea, Singapore, and Hong Kong
- Hiring local scientists and senior management personnel to communicate with local regulatory agencies regarding clinical drug certification applications and marketing layouts

Global expansion of PharmaEssentia

Licensing cooperation alliance model

- License Ropeg to Austrian AOP Orphan to develop and market drugs in Europe, the Middle East, and the CIS region
- License the introduction of Tirbanibulin ointment (KX 01) from US-based Athenex and collaborate to develop oral paclitaxel for cancer treatment, Oraxol®
- Conduct technology transfer and clinical development of solid tumor (TCR-T) with licensed partner Axis Therapeutics
- License cooperation partners in Hong Kong, Macau, and other regions to assist in submitting Ropeg drug certification applications in 2023
- Continuously enhance the visibility of PharmaEssentia internationally through strategic alliances
- For more information on licensing cooperation, see Chapter 6, Section 4.1.

Massachusetts, USA

PharmaEssentia USA Corporation

The US subsidiary / 110 employees, 100% ownership, total investment of 2,975,791

PharmaEssentia Innovation Research Center, Inc.

USA innovation research center / 3 employees, 100% ownership, total investment of 45,938

Tokyo, Japan

PharmaEssentia Japan KK

Japan subsidiary / 26 employees, 100% ownership, total investment of 735,595

Seoul, South Korea

PharmaEssentia Korea Corporation

Korea subsidiary / 8 employees, 100% ownership, total investment of 147,970

Beijing, China

PharmaEssentia Biotech (Beijing) Co., Ltd.

Beijing subsidiary / 12 employees, 100% ownership, total investment of 122,500

Taiwan

PharmaEssentia Corporation

Global headquarters / 287 employees

Panco Healthcare Taiwan Medical (PTM) Corporation

Taiwan subsidiary / 18 employees, 100% ownership, total investment of 102,500

Austria

AOP Orphan Pharmaceuticals

AG European licensing partner

Hong Kong

PharmaEssentia Asia(Hong Kong) Limited

Hong Kong subsidiary/2 employees, 100% ownership, total investment of 196,292

PharmaEssentia Pharmaceuticals (Hong Kong) Limited

Only completed registration process, no capital has been transferred out yet

Singapore

PharmaEssentia Singapore Pte. Ltd.

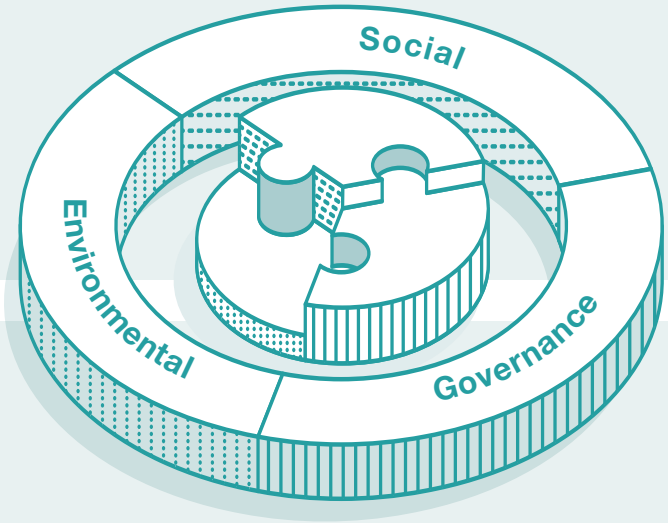
Singapore subsidiary / 1 employee, 100% ownership, total investment of 1,394

Note: Investment amounts are in thousands of New Taiwan Dollars.

5 Achievements in Sustainability

Environmental

- Completed ISO14064-1:2018 for 2020-2021 time periods and obtained third-party verification
- First year to implement the TCFD framework, identifying 10 climate-related risks and 7 opportunities
- Reduced unit product greenhouse gas emissions intensity by 59%, energy intensity by 62%, and waste production intensity by 53.5%
- Reclaimed water of 8.724 million liters, or 14.8% of amount saving
- 0 environmental regulation violations or toxic substance leaks occurred.



Social

- BESREMi® has been officially launched in 38 countries worldwide, benefiting a total of 3,800 patients from clinical trials to marketing and sales.
- The Ropeg kindness therapy program has continued to benefit 40 people worldwide and sponsored 500+ underprivileged group patients to use BESREMi®.
- Clinical trial beneficiaries span across 6+ countries, with a total of over 850+.
- BESREMi® is included in the European ELN and US NCCN guidelines as a recommended drug.
- Providing comprehensive patient support through the MPNiCare, Patient Power Foundation, and patient support SOURCE program for patient support.
- Sponsoring 3 events social participation activities: carbon reduction, health, and cultural charity
- The average retention rate at the Taiwan headquarters is over 90%, with retention rates of over 80% for all levels of management and balanced gender ratios among employees.
- The total welfare expenditure for Taiwan employees is NT$3.33 million, with a total of 571 claims for various benefits.
- Maternal health protection plan execution is 100% in Taiwan for 3 consecutive years
- Accumulated a total of 89 valid patent certificates and 112 registered trademarks in various countries.
- 33 occupational safety and health employee training sessions, with a total of 229 participants trained.
- Investing NT$1.43 billion and 123 R&D clinical personnel in unmet medical research needs globally.
- The Taichung factory has passed the PMDA confirmation of process safety in Japan.
- 100% of vendors have signed quality agreements for four consecutive years.
- Completed the third BESREMi® periodic safety update report (PSUR) after listing. No incidents of adverse drug recall in 2022.
- Establishing a stable global supply chain, building a global supply chain from drug injection filling, third-party stable logistics to drug distribution, and setting up a complete pharmacovigilance monitoring mechanism.
- Over 95% of local procurement suppliers for 3 consecutive years
- GMP/GDP quality education and related training for a total of 265 sessions and 135,179 training hours.

Governance

- Participated in and completed the S&P CSA Corporate Sustainability Assessment, ranking in the 97th percentile among global biotech companies.
- Completed MSCI ESG rating for the first time, with an average rating in the AVERAGE range and BB grade.
- Adopted the GRI 2021 Standards for the first time, identifying 43 positive and negative impacts and 11 material topics.
- Held 13 Board of Directors meetings with an average attendance rate of 97.2% (excluding proxies)
- Conducted 9 ESG sustainability training sessions to promote the understanding and implementation of core competencies and sustainable performance among executives and employees.
- Coverage rate of compliance education and training for US employees and vendors is 100%.

6 Recognitions and Awards

2022

- Won the Platinum Award in the "Sustainability Report Award- Healthcare Industry" category at the 15th Taiwan Corporate Sustainability Awards (TCSA)

- Received the Bronze Award in the "Sustainability Reporting" category at the 5th Global Corporate Sustainability Awards (GCSA)

- Won the Enterprise Innovation Award in the "Biotechnology and Precision Medicine" category at the 19th National Innovation Awards in Taiwan

- Received the Annual Industry Innovation Award in the biopharmaceutical industry from the Taiwan Bio-Industry Development Association

- Won the "Best Therapeutic Drug Award" at the BioTech Breakthrough Awards in the United States

- Received the "Industry Innovation Award" from the National Organization for Rare Disorders (NORD®) in the United States

- Included as a component stock in the MSCI Taiwan Index and the GreTai Securities Market's FTSE TWSE Taiwan Mid & Small Cap Index

2021

- Won the Gold Award in the "Sustainability Report Award- Healthcare Industry" category at the 14th Taiwan Corporate Sustainability Awards (TCSA)
- Received multiple international marketing awards for the polycythemia vera (PV) video from the US marketing Taskforce, including The Communicator Awards and The Digital Health Awards

2020

- Won the Gold Award in the "International Breakthrough Award" category at the Taipei Biotech Awards in Taiwan.

1

Sustainable Management and Practices

Summary of 2022

PharmaEssentia's Execution Center for Corporate Sustainability (ECCS) was established in 2019 with key responsibilities to lay out a five-year sustainable development plan to create corporate sustainable value and governance culture. The ECCS is responsible to lead the PEC team to understand the ESG related issues in the post-pandemic era and to transform to the new GRI 2021 standards, SASB standards, TCFD framework, in order to construct a solid sustainable governance structure and climate related strategy. ECCS has established a comprehensive Material Topics identification process, and multiple stakeholder communication mechanism, and maximize the results of the resources invested and strengthen overall PEC's competitiveness in the new era.

Highlights Performance

TCSA Platinum Award

Award in the Healthcare Industry category at the 15th TCSA Sustainability Report Awards

97th percentile

Achieved a score in the 97th percentile among global biotech companies in S&P CSA

GRI 2021

Completed the new standards alignment

GCSA Bronze Award

Award in the Sustainability Reporting category at the 5th GCSA

MSCI ESG

Received an average rating of BB in the MSCI ESG assessment for the first time

TCFD Education & training

Implantation the TCFD framework for the first time

1.1 Sustainable Governance and Performance

In response to the changing trends, PharmaEssentia has strengthened its core strategy for global operations and aligned them with the international sustainable development goals to create greater sustainable value for the company. Furthermore, when planning the company's future short-, medium-, and long-term operational directions, it has re-examined the ESG risks that could cause significant asset losses for the company, and timely reallocated resources or even adjusted its strategies and operational directions to achieve substantive sustainable development.

Sustainable Development Blueprint

In 2019, we launched the 1st ESG Sustainability Report for PharmaEssentia, and since then continued to promote our sustainable goals, aiming to create long-term shared value with stakeholders. In addition to evaluating our operations through corporate governance assessments, we have also incorporated sustainable development as a key development direction. We put SDG 3 - Good Health and WELL-BEING as the core to link our ESG actions to our sustainable development blueprint.

Enhanced Sustainability Goals	2023-2024	• Complete the organizational-level greenhouse gas inventory and verification for 2022 at the Taichung Pharmaceutical plant according to ISO14064-1. • Participate in foreign sustainability award competitions and gain international recognition.	• Establish connections with international sustainable investment organizations. • Maintain the company's governance rating within the top 5%.	5
Progress Communication Goals	2022-2023	• Implement the GRI 2021 version. • Implement the TCFD framework and disclose climate-related information. • Fully disclose information on the subsidiary Panco Healthcare, and partially disclose information on the U.S. and Japan subsidiaries. • Participate in the Taiwan Corporate Sustainability Award (TCSA) sustainability report award and the one-way sustainability performance award.	• Participate in foreign sustainability award competitions and gain international recognition. • Complete the organizational-level greenhouse gas inventory and verification for 2020 and 2021 at the Taichung Pharmaceutical plant according to ISO14064-1. • Raise the company's governance rating within the top 5%.	4
Performance Results Achievements	2021-2022	• Re-evaluated significant issues for the group. • Strengthened SASB disclosure and implemented the TCFD framework. • Improved the S&P Corporate Sustainability Assessment report results. • Completed the 2019 Taichung Pharmaceutical plant's organizational-level greenhouse gas inventory and verification according to ISO14064-1.	• Received the Taiwan Corporate Sustainability Award (TCSA) platinum award for the sustainability report. • Received the Global Corporate Sustainability Awards (GCSA) Sustainability Reporting bronze award.	3
Implementation and Improvements Achievements	2020-2021	• Maintained the company's governance rating within the top 6-20%. • Implemented ESG non-financial risk management mechanisms. • Obtained third-party assurance for the sustainability report.	• Optimized the sustainability website/webpage. • Received the Taiwan Corporate Sustainability Award (TCSA) gold award for the sustainability report.	2
Review and Planning Achievements	2019-2020	• 100% integration of sustainability into the company's DNA, and ownership of sustainable assets. • Establishment of a Sustainability Development Center.	• Publication of the company's first sustainability report in both Chinese and English.	1

The Sustainable Governance Goals and Organizational Operations of PharmaEssentia

We set up PharmaEssentia's ECCS with the CEO as the leader and five functional Taskforces under the CEO's leadership. The ECCS is responsible for planning and promoting cross-departmental sustainability policies, goals, strategies, and execution plans and delegate these plans to each Taskforces to implement. The ECCS reports the progress of ESG related projects to the Board of Directors on a quarterly basis.

With the UN Sustainable Development Goal SDG 3 at its core

PharmaEssentia leverages scientific technology and innovation to address unmet medical needs and provide access to medicine for patients worldwide.

Sustainability Development Center and 5 Functional Teams

ESG Sustainability Center

Responsible for planning and promoting sustainable development policies, goals, strategies, and implementation plans across departments and units. The center entrusts each functional team to execute according to the sustainable development plan and regularly reports project progress to the board of directors each quarter. This ensures timely tracking and management of various sustainable performance metrics.

E

- Through action measures to reduce various environmental pollution, ensure the health of PharmaEssentia employees and surrounding residents.
- Examine waste and toxic chemicals management from a life-cycle perspective to prevent environmental pollution that harms human health.
- Reduce energy consumption intensity through multiple energy-saving actions. Gradually implement the "Task Force on Climate-related Financial Disclosures (TCFD)" as a disclosure framework for "climate change risks and opportunities" to practice climate action.

S

- Prepare for possible future public health emergencies, and continue to collaborate on the development of vaccine candidates.
- Disclose the proportion of female directors and management roles and support the career development of female managers, promoting a gender-balanced and inclusive workplace.
- Ensure that employees interact with healthcare professionals in compliance with regulations and relevant pharmaceutical and medical laws, adhering to the ethical marketing codes of the WHO and countries. Develop three major supplier management focuses to establish a stable and sustainable supply chain.
- Provide competitive compensation and benefits, comprehensive education and training, regular performance evaluations, and a well-defined career development plan to promote employment and overall economic growth.
- Develop differentiated high-quality medicines through scientific and technological innovation to improve the health of patients worldwide.
- Establish diverse partnerships among academia, strategic alliances, and enterprises for intellectual property sharing to pursue breakthrough innovations and support SDG 3's global goals.

G

- By closely integrating drug accessibility policies with business development strategies, we aim to provide patients with their needed medications in a reasonable, affordable, correct, and easy way while realizing our company's commercial opportunities.
- We are committed to upholding the Human Rights Policy of PharmaEssentia. We take a zero-tolerance approach to bribery and any form of corruption and have developed anti-bribery and anti-corruption action plans.
- Through multi-stakeholder collaborations among businesses, governments, and non-governmental organizations, we can effectively leverage each other's unique expertise to develop and provide life-saving medicines to the global community at the fastest possible pace.

5 Functional Teams

Environmental Friendliness Taskforce

Identify and manage the potential environmental impacts of product life cycle stages, including energy and water use, greenhouse gas emissions, medical waste management, chemical substance management, etc.

Employee Care Taskforce

Manage issues related to human resources throughout the entire life cycle, including recruitment, hiring, salary and rewards, training, performance evaluation, employee assistance, workplace health and safety, separation and retirement.

Product Quality and Patient Safety Taskforce

Manage issues related to safety, efficacy, ethical and moral standards throughout the product life cycle from research and development, clinical trials, manufacturing, and sales.

Access to Medicine Taskforce

Ensure patients' access to medicine through policy participation, innovative technologies, and capacity building. Develop related action plans to enhance social impact in the medical field.

Corporate Governance Taskforce

Facilitate effective management functions of the board of directors:

- Ensure compliance and ethical operations
- Monitor operational risks
- Enhance transparency and timeliness of public information
- Maintain sound financial performance
- Protect patient privacy and data security
- Develop a complete intellectual property application, acquisition, management, and utilization.

Managing 11 highly important issues

- Climate Action
- Waste Management
- Hazardous Waste Management
- Human Rights
- Employee Development
- Drug Quality & Safety Management
- Supply Chain Management
- Access to Medicine
- Supply Chain Management
- New Drug Development & Innovation
- Globalizing Local Capacity Building & Access to Healthcare
- Legal Compliance and Business Ethics

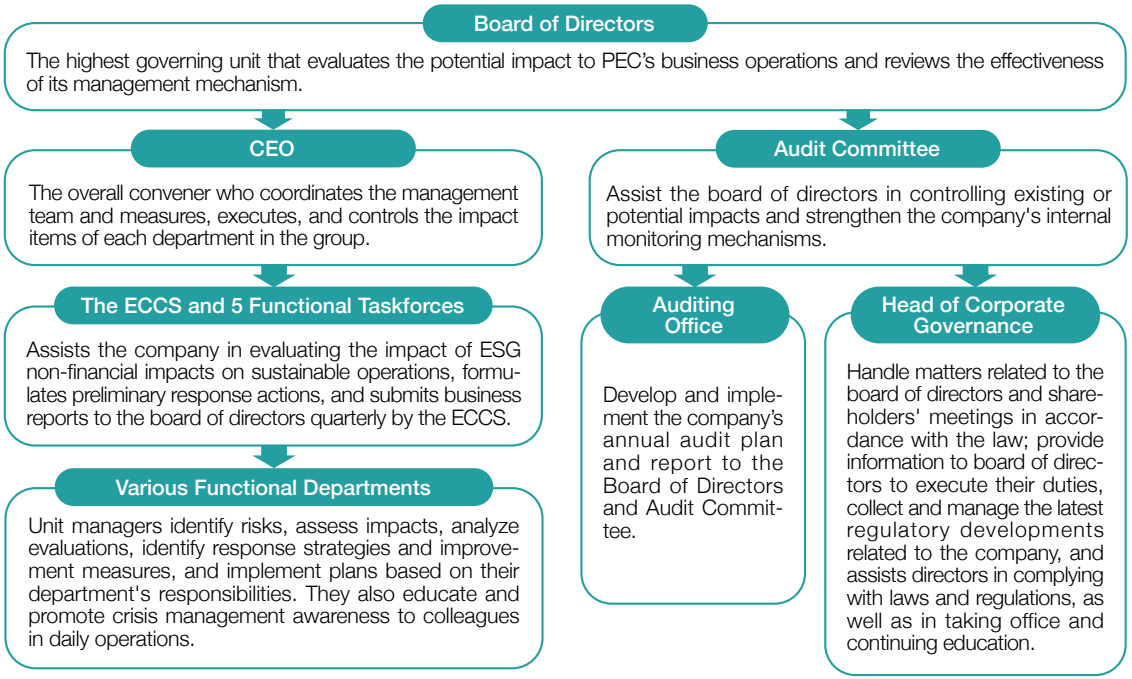
Mechanism to Manage Impact

GRI 2-12/2-13

PharmaEssentia's Board of Directors manages various risk and impact and their corresponding material topics. The board of directors is the highest supervisory and decision-making body for risk management. The company has also established an Audit Committee as the company's internal monitoring mechanism, to assist the board of directors to control existing or potential risk issues.

Currently, the ECCS is responsible for identifying non-financial impacts across the ESG dimensions and assigning each functional managers to propose suitable actions to manage the potential negative impacts. Our impact management mechanism is in place to avoid risk hazards and identify emerging risks; after impact assessment, each risk issue is dealt with by different functional department and monitored on a regular basis.

Our US subsidiary has also established risk management-related positions, and the Legal Counsel currently assists in managing related risks control and reports directly to the General Manager of the US subsidiary.



GRI2-25/2-26

The company not only sets clear responsibilities for responding to impacts and risks but also establishes a comprehensive remediation process in three stages: prevention, complaint filing, and handling mechanisms, to effectively address potential and sudden impacts.

Step1. Prevention

Strict Policy Formulation

The company has established policies such as the Human Rights Policy, Practical Guidelines for Sustainable Development of Corporate, Code of Ethics, and Employee Work Rules and Relevant Operational Procedures, which require all operational activities and cooperation with suppliers to eliminate any behavior that violates human rights. The company has also established the Guidelines for Business Integrity, and "Procedures and Behavioral Guidelines for Ethical Business Operations." Through employee advocacy and training, the company ensures that all business operations comply with regulations and company management policies.

Comprehensive Information Security Control

The company implements relevant information security maintenance and control measures to ensure the protection of human rights and privacy.

Comprehensive Risk Management

The company holds multiple educational training workshops and uses the COSO ERM Enterprise Risk Management Framework to carefully examine the company's structure and manage the effective allocation of resources. At the same time, existing management mechanisms are fed back into the management policies of highly significant sustainable issues, demonstrating the company's commitment to sustainable development.

Step2. Establishment of channels for complaints and communication

We have established a diverse internal and external whistleblowing and complaint channels, creating a diversified two-way communication channel to listen to the voices of employees.

Internal communicationchannels

- Labor-Management Meetings
- Welfare Committee Meetings
- Employees mailbox: voice@pharmaessentia.com

External complaint channels

- ESG website for information disclosure and contact: including latest news, download area, e-newsletter, interactive area, and contact us
- Reporting or complaint of workplace misconduct: hr@pharmaessentia.com

Step3. Review and improvement

All complaint cases are transferred from the receiving unit to the responsible unit, and improvement measures are proposed based on the content of the issue. Communication with employees or external stakeholders is carried out, and the results are documented by the Auditing Office of the group to ensure compliance and reasonable handling. The results are also timely disclosed in the sustainability report to enable stakeholders to fully understand the company's information.

10 types of stakeholders

43 positive and negative impact items

33 significant impacts

11 significant topics

Sustainable Achievements of PharmaEssentia GRI2-17/2-24

PEC continues to enhance the sustainability knowledge of the Board of Directors, and constantly evaluates the impact of our operations and value chain activities to the external economy, environment and social aspects. We combine GRI 2021 standards and COSO corporate risk management framework to identify 11 material topics. For each of these material topics, we examine the management guidelines, targets and metrics, and strengthened the quality and transparency of information disclosure.

Sustainability Initiatives and Achievements at PharmaEssentia

Implementation Plan | Sustainability Knowledge Enhancement

2022 Achievements|

Sustainability training for top-level governance

All board members have completed sustainability training hours in compliance with regulatory requirements:

- Supervision of enterprise risk management and crisis management for board of directors (3 people/hour)
- Latest ESG trends in the Securities (financial) Sector: using Securities (Finance) sector as an example (3 people/hour)
- Board governance under sustainability reality (33 people/hour)
- Trends and challenges in information security management (33 people/hour)

Sustainability knowledge enhancement for all employees

The group held 9 large-scale sustainability knowledge education and training sessions, with a total of 207 attendees

- Greenhouse gas management and internal audit training from February to June
- PharmaEssentia ESG education and training and 2021-2022 sustainability performance review and recommendations in August
- ISO14064-1 greenhouse gas inventory and internal audit training in September
- 2022-2023 ESG sustainability business kick-off meeting for PharmaEssentia Headquarters and the US subsidiary in October.

Implementation Plan | Sustainable Asset Construction

2022 Achievements|

Continuing the Sustainability Vision

- Conduct 17 online and offline training courses on compliance, information security, sustainable environment, and health lectures, integrating sustainability commitments into employees' daily education and training.
- Annual performance assessments include KPIs linked to the achievement of ESG indicators and employee behavior guidelines.

Identification of Stakeholders and Significant Topics

- Establish 10 types of stakeholders.
- Identify 43 positive and negative impact items, with 33 significant impacts.
- Analyze 11 significant topics.

Implementation Plan | Communication and Performance Display

2022 Achievements|

Implementation and participation in international standard assessments

- Completed MSCI (Morgan Stanley Capital International) ESG assessment for the first time, with a rating in the AVERAGE category and BB rating.
- Completed the S&P CSA (Corporate Sustainability Assessment) by S&P Dow Jones Indices and ranked in the 97th percentile in the global biotech company assessment.
- Received the Platinum Award for the 2022 TCSA (Taiwan Corporate Sustainability Awards) in the healthcare industry sustainability reporting category, as well as the Bronze Award for the GCSA (Global Corporate Sustainability Awards) Sustainability Reporting.

Sustainable Information Disclosure

- Publish sustainability reports in Chinese and English and obtain an assurance statement from the International ESG Report.
- Update the latest news and information disclosure on the ESG website every month, actively communicate with stakeholders in a timely manner.

1.2 Stakeholder Engagement

GRI 2-16/2-25/2-29

PharmaEssentia follows the AA1000 Stakeholder Engagement Standards and identified 10 stakeholder groups which are highly relevant to the company's operations. The company tracks the concerns of these stakeholders comprehensively and in a timely manner. It has established effective communication and engagement channels to address stakeholder expectations.

Stakeholders	Employees
Meaning to the Organization	Employees are the most valuable asset of a company, especially in PharmaEssentia. The employee's loyalty and identification with the company have a significant impact on the value chain from new drug development to drug marketing. We hope that our current and future employees can grow with PharmaEssentia in a happy and fulfilling work environment.
Material Topics of Concern	✪ Legal Compliance and Business Ethics ✪ Drug Quality & Safety Management ✪ Supply Chain Management ✪ Employee Development ✪ Human Rights ✪ Hazardous Substance Management ✪ Waste management ✪ Climate Action
2022 Communication Channels and Frequency	● Welfare Committee: quarterly ● Labor-management meeting: quarterly ● Employee performance assessment: Every six months ● Onsite medical and health care service: monthly ● Health promotion services: annually ● Phone calls or face-to-face interviews: when necessary ● Internal website: anytime ● Online reporting and complaint channels and mailbox: anytime ● Company website: anytime ● Sustainability Report in English and Chinese: annually
2022 Communication Achievements	● Hold regular Welfare Committee meetings 4 times a year and Labor-Management meetings 4 times a year ● Employee performance evaluations are conducted twice a year, once in the middle and once at the end of the year ● Conducted online training on "Corporate Integrity and Human Rights Management Policy Education and Promotion Course," with a total of 216 participants. ● Provide employee care on-site medical services 3 times a month; conducted a "Questionnaire on Abnormal Work Overload" for employees, with a total of 99 questionnaires collected at the PharmaEssentia Headquarters. ● The Taichung plant conducted regular health examinations for a total of 122 people; special operation inspections for a total of 50 people; and provided on-site health education services by medical personnel for a total of 39 sessions. ● There were no reported cases in the internal or external reporting and complaint mailbox. ● Release the Sustainability Report in both Chinese and English every June

Stakeholders	Patients	Medical Personnel	Outsourced research/experimental units
Meaning to the Organization	Patients are the most directly related and important stakeholders for PharmaEssential. Our founding mission of "Better science, Better lives" is to alleviate pain through new drug development, and continuously strive for the health of patients. We aim to enable patients to access medication smoothly, and reduce the gap in medication usage.	Medical staff are stakeholders who stand at the forefront and face patients. Their understanding of patients and their expertise in medication can increase the chances of success in developing new drugs for PharmaEssentia, benefiting a wider range of drug users. They are also PharmaEssentia's closest partners in global cooperation	In the early stages of new drug development, it is heavily reliant on academic research findings from research institutions. Therefore, we support many universities in researching drugs and developing new applications. Every research outcome is a step towards human happiness. In addition, most of our animal experiments are outsourced
Material Topics of Concern	✪ Drug Quality & Safety Management ✪ Supply Chain Management ✪ Legal Compliance and Business Ethics ✪ New Drug Development & Innovation ✪ Access to Medicine ✪ Globalizing Local Capacity Building & Access to Healthcare	✪ Drug Quality & Safety Management ✪ New Drug Development & Innovation ✪ Legal Compliance and Business Ethics ✪ Access to Medicine ✪ Globalizing Local Capacity Building & Access to Healthcare	✪ Drug Quality & Safety Management ✪ New Drug Development & Innovation ✪ Legal Compliance and Business Ethics ✪ Access to Medicine ✪ Hazardous Substance Management
2022 Communication Channels and Frequency	● Sales meetings: bi-weekly ● Visits or conference-calls: when necessary ● Seminar: occasionally ● Phone calls or E-mails: anytime ● Company website: anytime	● Communication through letters: as needed ● Seminars: irregularly ● Phone or email correspondence: anytime ● Video conferences: as needed	● Letters: As needed ● Seminars: Irregularly ● Phone or email: Anytime ● Video conferences: As needed ● R&D outsourcing contracts: As needed
2022 Communication Achievements	● Regularly publishing and reporting safety assessment reports (PSUR/PBRER) and timely notifications; no adverse reactions were reported in 2022 ● Ropeg has benefited over 3,800 PV patients in pharmacovigilance. ● Busulfex® was included in Taiwan's National Health Insurance reimbursement list, and has been stocked in 20 hospitals. ● BESREMi® received import approval from the Macau Regulatory Authority for Pharmaceutical Products. ● BESREMi® has been included in the European ELN guidelines and the US NCCN treatment guidelines, and is listed as a treatment option for polycythemia vera (PV). ● 40 cases of compassionate use of drugs have been approved. ● Launched the MPN iCare interactive platform for patient education and support, and helped establish the Taiwanese Myeloproliferative Neoplasms Association (TMPNA) and organize the first national patient education seminar. ● The US subsidiary has initiated the patient support SOURCE program.	● Panco Healthcare jointly organized 4 patient education events to improve doctor-patient communication, with a total of nearly 800 participants. Panco Healthcare also assisted TMPNA and Chia-Yi Christian Hospital MPN Center in holding the first national patient education seminar. ● The patient support SOURCE program combines the expertise of medical personnel to serve American patients. ● In 2022, multiple research papers were presented at the American Society of Hematology (ASH) Annual Meeting on the use of Ropeg for the treatment of polycythemia vera (PV), sharing the latest trends in treatment. ● In the 2022 European Hematology Association (EHA) Annual Meeting, clinical trial data on the use of Ropeg in PV patients were presented, explaining the long-term clinical trial results for PV patients.	● Significant change of the Phase 3 clinical trial design of Ropeg for the treatment of COVID-19 patients is approved by the Ministry of Health and Welfare. The trial will continue with the modified clinical design, with participation from six hospitals. ● Japan subsidiary company announced Phase I clinical trial esults of the first phase of clinical trials of KX01 for actinic keratosis (AK) by our Japanese subsidiary. ● The Data and Safety Monitoring Board (DSMB) of the phase 3 clinical trial of Ropeg for essential thrombocythemia (ET) has confirmed its safety. ● Preliminary clinical data from the phase 2 bridging clinical trial of Ropeg for polycythemia vera (PV) in China.

Stakeholders	Shareholders and Investors	Suppliers and Business Partners	Local Community
Meaning to the Organization	The period of capital investment before a new drug is launched on the market is quite long. Therefore, the trust of our shareholders and investors is particularly important. Therefore, Pharmacia Corporation is committed to improving information transparency, allowing shareholders and investors to grasp the development information of Pharmacia Corporation in real time and accurately	Stable and reliable suppliers/contractors are crucial for the full and complete implementation of the concept of pharmaceutical closeness, as the raw materials, calibration services, outsourced manufacturing, and factory engineering required for the product life cycle all depend on them	Among the stakeholders that are involved with PharmaEssentia, the local community may not have a direct impact, but they are the closest to us. Especially in terms of social participation, we are closely tied to the local community. Therefore, we have categorized the local community as a separate category to emphasize our social responsibility, starting from the most basic level.
Material Topics of Concern	☆ New Drug Development & Innovation ☆ Drug Quality & Safety Management ☆ Legal Compliance and Business Ethics ☆ Access to Medicine ☆ Employee Development ☆ Hazardous Substance Management ☆ Waste Management	☆ Legal Compliance and Business Ethics ☆ Supply Chain Management ☆ Drug Quality and Safety Management ☆ Human Rights ☆ Employee Development ☆ Waste Management ☆ Hazardous Substance Management	☆ Legal Compliance and Business Ethics ☆ Access to Medicine ☆ Human Rights ☆ Globalizing Local Capacity Building & Access to Healthcare ☆ Waste Management
2022 Communication Channels and Frequency	• Shareholders' meeting: annually • Special shareholders' meeting: occasionally • Board meeting: quarterly • Special board meeting: occasionally • Investor conference calls: as needed • Press conferences: as needed • Spokesperson: available at all times • Company website: available at all times • Public information platform (e.g. Taiwan Stock Exchange): as needed • Annual sustainability report in both English and Chinese	• Sales and marketing meetings: bi-weekly • Visits: as needed • On-site audits: annually • hone or electronic communication: anytime • Video conferences: as needed • Company website: anytime	• Letters: as needed • Seminars, lectures: irregular • Phone or email: anytime • Video conferencing, public welfare activities or academic-industry cooperation: as needed • Company website: anytime • Public information observation station: as needed
2022 Communication Achievements	• An Investors Relations section has been set up to disclose information on the shareholders' meeting, finance, and business operations in accordance with laws • Monthly revenue and press release are announced on the Taiwan Stock Exchange Market Observation Post System (MOPS) and the Company website • Occasional updates and releases on important developments of international arbitration and litigation disputes with authorized partner AOP • A total of 13 board meetings were held during the year • IR held a total of 9 domestic and international investor conference calls (including online) • Due to violations of the verification and disclosure procedures for significant information and information reporting operations of listed companies, the Securities and Futures Institute (SFI) announced on April 28, 2022, that YH Medicine was not evaluated in the 2021 corporate governance evaluation for changing its transaction. The company has since convened experts to develop an internal control system improvement plan, which has been reviewed by external lawyers and signing accountants. Trading resumed as normal on May 4, 2022, and the 2022 corporate governance evaluation has also resumed as usual. • Annual sustainability reports are issued in June in both English and Chinese.	• Four consecutive years of 100% execution of quality agreements with suppliers and completion of 100% internal assessments; 72% completion of on-site audits • Ropeg, a subsidiary of our company in the United States, was added to the reimbursement list of the largest hospital chain in the United States, the Kaiseir Permanente group • The manufacturing facility of KX01, a drug product of our partner Athenex in the United States, was approved for good manufacturing practice (GMP) by the Taiwan Ministry of Health and Welfare	• The CEO was invited to give a keynote speech on "Global Biotech and biopharmaceutical industry Development Trends" to share research and development achievements, increase cooperation opportunities, and accelerate the development of the biotech ecosystem in Taiwan. • The factory director was invited to give a lecture on "Analysis and Case Discussion of Biologic Drug Product Development Strategies" to cultivate students into professionals in the field of biomedicine and promote fundraising and development in the new biopharmaceutical industry. • Jointly organized with TRPMA & CDE Academy, "Regulatory Considerations and Experiences in Taiwan's New Drug Development with Overseas Data Citation" to assist Taiwanese companies in conducting pivotal trials overseas based on research and development strategies and international cooperation, and to understand the regulatory strategies for citing overseas data for new drug approvals. • The factory director was invited to the Taiwan Kuo Hua Life Science Academy's physical and online seminar to share the process and strategies of new drug development, contributing to the development of new drugs in Taiwan.

Stakeholders	Government and Regulatory Agencies	Media	NPOs / NGOs
Meaning to the Organization	Government support is definitely the biggest help for the industry. Through the National Development Fund, it provided stable results for PharmaEssentia in the early stages of development. However, the government's regulations and standards for the biopharmaceutical industry, particularly in environmental protection, are relatively strict. PharmaEssentia must closely monitor and comply with relevant regulatory adjustments to avoid infringing on the rights and interests of stakeholders.	In the era of multimedia and the internet, in addition to proactive communication channels, pharmaceutical companies like PharmaEssentia need to rely on the power of domestic and foreign media to accumulate the trust of stakeholders. Therefore, we maintain good communication with the media	NPOs/NGOs are important partners in implementing our concept of appropriate medication use. They assist Taiho Pharmaceutical in identifying patients who need medication but face obstacles in obtaining them, and through donation or charity, provide these patients with opportunities to continue using medication and maintain their quality of life
Material Topics of Concern	★ Legal Compliance and Business Ethics ★ Drug Quality & Safety Management ★ Globalizing Local Capacity Building & Access to Healthcare ★ Waste Management ★ Hazardous Substance Management ★ Climate Action	★ Legal Compliance and Business Ethics ★ New Drug Development & Innovation ★ Drug Quality & Safety Management ★ Access to Medicine ★ Globalizing Local Capacity Building & Access to Healthcare	★ Supply Chain Management ★ Access to Medicine ★ Globalizing Local Capacity Building & Access to Healthcare ★ Waste Management
2022 Communication Channels and Frequency	• Letters: As needed • Seminars: Irregular • Phone or email: Anytime • Video conferences, public service activities, or academic-industry collaborations: As needed • Company website: Anytime • Public information disclosure platform: As needed • Sustainability reports in both Chinese and English: Annually	• Press conference luncheon: annually • Press conference: as needed • Press releases: irregularly • Interviews: as needed • Spokesperson: anytime • Company website: anytime • Public information observation station: as needed • Annual Chinese-English sustainability report	• Letters: as needed • Seminars: irregularly • Phone or email: anytime • Video conferencing: as needed
2022 Communication Achievements	• Appoint a legal specialist to manage correspondence with government agencies • Upload information to the public information disclosure platform for information disclosure • Comply with environmental and drug quality and safety regulations, and avoid being penalized for environmental or drug quality and safety issues in 2022 • Follow the sustainable development roadmap for listed companies set by the Financial Supervisory Commission, introduce the TCFD framework, and establish a timetable for greenhouse gas emission reduction to cope with climate change • In September, obtained Taiwan National Health Insurance coverage for the drug Plerixafor® • Received approximately NT$32.92 million in funding from the A+ Enterprise Innovation Research and Development Program for the multi-center, multinational Phase III clinical trial of Ropeginterferon alfa-2b for the treatment of essential thrombocythemia (ET) • In 2021, due to violation of the "Verification and Public Disclosure Procedures for Material Information" and "Information Filing Operation Regulations" of the over-the-counter market, it was announced by the Securities and Futures Institute on April 28, 2022 that PharmaEssentia Corporation was not evaluated in the 2021 Corporate Governance Assessment due to changes in trading. The company has since improved and resumed normal assessment operations for the 2022 Corporate Governance Assessment on May 4, 2022, and resumed regular trading. • In May 2022, the company was fined NT$30,000 for failing to submit amended articles of association for registration within the prescribed period in accordance with Article 387 of the Company Act. • Annual sustainability reports are issued in June in both English and Chinese.	• Assign public relations personnel to interact and communicate with the media • The company website has an investor relations section that discloses information on shareholder meetings and financial operations • Monthly revenue and press releases are published on the public information observation station and company website • Annual Chinese-English sustainability report issued in June • Media news coverage and interviews	• Implement the Taiwan Patient Education Program and assist the Taiwan Myeloproliferative Neoplasms Association (TMPNA) in holding a press conference in September to serve and care for patients with myeloproliferative neoplasms and their families. • In October, Panco Healthcare assisted TMPNA and the Chia-Yi Christian Hospital MPN Center in jointly holding the first national patient education seminar. • Sponsored the “One Song” for four consecutive years, with a total of 32 people participating in the 2023 New Year Charity Concert. • In response to the New Green Energy Innovation Public Welfare, Fertec sponsored the International Jane Goodall Institute to replace two sets of air conditioning systems with hydrocarbon refrigerants. • Support local healthy aging and sponsor the Digital Humanitarian Association's Digital / Tele-Medicine in Rural Area Program to care for vulnerable groups with practical actions.

1.3 Management of Material Topics

GRI2-16/3-1

PharmaEssentia realizes our sustainability development goals by managing the Material Topics identified and the related impact of these material topics. We examine the possibilities and impact potential of each risks according to the Corporate Risk Management framework published by COSO (Committee of Sponsoring Organizations of the Treadway Commission) and WBCSD (World Business Council for Sustainable Development) in 2018. In 2022, we also referenced the four principles laid out by AA1000 Accountability Principles, including Inclusivity, Materiality, Responsiveness and Impact, as well as the process to identify Material Topics in the GRI 2021 Standards (GRI 3-3) to complete the actual and potential impact assessment and map the risks with material topics in our strategy. We have developed comprehensive management guidelines, actions, targets and metrics for 11 material topics evaluated by 10 types of stakeholders.

The Process to Identify Material Topics

Step 1 Understanding Organizational Context

- Following the AA1000 SES Stakeholder Engagement Standard and feedback from various departments, we identified 10 types of stakeholders.
- Through communication feedback and sustainability trend analysis, we comprehensively analyzed the impact of our operational activities on external economic, environmental, and social aspects, and considered the impact dimensions and management subjects. We then focused on 22 sustainability issues as our impact areas.

1. Identify communication targets

10 stakeholder groups

Including patients, all employees of the group, healthcare professionals, outsourced research/experiment units, shareholders and investors, government and regulatory agencies, suppliers and business partners, media, local communities, NPO/NGOs.

2. Incorporate sustainable issues

3 ESG dimensions and / 22 sustainable issues

Referring to international benchmark standards and regulations (SDGs, GRI Guidelines, SASB, TCFD), sustainable investment institutions (DJSI, MSCI, Sustainalytics), sustainable trends in the biotech and healthcare industry, internal development indicators of the company, and stakeholder issue collection.

Step 2 Evaluate issues and identify impacts

- Through the major sustainability issues analysis questionnaire system, explain the implications and impacts of each issue to stakeholders, and collect stakeholders' attention to each sustainability issue to incorporate it into PharmaEssentia's strategic development.
- Analyze the actual/potential negative impacts and positive effects of the operational process based on the coverage and scope of sustainability issues.

3. Evaluate issues

332 questionnaires were distributed

The material topic questionnaire survey
- 13 top executives
- 319 stakeholders

Note: some stakeholder categories were represented by department managers from the perspective of that stakeholder category (e.g., patients).

4. Identify impacts

43 negative impacts and positive influences

Identify the impacts of sustainability and risk issues on the company's operations based on the "Enterprise Risk Management Framework".

Step 3 Assess the significance of impacts / effects

- For 43 negative impacts and positive effects, analyze the probability of occurrence and degree of impact, identify their significance, further explore the impact/effect aspects, and optimize management measures.
- Evaluate the impact/effect management module and gather the possibility of unified management, establish 11 material topics as the core of PharmaEssentia's sustainable development and information disclosure.

5. Significance identification

33 significant impacts / influences

Identify significance through two dimensions: probability of occurrence and impact degree. There are 33 significant and major impacts/influences.

6. Establish material topic

11 material topics

Refer to the quantified questionnaire survey results and summarize 11 material topics based on the company's strategic development goals. Conduct data collection and disclosure based on GRI guidelines for reporting requirements and management policies.

Step 4 Prioritize reporting sequence

- Examine the impact of the 11 material topics on the operational value chain and disclose corresponding management policies in accordance with GRI reporting guidelines.
- Under the leadership of the Sustainability Development Center, set short, medium, and long-term strategic goals, and regularly review the achievement rate of goals to track and manage various sustainability performance in a timely manner.

7. Determining disclosure boundaries

6-stage value chain, 3 major company operational scopes
- Covering the value chain: new drug research and development, preclinical experiments, clinical trials, manufacturing production, drug application, marketing and sales.
- The company's operational scope: Taiwan headquarters, Panco Healthcare, and US subsidiaries.

8. Target setting and performance evaluation

Short, medium, and long-term goals
Quarterly evaluation meetings.
- Five functional groups under the Sustainability Development Center set short, medium, and long-term implementation goals for each material topic.
- The Sustainability Development Center reports progress and achievements to the board of directors regularly, tracking and managing performance.

The impact of Material Topics and management actions

GRI3-2/203-2

We have listed the 11 material topics along with the corresponding management mechanisms, strategic objectives, and action plans. Please refer to the respective chapters for the management guidelines for each material topic.

Topic/ Highly Material Sustainability Topic	Significance to PharmaEssentia (Description of Materiality)	Impact on the Value Chain: R&D of new drugs	Pre-clinical Trial	Clinical Trial	Manufacture and Production	Application for Launch of New Drugs	Marketing and Sales	Significant Impact / Influence (⊕ actual positive impact; ⊕ potential positive impact; ⊖ actual negative impact; ⊖ potential negative impact; ⚠ Emerging risks)	Impact/ Influence	Likelihood of Occurrence Extent of Impact/ Influence	Corresponding GRI Standard > Corresponding Chapters/ Sections
Governance **Legal Compliance and Business Ethics**	As we continue to launch multi-center clinical trials in multiple countries and progress towards obtaining multinational drug licenses, we must comply with local market regulations in each country and strictly enforce ethical behavior at all levels of the product value chain, with integrity as our highest guiding principle.	✓	✓	✓	✓	✓	✓	⊖ Violations of the code of business conduct and legal compliance or where the information disclosure is not timely, transparent, or effective that affect the credibility of the Company	Operations, Financial	Extent: Moderate; Likelihood: Possible	Industry-specific issues >6.2 Legal Compliance and Business Ethics
								⊖ ⚠ Inadequate protection and control of intellectual property and defense against infringement of rights that affect the Company's core competitiveness	Strategy, Operations, Financial	Extent: Mild; Likelihood: Likely	
								⊖ International arbitration and litigation disputes	Operations, Financial	Extent: Moderate; Likelihood: Possible	
								⊕ Improve the corporate image, attract international talents, and increase competitiveness in the industry	Operations	Extent: Moderate; Likelihood: Likely	
								⊕ Strengthen risk management, steadily expand the drug market, and improve corporate governance performance	Strategy, Operations, Financial	Extent: Moderate; Likelihood: Likely	
Governance **Drug quality and safety management**	Comply with "PIC/S Good Manufacturing Practice" (hereinafter referred as "GMP") and related regulations to ensure the safety and effectiveness of the drug life cycle. Implement drug safety monitoring in the clinical stage, establish an effective quality management system, and submit drug safety reports on a regular basis; formulate immediate adverse drug reaction notification mechanism for marketed drugs to ensure drug quality.			✓	✓	✓	✓	⊖ Risks of negative impact on patients and penalties due to the discovery of hazards or risks associated with marketed products	Strategy, Operations, Financial, Legal	Extent: Moderate; Likelihood: Likely	Industry-specific issues >5.3 Good Manufacturing Practices and Product Safety >5.4 Patient Safety Management
								⊖ Severe plant inspection deficiencies that delay the licensing or launch of products	Operations, Financial, Legal	Extent: Significant; Likelihood: Likely	
								⊖ Risks of negative impact on patients and penalties due to the failure of the product safety monitoring mechanism	Strategy, Operations, Financial	Extent: Mild; Likelihood: Likely	
								⊖ Risks of negative impact on patients and penalties due to inadequate quality assurance of clinical operating procedures	Strategy, Operations, Financial, Legal	Extent: Moderate; Likelihood: Likely	
								⊕ Establish a global drug safety notification system to ensure product safety after they are launched	Strategy, Operations	Extent: Moderate; Likelihood: Possible	
								⊕ Implement continuous employee GMP or compliance training and pass the audits, plant inspections, or certification in different countries	Operations, Financial, Legal	Extent: Moderate; Likelihood: Likely	
Governance **New Drug Development & Innovation**	We continue to explore and develop possible new drugs and technologies, and enhance the innovative R&D capabilities of PharmaEssentia for unmet medical needs from patients around the world.	✓	✓	✓				⊖ R&D and business development directions are not closely aligned and thus affect R&D energy	Strategy, Operations, Financial	Extent: Mild; Likelihood: Unlikely	Industry-specific issues >5.1 New Drug Development & Innovation
								⊖ The success rate of R&D of new drugs is difficult to control and causes uncertainties in investment return	Operations, Financial	Extent: Moderate; Likelihood: Likely	
								⊕ Successful development of new products for clinical trials that improve business performance and help patients	Strategy, Operations, Financial	Extent: Moderate; Likelihood: Likely	
								⊕ Investment and establishment of innovation or R&D centers to enhance the Company's competitiveness	Strategy, Operations, Financial, Legal	Extent: Moderate; Likelihood: Likely	

Likelihood of Occurrence: Rare, Unlikely, Possible, Likely, Almost certain, Already occurred

Extent of Impact/Influence: Insignificant, Mild, Moderate, Significant, Disastrous

Impact/Influence: Strategy, Operations, Financial, Legal

Topic/ Highly Material Sustainability Topic	Significance to PharmaEssentia (Description of Materiality)	Impact on the Value Chain: R&D of new drugs	Pre-clinical Trial	Clinical Trial	Manufacture and Production	Application for Launch of New Drugs	Marketing and Sales	Significant Impact / Influence (⊕ actual positive impact ⊕ potential positive impact ⊖ actual negative impact ⊖ potential negative impact ⚠ Emerging risks)	Impact/ Influence	Likelihood of Occurrence Extent of Impact/ Influence	Corresponding GRI Standard > Corresponding Chapters/ Sections
Governance **Supply chain management**	To ensure that the products delivered to patients are safe, high quality, and available in a timely manner, we strive to establish a stable and safe product supply chain through a series of processes such as identifying market demand, production scheduling, quality control, drug transportation and storage, and drug traceability or tracking.				✓	✓	✓	⊖ Inability to provide stable or timely supply of products damages patients' rights and interests	Strategy, Operations, Financial, Legal	Likelihood: Possible; Extent: Significant	Industry-specific issues >5.2 Sustainable Supply Chain Management
								⊖ Improper management of suppliers or transportation interrupts production and impacts the optimal time for treatment	Strategy, Operations, Financial	Likelihood: Likely; Extent: Moderate	
								⊕ Establish a comprehensive management system to adequately manage the supply chain and increase manufacturing stability	Strategy, Operations, Financial	Likelihood: Almost certain; Extent: Moderate	
								⊕ Construction of a comprehensive supply chain system that drives rapid development of the industry	Strategy, Operations, Financial, Legal	Likelihood: Almost certain; Extent: Significant	
								⊕ Establish alternative sources and increase the safety stock level to reduce the risk of supply interruption	Strategy, Operations	Likelihood: Almost certain; Extent: Significant	
Social **Employee development**	Talent is a necessary criterion for sustainable and competitive corporate management. We provide various talent development and retention measures including comprehensive career development planning, educational training, and compensations and benefits to our employees. This is the key to PharmaEssentia's sustainable operations.	✓	✓	✓	✓	✓	✓	⊖ High employee turnover that creates gaps in the talent pool and reduces the Company's competitiveness in the industry	Strategy, Operations	Likelihood: Almost certain; Extent: Significant	404：Training and Education >3.3 Employee Development
								⊖ Failure to establish a succession system which affects the institutional memory of the Company and the stability of operations	Strategy, Operations	Likelihood: Almost certain; Extent: Significant	
								⊕ Provide competitive salary and benefits to attract talents and create a comprehensive talent development program	Strategy, Operations, Financial	Likelihood: Almost certain; Extent: Significant	
								⊕ Promote the digital learning platform to enhance employees' competencies and competitiveness	Operations, Financial	Likelihood: Almost certain; Extent: Significant	
Social **Globalizing Local Capacity Building & Access to Healthcare**	We uphold a patient-oriented philosophy and make sure all patients using PharmaEssentia's products are aware of their effects and results, and continuously monitor and care for patients' health during the entire treatment period. At the same time, we promote local healthcare and community engagement to extend PharmaEssentia's external influence to the medical system as well as the society at large and to make positive contributions.					✓	✓	⊖ Ineffective doctor-patient communication that put patient safety at risk	Strategy, Operations, Financial, Legal	Likelihood: Possible; Extent: Significant	Industry-specific issues >4.2 Globalizing Local Capacity Building & Access to Healthcare
								⊕ Implement the health education plan and promote local medical and healthcare and social engagement to expand PEC's external social impact	Strategy, Operations	Likelihood: Almost certain; Extent: Significant	
								⊕ Establish a health education platform to increase MPN awareness and provide medical resources to help patients understand the disease	Strategy, Operations	Likelihood: Almost certain; Extent: Significant	
Social **Access to medicine**	In line with PharmaEssentia's philosophy of "Better science, Better lives," we established PharmaEssentia's "Access to Medicine Guidelines" and set promotional methods including reasonable drug pricing, reliable drug supply, and the implementation of compassionate use, etc.to provide a steady supply of PharmaEssentia's drugs to patients.	✓	✓	✓	✓	✓	✓	⊖ Inadequate protection and control of intellectual property and defense against infringement of rights that affect the Company's core competitiveness	Strategy, Operations, Financial	Likelihood: Possible; Extent: Significant	203: Indirect Economic Impacts >4.1 Governance on Access to Medicine
								⊖ Inability to provide stable or timely supply of products damages patients' rights and interests	Strategy, Operations, Financial, Legal	Likelihood: Likely; Extent: Significant	
								⊕ Obtain National Health Insurance price approval, encourage hospitals to use the drugs, provide support for local access to medicine, and help more local patients	Operations, Financial	Likelihood: Almost certain; Extent: Significant	
								⊕ IProvide compassionate use to patients with severe or life-threatening diseases who did not participate in clinical trials	Operations, Financial	Likelihood: Almost certain; Extent: Significant	

Likelihood of Occurrence: Rare · Unlikely · Possible · Likely · Almost certain · Already occurred
Extent of Impact/Influence: Insignificant · Mild · Moderate · Significant · Disastrous
Impact/Influence: Strategy · Operations · Financial · Legal

Topic/ Highly Material Sustainability Topic	Significance to PharmaEssentia (Description of Materiality)	Impact on the Value Chain: R&D of new drugs	Pre-clinical Trial	Clinical Trial	Manufacture and Production	Application for Launch of New Drugs	Marketing and Sales	Significant Impact / Influence (⊕ actual positive impact, ⊕ potential positive impact, ⊖ actual negative impact, ⊖ potential negative impact, ⚠ Emerging risks)	Impact/ Influence	Likelihood of Occurrence Extent of Impact/ Influence	Corresponding GRI Standard > Corresponding Chapters/ Sections
Social **Human rights**	PharmaEssentia supports and respects human rights as well as practices human rights policy in our day-to-day operations. We comply with various international human rights policies and initiatives. We focus on our core competencies, protect patients' and employees' privacy, and exercise due care over the control and responsibility of data protection.	✓	✓	✓	✓	✓	✓	⊖ ⚠ Attacks on network safety and private or confidential data that affect the cybersecurity of the organization	Strategy, Financial	Rare / Insignificant	412: Human Rights Assessment >3.2 Commitment to Human Rights
								⊖ Unlawful infringement or sexual harassment at workplace that affect the rights and interests of employees	Legal	Rare / Insignificant	
								⊕ Improve internal regulations, abide by human rights regulations, and promote workplace inclusion	Operations, Legal	Unlikely / Mild	
								⊕ Promote management regulations and assign dedicated units for the management and protection of cybersecurity issues	Operations, Financial, Legal	Unlikely / Mild	
Environmental **Hazardous Waste Management**	PharmaEssentia properly manages special chemical substances and toxic chemical substances used in laboratories and plants to minimize the negative impacts on the environment.	✓			✓			⊖ Improper storage and management of chemicals lead to penalties and damage to the environment	Legal	Rare / Insignificant	Industry-specific issues >2.4 Hazardous Waste Management
								⊕ Immediate disaster relief and response for minor spills to protect employee safety and prevent damage to the environment	Operations	Unlikely / Mild	
								⊕ Establish an effective environmental safety and health management system to achieve the expected results set in the environmental management system and improve the corporate image	Strategy, Legal	Unlikely / Mild	
Environmental **Waste management**	To prevent environmental impacts, we adopt proactive pollution prevention and treatment methods for general waste and hazardous waste generated by PharmaEssentia.	✓			✓			⊖ Waste disposal and processing contractor fails to operate in accordance with normal procedures and causes penalties and damage to the environment	Legal	Rare / Insignificant	306: Waste (2020) >2.3 Waste Management
								⊖ Waste disposal contractors can no longer collect waste and the operating costs and risks of penalties are increased	Operations	Unlikely / Mild	
								⊕ Appoint qualified contractors to process waste generated in operations and implement environmental and ecological protection	Legal	Unlikely / Mild	
								⊕ Perform regular audits of waste disposal contractors and ensure compliance	Legal	Unlikely / Mild	
Environmental **Climate Action**	Besides energy conservation and carbon reduction, the enhancement of energy efficiency is also a key to PharmaEssentia's green operations. On top of reducing energy consumption in day-to-day operation and reducing the total energy needs, we further initiated greenhouse gas (GHG) inventories to formulate substantial and feasible carbon reduction goals. We can protect the environment and reduce energy costs at the same time.	✓	✓	✓	✓	✓	✓	⊖ ⚠ Inability to implement effective climate governance which potentially increases the operating costs and impact on the environment	Strategy, Operations, Financial, Legal	Possible / Moderate	302: Energy >2.1 Climate Action
								⊕ Reduce GHG emissions and improve energy conservation and corporate competitiveness	Strategy, Operations, Legal	Likely / Significant	
								⊕ Enhance water resource management, reduce operating costs, and implement environmental and ecological protection	Operations, Financial, Legal	Likely / Significant	

Likelihood of Occurrence: Rare, Unlikely, Possible, Likely, Almost certain, Already occurred
Extent of Impact/Influence: Insignificant, Mild, Moderate, Significant, Disastrous
Impact/Influence: Strategy, Operations, Financial, Legal

2

Climate Strategy and Environmental Protection

Summary of 2022

PharmaEssentia's ECCS refers to international sustainability frameworks such as GRI, SASB, and TCFD to examine potential environmental impacts and effects as well as to disclose various environmental issues in a comprehensive manner. Regarding climate change, besides completing organizational greenhouse gas inventories and its associated emissions, identifying climate-related risks and opportunities that are physical and transitional, we also plan to introduce the ISO 14001:2015 environmental management system in 2023 to assist us in properly managing environmental impacts, reducing energy consumption, and minimizing waste in the life cycle assessment, ensuring that our operations meet environmental goals and actively cooperate with policies that are relevant to Taiwan's commitment to reaching NetZero by 2050.

Material Topic

- Climate Action
- Waste Management
- Hazardous Waste Management

Highlights Performance

TCFD

Implemented TCFD for the first time, and identified 10 climate-related risks and 7 opportunities

ISO 14064-1

The Taichung Plant completed the 2020-2021 ISO 14064-1:2018 greenhouse gas verification

0 violation

Zero leakage, zero penalty and zero emission

14.8%

Saved 8.724 million liters of process water recycling and reuse

Reduced water consumption at Taichung plant

53.5%

Reduction in unit product waste output intensity

62%

Reduction in unit product energy consumption intensity

2.1 Climate Action

Material Topic

Climate change is a challenge faced by the entire world today. We are actively planning various climate actions, hoping that the implementation of internal operational strategies can help us be in line with world standards, move towards SDG13-Climate Action, and work with others to exert PharmaEssentia's influence and strive to mitigate climate change. In 2022, under the TCFD framework, we prioritized climate-related physical and transitional risk and opportunity identification as well as the GHG Inventories of our plants. In the future, we will continue to conduct scenario and quantitative financial impact analysis on major risk and opportunity projects, provide stakeholders with relevant and reliable financial measurement information, and work with others to help maintain the sustainable development of the environment.

GRI 3-3

Management Policy

Internal Policies

- Environmental policies
- GHG Management Procedures

External Guidelines

- ISO14064-1: 2018 standard for GHG Inventories
- Climate Change Adaptation Act
- Corporate Governance 3.0 Evaluation System
- Items to be disclosed in the annual report of a publicly traded company
- Task Force on Climate-related Financial Disclosures (TCFD)
- Taiwan's 2050 NetZero commitment

Management Commitment

Aligned with the United Nations SDG 13 - Climate Action, we have sequentially introduced the TCFD framework for Task Force on Climate-related Financial Disclosures (TCFD), aiming to effectively manage the challenges and opportunities of climate change through climate governance, strategic planning, identification and risk management, and the establishment of indicators and targets. This provides reliable financial measurement information to stakeholders and contributes to the development of sustainable environments.

Accountable Units

- Board of Directors, Auditing Office, and Head of Corporate Governance
- ECCS - Environmental Friendliness Taskforce
- Taichung Plant - GHG Inventories Promotional Taskforce
- Taipei Headquarter - GHG Inventories Promotional Taskforce

Input Resource

- Completed education and training on the Task Force on Climate-related Financial Disclosures (TCFD) and identified climate-related risks and opportunities.
- Continuously implemented and maintained ISO14064-1:2018 Organizational GHG Inventories Management System.
- Completed education and training on GHG Inventories.
- A total of 7 cross-functional departments and 22 employees participated in the GHG Inventories operation at the Taichung Plant.
- The Taichung Plant GHG Inventories project was executed, with external consultants and verification units commissioned at a cost of approximately NT$307,000.

Targets

Short-term Targets for 2023

- Continue operations for the 2022 GHG Inventories (included in the operation scope for Taichung Plant), and is expected to be verified by Q3 2023.
- Disclose information on climate change governance in the company's annual report and sustainability report in compliance with regulations and the company's governance 3.0 specification.
- Construct a complete TCFD framework in sequences, with the second phase to introduce operational processes related to significant climate-related risks and opportunities; evaluate how to integrate potential impacts of climate change into strategy planning, analysis, and risk management.
- Installation of the new magnetic levitation ice water machine at the Taichung Plant is expected to be completed in June 2023; installation of the new variable frequency air compressor is expected to be completed in March 2023.
- Implemented ISO 14001:2015 Environmental Management System.

Medium-term Targets for 2024-2026

- Continue to conduct verification of the ISO14064-1:2018 Organizational GHG Inventories Management System.
- Track greenhouse gas emission control regulations, evaluate the company's operational risks, respond to regulatory control requirements in a timely manner, and revise management procedures and execution measures as needed.
- Complete the full construction of the TCFD framework; continuously integrate risks and opportunities related to significant climate-related issues into strategic objectives, financial planning impact analysis, and management; initiate analysis climate-related scenarios and financial impact to strengthen climate change response strategies.
- Continue to maintain ISO 14001:2015 Environmental Management System, utilize environmental impact assessment methods to reduce environmental impact risks, and seek related opportunities to achieve sustainability goals.

Long-term Targets (2026 and beyond)

- Implement the ISO14064-1:2018 Organizational GHG Inventories Management System, and pay attention to environmental assessment results, and follow-up on recommended improvements.
- Continuously optimize the TCFD framework, and roll out adjustments to company strategies and actions in strategic objectives, financial planning impact analysis, and risk management.

Evaluation of Management Policy

Management Evaluation Mechanism

- Conducted internal auditor training courses on the ISO14064-1 GHG Inventories management system.
- Obtained the ISO14064-1:2018 verification.
- Assessed against the Corporate Governance 3.0 evaluation indicators.
- Assessed against the Task Force on Climate-related Financial Disclosures (TCFD) framework criteria.
- Implemented the ISO 14001 environmental management system.

2022 Evaluation Results

- Conducted 4 sessions of GHG Inventories management and internal auditor training courses at the Taichung Plant, with a total of 63 participants and 189 hours of training.
- Certified 13 new internal auditors at the Taichung Plant, in addition to 14 existing ones, for a total of 27 qualified members.
- Obtained ISO14064-1:2018 verification for 2020 and 2021 at the Taichung Plant.
- Conducted 2 sessions of GHG Inventories management and internal auditor training courses with Panco Healthcare, with a total of 52 participants and 312 hours of training, at PharmaEssentia Headquarters.
- Conducted TCFD education and training with Panco Healthcare, with a total of 100 participants and 250 hours of training, at PharmaEssentia Headquarters.
- Conducted the TCFD Environmental Sustainability Risk Questionnaire Identification across 31+ departments at PharmaEssentia Headquarters and our subsidiary, Panco Healthcare; 18 questionnaires were sent and the response rate was 100%; 10 significant risks and 7 significant opportunities were identified.
- Adjusted the cooling tower water level to increase the efficiency of using recycled water in the water tower. Water usage decreased by 8 tons/day compared to before the adjustment, reducing the overall water usage at the Taichung Plant by approximately 14.8%.

Climate Change Governance Framework

TCFD Governance

To actively support Taiwan's commitment to NetZero by 2050, in 2022, PharmaEssentia completed its first climate change risk and opportunity identification, laying the foundation for the first stage of climate governance. The Board of Directors is the unit at the highest level of sustainable governance, supervisory management, and decision-making, systematically reviewing the impact and implications of climate change from top to bottom. The ECCS and five functional taskforces (composed of executives and executives from all departments) are responsible for identifying climate-related risks and opportunities, implementing and promoting climate-related plans, and the ECCS's Environmental Friendliness Taskforce adheres to the regulations for a listed company's sustainable development roadmap and formulates the annual GHG Inventories disclosure schedule for the Taichung Plant. Starting from the second quarter of 2022, the progress of the GHG Inventories project has been included in the company's ESG sustainable execution progress. The ECCS will provide business reports to the Board of Directors every quarter. At the same time, important product manufacturing partners, warehouses, and distribution channels in the United States have committed to their own ESG public disclosure.

Strategy Planning and Execution

GRI201-2 | TCFD Strategy

In response to the issue of climate change and to support SDG 13 - Climate Action, PharmaEssentia has gradually developed a comprehensive strategy to address climate change and its impacts. In 2022, we formally adopted the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) framework and actively identified and took action to address the challenges and opportunities presented by climate change.

We have established Environment Policies as an internal guideline for preventing and responding to environmental impacts, and also created a GHG Management Procedures. Starting with our main production base, the Taichung Plant, we have conducted greenhouse gas inventories and completed third-party verification for the years 2019 to 2021.

We have made climate change a core topic and developed adaptation strategies in response to actual occurrences of climate disasters in recent years. Various climate actions concerning different environmental factors have been implemented, and we hope to build a comprehensive governance and strategy for climate change to ensure the sustainability of our operations in a changing climate.

Category	Physical Risks		Transition Risks	
Risk and Opportunity	**Immediate Disasters**	**Long-Term Disasters**	**Policy and Regulations**	
⚠ Risk ★ Opportunity	⚠ Extreme weather events: heavy rain, typhoons, blizzards, earthquakes, pests	⚠ Changes in average temperature ⚠ Water resource stress	⚠ Carbon tax/fee ⚠ Fuel tax/energy tax ⚠ Total quantity control/emissions trading ⚠ Mandatory reporting	⚠ Product labeling regulations and standards ⚠ Uncertainty in new regulations ⚠ International conventions/ voluntary agreements
Factors Likelihood	Occurred	Possible	Occurred	Occurred
Impact	●●●●●	●○○○○	●●●●○	●○○○○
Timeframe	Short-term	Long-term	Short-term	Medium-term
Potential Financial Impact ⊖ Potential Opportunity ⊕ Potential Cost	⊖ Heavy rain may increase the risk of flooding at the Taichung Plant, increasing repair costs ⊖ A blizzard in the United States could result in delayed shipments ⊖ Extreme weather events can lead to damage to local operations, equipment, and personnel, increasing operating costs ⊖ Disruption of raw material sources may hinder production and transportation of products, affecting operational revenue	⊖ Increased temperatures affect the employees' working environment, increasing occupational safety and health risks ⊖ Decreased availability of water resources affects pharmaceutical production, even interrupting production processes ⊖ Long-term climate change results in reduced energy supply and increased operational costs	⊖ Carbon taxes in overseas markets and the introduction of carbon fees and energy-related taxes in Taiwan increase operational costs ⊖ Investments in greenhouse gas emission inspections, verifications and disclosures extend to product carbon footprints throughout the product life cycle, increasing operational costs	⊖ Investments in response to emerging regulations and international conventions as well as setting carbon reduction targets increases operational costs
Response/ Adaptation Actions	● Investing in insurance to reduce property damage, and increasing flood prevention measures in the factory can mitigate flood risks. ▶ 5.4 Product Quality and Safety ● Maintaining a safe stock level of at least 4 months in the US can ensure a stable supply chain and reduce the risk of delays caused by weather events. ▶ 5.4 Product Quality and Safety ● Expanding drug registration in various regions can diversify the risk of weather events affecting production. ▶ PharmaEssentia's Company Introduction ● Committing to reducing energy intensity and dependence on energy sources can help mitigate climate change risks. ▶ 2.1 Climate Action ● Expanding production bases and improving raw material procurement can improve supply chain resilience. ▶ 5.2 Sustainable Supply Chain Management	● Implementing energy-efficient measures to reduce carbon emissions can reduce the company's contribution to global warming. ▶ 2.1 Climate Action ● The Taichung Plant recycles and reuses 8.724 million liters of process water. ▶ 2.2Water Stewardship and Biodiversity ● Panco Healthcare has set up a rainwater collection tower in its medical facility to utilize water resources efficiently. ▶ 2.2Water Stewardship and Biodiversity	● Conducting a GHG Inventories, analyzing emission levels and hotspots, and obtaining third-party verification ahead of regulatory requirements can help mitigate climate change risks. ▶ 2.1 Climate Action ● Implementing energy-efficient measures in administrative offices can reduce energy demand and carbon emissions. ▶ 2.1 Climate Action ● Replacing old air compressors and chillers with more efficient ones can increase energy efficiency and reduce energy consumption. ▶ 2.1 Climate Action	

Impact ●○○○○ Low ●●○○○ medium-low ●●●○○ Medium ●●●●○ Medium-High ●●●●● High

Note 1: Impact levels are defined as low (meaning operations are not affected), low to medium (meaning operations are affected but not changed), medium (meaning operations are affected and may change), medium to high (meaning operations are significantly affected, leading to changes in operations), and high (meaning operations are significantly affected, leading to operational disruptions).

Category	Opportunity	
Risk and Opportunity	**Resource Efficiency**	**Energy Sources**
⚠ Risk ★ Opportunity	★ Use more efficient production and distribution processes. ★ Reduce water usage and consumption. ★ Transition to more efficient buildings	★ Use low-carbon energy sources. ★ Adopt energy-related incentive policies. ★ Use new energy technologies. ★ Participate in carbon trading markets.
Factors Likelihood	Possible	Possible
Impact	●●●○○	●●●○○
Timeframe	Medium-term	Medium-term
Potential Financial Impact ⊖ Potential Opportunity ⊕ Potential Cost	⊕ Improving resource efficiency in the pharmaceutical production process reduces operational costs and enhances production resilience. ⊕ Adopting green/smart building designs in new facilities reduces daily operating costs and improves natural resource efficiency	⊕ Introducing renewable/low-carbon energy sources reduce potential carbon costs. ⊕ Using government incentives related to green energy reduces initial investment costs. ⊕ Establishing carbon capital and participating in carbon trading markets reduces exposure to rising energy prices. ⊕ Optimizing pharmaceutical processes and using green transportation to replace high-carbon emission transportation reduces carbon emissions and product carbon footprints for the entire organization, thereby reducing operational carbon costs.
Response/ Adaptation Actions	● Replacing old air compressors and chiller units with high-efficiency ones can improve energy efficiency and effectiveness, contributing to climate action. ▶ 2.1 Climate Action ● Implementing energy-efficient measures, such as energy monitoring systems, optimized task force process control, and waste heat recovery can improve energy efficiency and reduce carbon emissions. ▶ 2.1 Climate Action ● The Taichung Plant recycles and reuses 8.724 million liters of process water, with the goal of protecting water resources and biodiversity without harming the surrounding wildlife and plants. ▶ 2.2Water Stewardship and Biodiversity ● The Pan-Asia Medical facility has installed a rainwater harvesting system to make the most of water resources. ▶ 2.2Water Stewardship and Biodiversity	● The new Zhubei Plant is designed to meet the qualifications for the green building label, aiming to reduce the organization's carbon footprint and secure green building subsidies. ● Reducing waste and hazardous material production can lower the product's carbon footprint. ▶ 2.3 Waste Management ▶ 2.4 Hazardous Material Management

Impact ●○○○○ Low ●●○○○ medium-low ●●●○○ Medium ●●●●○ Medium-High ●●●●● High

Note 2: Time frames are defined as short-term, lasting 1-3 years; medium-term, lasting 3-10 years; and long-term, lasting over 10 years.

Risk Management

TCFD Risk Management

We aim to integrate climate governance into our sustainable management and operational planning. We conduct enterprise risk identification and management in following with the enterprise risk management framework released by the COSO organization and the World Business Council for Sustainable Development (WBCSD) in 2018. With this framework as our foundation, we have explored responses to climate-related issues in-depth through the transition and physical risks and opportunities proposed by the TCFD.

In terms of our current sustainable governance organization, the units responsible for handling climate risks includes the Board of Directors, the audit department, the Head of Corporate Governance, the Environmental Friendliness Taskforce of the ECCS, the GHG Inventories Promotional Task Force of the Taichung Plant (7 cross-functional departments), and external professional consultants. Led by the ECCS's 5 cross-functional taskforces, various department heads and colleagues have considered industry characteristics and operational status, analyzed the impact of various risks and opportunities on operations (such as potential carbon cost increases, the cost of responding to stricter environmental regulations, changes in market preferences that reduce customer trust, losses caused by climate disasters, cost reductions due to efficient production, and many other impacts), and jointly identified material risks and opportunities based on three dimensions: likelihood, impact degree, and occurrence time. Further analysis of the risks' potential financial impact on company operations is conducted, an analysis upon which we formulate PharmaEssentia climate adaptation strategy and enhance our organization's climate resilience.

Climate-Related Risk and Opportunity Identification and Management Process

Unified consensus on education and training

Explain the implications and impacts of climate change issues and strengthen colleagues' climate issue knowledge and consistency in discernment.

- Training Participants: PharmaEssentia, Panco Healthcare
- Number of Participants: 100 people

Identification of Climate Risks and Opportunities

Assessment of climate-related risks and opportunities, evaluating likelihood, impact and timing

- Involving 31+ departments
- Issuing 18 questionnaires
- Achieving 100% response rate for questionnaire collection

Ranking by significance/importance

- Identify 17 major risks and opportunities based on their likelihood and impact level and categorize them into 5 major categories.
- Analyze the potential occurrence timeline.

Potential Financial Impact Analysis

- Analyze the questionnaire responses and industry trends.
- Explore the potential financial impacts of the 5 major risk and opportunity categories on PharmaEssentia, as a basis for future climate governance.
- Develop corresponding adaptation/mitigation actions.

Future Promotion Plan (Next 3-5 Years)

- Continuously delve into the impacts and transformation opportunities of each type of risk.
- By exploring climate-related risks and opportunities, re-examine the impact of climate on corporate finance and performance.
- Take concrete actions to face the challenges and opportunities brought about by climate change.

Energy Use and Emissions Analysis

TCFD Indicator and Target

In addition to establishing a comprehensive governance, strategy, and risk management framework, we have also analyzed energy use and greenhouse gas emissions in the back end. Through management, implementation and tracking, we have continuously reduced both energy intensity and greenhouse gas emissions intensity for three consecutive years, effectively reducing the environmental impact of our operations.

As we expand our operations and plan to build a new plant, we anticipate an increase in both energy use and emissions. The new plant will be located in the Hsinchu Biomedical Science Park, where we hope to leverage the advantages of the Hsinchu Science Park and the ICT industry to create a cluster effect. We will prioritize constructing an environmentally-friendly factory by applying for green building qualifications for the new plant.

GHG Emissions Analysis

GRI 305-1~305-4

Statement TW22/00447GG

SGS

Greenhouse Gas Verification Statement

The inventory of Greenhouse Gas emissions in year 2021 of

PharmaEssentia Corporation
Taichung Plant

3F, No. 28, Keya West Rd., Daya District, Taichung, Taiwan (R.O.C.)

has been verified in accordance with ISO 14064-3:2006 as meeting the requirements of

ISO 14064-1:2018

Direct emissions
510.9479 tonnes of CO_2e
Indirect emissions
3,814.9729 tonnes of CO_2e
Direct emissions and indirect emissions
4,325.921 tonnes of CO_2e

Authorized by

Stephen Pao
Knowledge Deputy General Manager
Date: 07 November 2022
Version 1

TGPSA-15-6 2207

This Statement is not valid without the full verification scope, objectives, criteria and findings available on the Statement.

Page 1 of 7

2021 Statement on GHG Inventories

59%

Greenhouse gas emissions intensity Decreased

We have established a greenhouse gas (GHG) task force at our main production base in Taichung Plant, which takes charge of managing our backend emissions. Using 2019 as the base year, we have developed a "Greenhouse Gas Management Procedure Manual" as a pilot for the Group's introduction of climate governance ISO 14064-1:2018 GHG Inventories. As of the end of 2022, Taichung Plant has completed the GHG Inventories for 2019-2021 and obtained certification from third-party organizations. The inventory data for 2022 is also going to be verified externally in Q3 2022, which will serve as the basis for tracking and setting targets for the Task Force on Climate-related Financial Disclosures (TCFD).

For PharmaEssentia, Category 1 - Direct Emissions Sources, including gas boilers, process emissions, diesel generators, fuel for official vehicles and various refrigerants, account for about 13% of emissions. Category 2 - Indirect Emissions from Purchased Electricity account for about 71% of emissions. Categories 3-6 include Category 3 - Indirect Emissions from Transportation (raw material transportation, product transportation, waste transportation, and employee travel), and Category 4 - Indirect Emissions from Use of Materials/ Services (upstream raw materials and waste disposal), which together account for about 16% of emissions. With the steady growth of commercial production, the greenhouse gas emissions intensity has been decreasing year by year over the past 3 years, with a reduction of 59% by the end of 2022 compared to the previous year.

Greenhouse Gas Emissions Statistics at PharmaEssentia Taichung Plant in the Past 3 Years

		2019 (Base Year)	2020	2021	2022 (Self-Reported Figures)
Category 1	ton-CO_2e	707.2290	503.2129	510.9479	569.4792
Category 2		3054.9956	3094.3151	3029.609	3085.5974
Category 3-6		822.8025	814.5347	785.3639	711.5122
Total	ton-CO_2e	4,585.0271	4,412.0630	4,325.9210	4,366.5900
Intensity	ton-CO_2e/g	74.80	102.56	67.95	27.70
	Compared to the previous year	-	37%	-34%	-59%

Note 1: The data in this table is within the scope of the Taichung Production Manufacturing Plant of PharmaEssentia.

Note 2: GHG Inventories follows the ISO14064-1:2018 standard, and the data from 2019 to 2021 has obtained an SGS verification statement.

Note 3: The types of greenhouse gases included in the GHG Inventories include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

Note 4: The emission coefficient method is used for statistical analysis, and the emission coefficients for externally purchased electricity follow the carbon emission coefficient for electricity announced by the Bureau of Energy of the Ministry of Economic Affairs. The coefficients for 2020 and 2021 were 0.502 ($kgCO_2e$/kWh) and 0.509 ($kgCO_2e$/kWh), respectively. The greenhouse gas emission coefficient required for natural gas emissions is based on the global warming potential (GWP) of various GHGs in the IPCC AR6 (2021) report.

Note 5: The intensity is measured by the total production volume (g) of products per year.

Note 6: The inventory for 2022 is still in progress, and the emissions from Categories 3 to 6 have not yet included the transportation of raw materials, employee business travel, electricity consumption in central laboratories, water consumption, and wastewater generation.

Energy Use Analysis

GRI 302-1/302-3

Our company's energy consumption is mostly composed of two categories: externally purchased electricity and natural gas. To comply with the Good Manufacturing Practice (GMP) requirements for maintaining a certain level of cleanliness and quality control during non-production periods, our reduction in baseline electricity consumption is limited. Therefore, we have implemented multiple energy-saving measures and regularly reviewed the effectiveness of equipment, appliances, and electricity-saving initiatives. Through tracking mechanisms and differential analyses, we have formulated improvement strategies to continuously move towards our goal of reducing energy consumption intensity. The main reason for the decrease in our energy intensity is due to the increase in production volume. As of 2022, our products have been launched in 38 countries/markets, and as our global market expansion plans continue to unfold, our production volume continues to increase. As a result, our energy intensity has also decreased over the past three years, with a reduction of 62% compared to the previous year as of 2022.

Our US subsidiary actively planned its operations after obtaining a pharmaceutical license in 2021. We use data collection on resource usage as the basis for energy management, and plan to expand the scope of data collection to align with that of PharmaEssentia Headquarters in the future.

PharmaEssentia and Panco Healthcare's Energy Consumption in the Past 3 Years

		2020	2021	2022
Purchased electricity (GJ)	Renewable energy use (GJ)	0.00	0.00	0.00
	Non-renewable energy use (GJ)	24,839.53	27,277.60	23,454.71
Natural gas (GJ)	Natural gas (GJ)	8,395.93	7,339.11	9,045.06
Petroleum (GJ)	Petroleum (GJ)	-	-	19.58
Total (GJ)	Total energy use (GJ)	33,235.46	34,616.71	32,519.36
Intensity	Energy intensity (GJ/g)	772.56	543.77	206.29
	Comparison with the previous year	-	-30%	-62%

Note 1: Energy consumption data includes PharmaEssentia and Panco Healthcare.
Note 2: The renewable energy consumption data in this table has been corrected in the 2021 sustainability report after being verified by an external organization. The original renewable energy consumption (2,789.56 GJ) was found to include non-renewable energy sources and has been added to the non-renewable energy consumption (2,789.56 + 24,488.04 = 27,277.60 GJ).
Note 3: Starting from 2022, the petroleum (including diesel and gasoline) category has been included in the statistics.
Note 4: Energy intensity is a metric that measures the intensity of energy use and greenhouse gas emissions per unit of product output (g) produced annually.

Resource Usage Statistics Table for US Subsidiary in 2022

Resource Use Category	Original Amount		Converted Amount	
	Usage	Unit	Usage	Unit
Electricity	1,596,640	kwh	5,747.90	GJ
Water Resources	715,830	Gallons	3.78	ML
Natural Gas	6,431	Therms	678.51	GJ

Note: The statistics for electricity and natural gas for the US subsidiary are from January 2022 to December 2022, while the statistics for water resources are based on the billing cycle, from October 2021 to July 2022.

Energy-Saving And Carbon Reduction GRI 302-4/305-5

PharmaEssentia has implemented multiple energy-saving measures to reduce operational and production energy consumption and greenhouse gas emissions, and continues to better energy conservation and carbon reduction in administrative areas. These measures include advocating for the unplugging of unused electrical appliances, turning off electrical power during long vacations, and using public transportation for business trips. Using 2021 as the basis, despite laboratory expansion and an increase in the number of employees, electricity consumption was reduced by 3.91%, and water consumption was reduced by 4.72%. In the Taichung Plant, adjusting the cooling tower water level and increasing the use of recycled water in water cooling towers have increased water usage efficiency, resulting in a reduction in water consumption by 8 tons per day and a decrease in overall water usage at the Taichung Plant by approximately 14.8%. Furthermore, PharmaEssentia plans to complete the installation of a variable frequency air compressor by March 2023 and a magnetic levitation ice water machine by June 2023. The company is also evaluating the adoption of an energy monitoring system to reduce electricity consumption as well as improve task force process control/optimization and waste heat recovery, so that the usage of natural gas can be reduced and energy efficiency can be improved.

Air Pollutant Emissions Statistics GRI 305-6~7

Our company uses boilers in our production processes, primarily fueled by natural gas. The combustion of natural gas in the boilers results in air pollutants, such as nitrogen oxides, sulfur oxides, and particulate matter. However, the concentration of these pollutants in our emissions is below the regulatory limits set by environmental laws, so we do not need to install any pollution control equipment. We are also committed to not using or emitting any substances that are controlled under the Montreal Protocol, which aims to protect the ozone layer, or any persistent organic pollutants (POPs). We comply with regulations set by the Environmental Protection Administration (EPA) by conducting regular inspections and reporting on our fixed air pollution sources. We outsource this inspection to an EPA-approved testing institution, Jichuan Environmental Technology Co., Ltd., which conducts inspections in accordance with the regulations. The results of the inspection show that our air pollutant emissions are below regulatory limits and that we have not violated any environmental regulations. We are dedicated to fulfilling our environmental responsibilities in our production processes.

Air Pollutants Emissions Statistics of PharmaEssentia in the Past 3 Years

(Unit: kg)

Air Pollutants	2020	2021	2022
Nitrogen Oxides (NOx)	415.7	352.41	444.2
Sulfur Oxides (SOx)	29.6	0	34
Volatile Organic Compounds (VOCs)	13.3	734.31	9.3
Hazardous Air Pollutants (HAPs)	Estimation of Non-Detects	168.54	434.2
Particulate Matter (PM)	7	14.77	7.8
Hydrochloric Acid	-	-	93.4

Note 1: The data in this table only applies to PharmaEssentia Taichung Plant; Panco Healthcare has no emissions of air pollutants listed in this table.
Note 2: The emissions of nitrogen oxides (NOx), sulfur oxides (SOx), and particulate matter (PM) were not measured in 2022 and are estimated based on the data from 2020. Hydrogen chloride emissions are included in the 2022 data.

2.2 Water Stewardship and Biodiversity

GRI303-3/303-4/303-5

Our company does not consume a large amount of water resources in its operations, and we actively implement water conservation measures. Regarding our Taichung plant, which uses the most water resources, the source of the water intake is all third-party freshwater, and the wastewater is discharged through the third-party Central Taiwan Science Park Taichung Park Wastewater Treatment Plant. The water quality of the discharged water is monitored annually in accordance with the regulations of the Environmental Protection Administration. A third-party testing organization accredited by the Environmental Protection Administration conducts testing every six months to ensure compliance with management standards and discharge standards set by the Central Taiwan Science Park Administration. The process of wastewater treatment is detailed in our 2020 Sustainability Report on page 113.

PharmaEssentia's Water Resource Statistics for the Past 3 Years

(Unit: Million Liters)

	Location	2020	2021	2022
Water Withdrawal	Taichung Plant	15.64	16.1	18.11
	Taipei Headquarter	10	7.78	10.00
Water Discharge	Taichung Plant	9.46	10.5	9.127
Water Consumption	Taichung Plant	6.18	5.6	8.983

14.8%

Reduced water consumption at Taichung plant

Note 1: The data in this table mainly covers PharmaEssentia's Taichung Plant. The water discharge and consumption of PharmaEssentia Headquarters and Panco Healthcare are not applicable since they are administrative offices that do not have production processes.

Note 2: The water intake source of PharmaEssentia is from a third-party freshwater supplier, and the discharge is treated by the wastewater treatment plant of Central Taiwan Science Park, Taichung Park.

Water Conservation Initiatives in Taichung Plant

Through the reuse of reverse osmosis brine and wastewater from the production process as cooling tower makeup water in the air conditioning system, we have improved the efficiency of water resource recycling. In 2022, the plant invested in 8 employees to execute the plan, and the total amount of water recycled was 8.724 million liters, resulting in a water savings of 14.8%.

Water Conservation Measures in Panco Healthcare

When designing the logistics center, water resource utilization was taken into consideration from the outset. Tap water is supplied for internal sanitation use, while a rainwater collection system is installed to supply water for external use and toilet flushing. If rainwater is insufficient, tap water is supplied to conserve water.

Protection Biodiversity in Taichung Science Park

To ensure the protection of water resources, PharmaEssentia has applied for a water pollution control permit, and complies with its production operations and reporting requirements. Regular sampling and testing reports are within the standards, with no material environmental impact risks. The goal of preventing and monitoring the quality of wastewater discharge is to manage it in a way that does not harm surrounding flora and fauna. PharmaEssentia is committed to protecting natural resources and implementing various environmentally-friendly measures in the hope of contributing to the preservation of biodiversity.

2.3 Waste Management

Material Topic

GRI 3-3

Management Policy

Internal Policies

- Environmental Safety and Health Policy
- Hazardous Waste Management Procedures and Waste Management Procedures

External Guidelines

- Central regulations and standards for environmental protection
- Local environmental authorities' public announcements

Management Commitment

- Complying with environmental regulations and requiring manufacturers to jointly implement waste management and control, and realizing our commitment to environmentally-friendly measures to protect the environment

Targets

Short-term Targets for 2023

- Continuously monitor the output of waste chemicals (including toxic substances) and subsequent processes to comply with environmental regulations.
- Continuously disclose information on waste production and resource recovery over the years in accordance with legal requirements.
- Track environmental protection regulations, evaluate the company's operating risks, and respond to regulatory requirements in a timely manner by controlling or revising waste management procedures and implementation measures.
- Introduce the ISO 14001:2015 Environmental Management System.
- Take the lead in obtaining relevant information on the Taipei GHG Inventories.

Medium-term Targets for 2024-2026

- Take on greater responsibility for in-house environmental management and incorporate environmental sustainability concepts.
- Through LCA and PDCA management, evaluate the downstream destination of waste, prioritize the implementation of recycling and reusing goals to reduce environmental impact.
- Strengthen audits and evaluations of vendors, and have “compliance with regulations and prioritizing the reuse of materials” as a criteria for selecting vendors in the future.
- Have PharmaEssentia Headquarters learn from Taichung Plant in executing the ISO 14001:2015 Environmental Management System.

Long-term Targets (2026 and beyond)

- Continuously maintain the ISO 14001:2015 Environmental Management System, use environmental impact assessment methods to reduce risks to the environment, seek relevant opportunities, and achieve sustainable environmental goals.

Input Resource

- The 2022 cost of business waste removal and treatment was approximately NT$1.091 million, an increase of 79% from last year.
- The waste output of the company is entrusted to the competent authority for approval of the removal and treatment by the waste treatment company responsible.
- Conduct inspections of temporary waste storage areas and annual audits of waste removal and treatment companies.
- Review the characteristics, sources, and weight of waste production, submit applications for changes to the business waste cleaning plan in a timely manner, and seek more suitable contractors.

Accountable Units

- ECCS - Environmental Friendliness Taskforce
- The Environment and Safety Group is responsible for formulating, planning, and promoting waste management goals, together with each output unit, to jointly implement the responsibility for environmental protection

Evaluation of Management Policy

Management Evaluation Mechanism

- Internal auditing: Conduct periodic audits of waste management vendors, and review internal waste sorting and storage processes. Regularly evaluate the intensity of waste generation by units.
- External auditing: Implement legal compliance checks for routine items according to environmental regulatory agencies.

2022 Evaluation Results

- External auditing: Implement legal compliance checks for routine items according to environmental regulatory agencies.
- Conform to the specifications of the waste management procedure manual, and periodically review and amend the company’s waste processing plan to comply with legal requirements.
- In 2022, due to the inability of the processing plant to accept waste chemicals (including toxic substances) produced by the Taichung Plant, waste disposal was postponed to 2023 (the Environmental Protection Administration also agreed due to the type and weight of the hazardous waste).
- In 2022, four deficiencies in compliance with regulations by the environmental regulatory agencies (the Environmental Protection Bureau of Taichung City Government and Central Taiwan Science Park Administration) were rectified.

The types of waste generated by our company are mostly general waste produced during operations, as well as waste chemicals generated during production processes. To effectively manage our waste, we have implemented a systematic waste management policy to avoid any legal issues or environmental risks that may arise from improper disposal. At the same time, we actively monitor various environmental regulations to ensure that we stay up to date with the latest trends and changes in the industry. By promoting source reduction, adjusting process design, and improving material utilization, we can effectively address changes in regulations while also achieving environmentally friendly practices. Starting in 2020, the waste production intensity of our products has decreased continuously for three years, and in 2022, the waste production intensity has decreased by 53.5% compared to 2021. Details on the company's environmental expenses can be found in our annual report.

Decreased continuously for 3 years

Decreased by 53.5%

Waste Generation and Disposal

GRI 306-1~2

The R&D and production processes of PharmaEssentia are precise and generate a low amount of total waste. However, we continue to strengthen the management of waste impact due to the presence of hazardous waste. We examine the details of the waste generation, removal, treatment, and recycling at different stages from the perspective of the product life cycle. We record the input of materials and the output of waste in detail, classify and dispose of different types of waste after impact assessment, and collaborate with third-party vendors to monitor and audit their practices to ensure that waste impact is properly managed.

Investment and Output

Input Characteristics

Production and quality control testing and analyses, as well as laboratory research and development, require raw materials that are classified as hazardous substances under the Environmental Protection Administration's regulations. According to the regulations for the biopharmaceutical industry, the resulting waste is considered hazardous waste and must be disposed of by authorized waste disposal companies. Some of the hazardous waste generated is classified as infectious waste, which is first subjected to high-temperature sterilization in the factory and laboratory. After sterilization, it can be considered general waste, but it is still treated as infectious waste to ensure proper control measures.

Activity Record

The usage and inventory of toxic chemicals are recorded in detail, and the amount of waste generated is calculated. In 2022, the total amount of waste generated was 24.911 tons, and the waste intensity per unit of product has been decreasing year by year.

Impact Assessment

Production and quality control testing and analyses, as well as laboratory research and development, are all carried out according to the regulations for the biopharmaceutical industry, and the raw materials cannot be arbitrarily substituted (including toxic substances). At the same time, the Good Manufacturing Practice regulations must be followed to avoid the reuse of pollutants that may affect the quality of subsequent drugs. The only option is to try to recycle the disposed-of waste to reduce the impact on the environment.

Disposal and Monitoring

Classification and Disposal

The disposal of hazardous waste, infectious waste related to biomedicine, liquid hazardous waste and non-hazardous waste are handled separately.

Multiple Monitoring

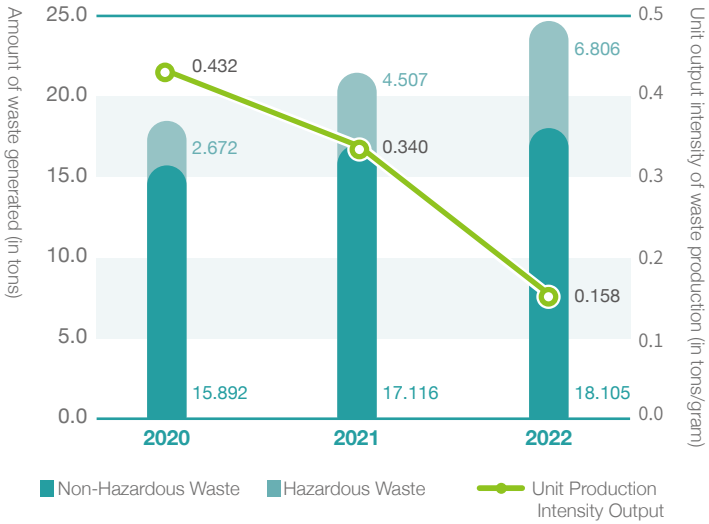
- The waste disposal vendor contracted by the company are all legally-registered Class A waste clearance/disposal companies. The operation is carried out through a three-party joint-declaration process, which requires the completion of signatures from PharmaEssentia, the waste disposal vendor and the final disposal vendor, and the completion of the process is reported on the Environmental Protection Administration's website to control and manage the final destination of the waste.
- Waste disposal companies are audited (clearance/disposal process) and regularly checked every year to ensure proper waste disposal. No violations of the law were found during past audits.

Amount of Waste Generated

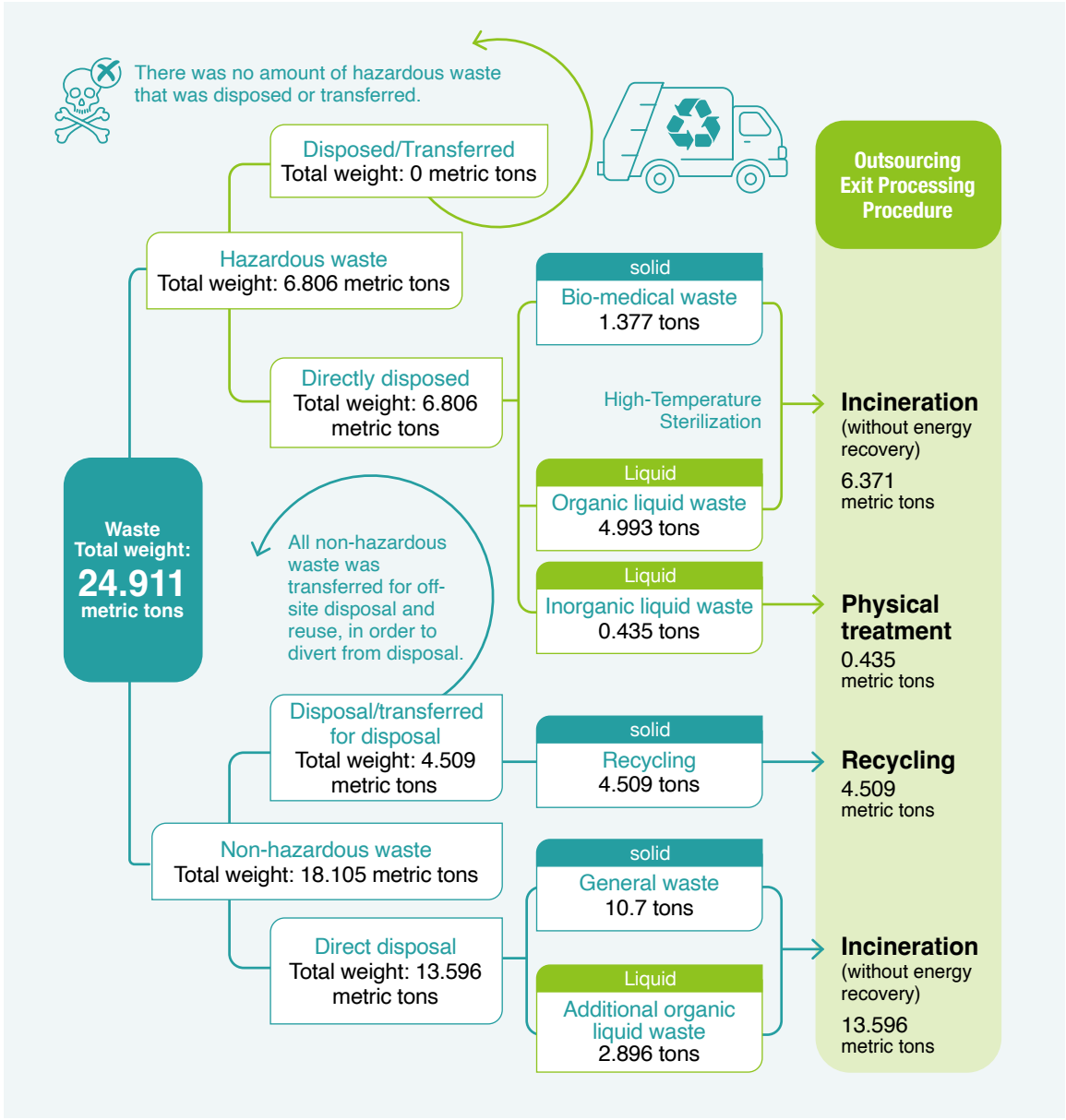
GRI 306-3~5

As the global layout of PharmaEssentia continues to improve, and production capacity and efficiency continue to increase, the intensity of waste production per unit product has been decreasing for three consecutive years. In 2022, the intensity of waste production decreased by 53.5% compared to 2021. We continue to focus on waste reduction and improving unit production efficiency with the goal of reducing the intensity of waste production per unit. We follow short, medium, and long-term goals as well as action plans to improve our management practices and implement management measures.

PharmaEssentia and Panco Healthcare Waste Production and Unit Output Intensity Statistics in the Past 3 Years



Note: The waste data includes both PharmaEssentia and Panco Healthcare, but Panco Healthcare did not produce any hazardous waste, only generating municipal solid waste, with a monthly amount lower than the minimum quantity specified by the waste disposal company of 0.5 tons. The waste has been entrusted to a qualified vendor for transportation and incineration.



2.4 Hazardous Waste Management

Material Topic

In the production process, PharmaEssentia uses chemicals classified as toxic and hazardous by the Environmental Protection Administration (EPA). Therefore, the company places great emphasis on the source control of toxic substances and their proper classification, storage, and use. PharmaEssentia also uses written records to monitor the use of chemicals, trace the flow of chemicals, and prevent environmental pollution and harm to human health. Over the past three years, the company has achieved zero incidents of chemical or waste leaks.

GRI 3-3

Management Policy

Internal Policies
- Environmental Safety and Health Policy
- Hazardous Waste Management Procedures

External Guidelines
- Central regulations for environmental protection
- Local environmental agencies' announcements

Management Commitment

Compliance with environmental regulations; and implementation of the management of chemicals and toxic chemicals, and precursor chemicals to avoid major disasters that can cause environmental pollution and harm to human health.

Accountable Units
- ECCS - Environmental Friendliness Taskforce
- Management of the use, maintenance, and operation of chemicals, toxic chemicals, and precursor chemicals are assigned to personnel responsible for operation by the user unit, with assistance from the environmental and safety unit, to jointly assume management responsibilities.

Input Resource
- Two personnel from the toxic substance operation unit participated in the emergency response personnel training for toxic chemicals held by the Environmental Protection Administration, and successfully passed the test to obtain a professional emergency response personnel certificate.
- The QC unit holds annual training sessions for emergency response equipment as well as annual disaster rescue and response exercises to enhance disaster response skills for the personnel of operating units.
- Continuously follow up on the operating specifications for toxic chemicals, and report the operating volume every month as required to reduce the risk of violating regulations.

Targets

Short-term Targets for 2023
- Implementation of the ISO 14001: 2015 Environmental Management System and the ISO 45001: 2018 Occupational Safety Management System
- To have units continuously assign personnel to participate in emergency response personnel training courses for toxic chemicals, so as to enhance the skills of the operating unit in responding to disasters.

Medium-term Targets for 2024-2026
- Continuously implement the ISO 14001: 2015 Environmental Management System and the ISO 45001: 2018 Occupational Safety Management System, and follow up on the environmental assessment results and recommended measures for improvement.
- Strengthening awareness of hazards from toxic substances, risk assessments and disaster emergency response management within the factory to reduce the impact of toxic substance operations on the environment.

Long-term Targets (2026 and beyond)
- Maintaining the ISO 14001: 2015 Environmental Management System, using environmental impact assessment methods to reduce environmental impact risks, and seeking relevant opportunities to achieve sustainable environmental goals.

Evaluation of Management Policy

Management Evaluation Mechanism
- Internal audit: Regular monthly reporting of monthly operating volume
- External audit: Conduct legal compliance audits on routine items as required by the competent authority

2022 Evaluation Results
- Comply with legal regulations and regularly report operating volume and storage requirements for hazardous materials
- In 2022, environmental agencies (Environmental Protection Bureaus of Taipei City Government and Taichung City Government) conducted compliance audits, and no deficiencies were found.

Classification and Control of Toxic Substances

Per the Toxic and Concerned Chemical Substances Control Act, which is regulated by the Environmental Protection Administration (EPA), PharmaEssentia classifies toxic substances and stores them in explosion-proof fume hoods in the laboratory based on their category. Since we use a wide range of chemicals, we have developed the Chemical Hazard Management Procedures to clearly define responsibilities and control measures for the purchase, use, storage, and disposal of toxic substances. We also maintain accurate records of the quantities and inventory of our chemicals. Our classification and control measures are as follows:

Classification

Class 1 Chemicals

Persistent pollutants refer to substances that are difficult to break down in the environment, and can cause environmental pollution or harm to human health due to bioaccumulation, biomagnification, biotransformation, or other effects.

Class 2 Chemicals

Slow-acting toxic substances refer to substances that have long-term health effects, such as causing tumors, impaired fertility, teratogenesis, genetic mutations, or other chronic diseases.

Class 3 Chemicals

Acute toxic substances refer to chemicals that can cause immediate harm to human health or biological life upon exposure.

Class 4 Chemicals

Chemicals with endocrine disrupting properties or those that can pollute the environment and harm human health.

Management Measures

Access Control

Restricting personnel access to the laboratory

Drug Cabinet Control

Locking the drug cabinet and assigning a specific person to manage the key

Usage Control

Users are required to fill out a usage record form, and the monthly usage amount is compiled by the environmental and safety department and reported accordingly

Panco Healthcare is a logistics center rather than a manufacturing plant, so no chemicals are used there, and there is no Hazardous Waste Management Procedures, either. However, the logistics center does engage in processing and labeling operations. During the labeling process, there is a possibility of drug breakage or spillage, and thus an on-site cleanup is necessary. Therefore, the company has developed a “Cleaning Operation Procedure for Processing and Labeling Lines” to ensure proper handling of drug spillages.

Emergency Response Measures for Hazardous Substances

To ensure the safety of employees, PharmaEssentia has established the “Standard Operating Procedures for an Emergency Response to Chemical Spills” to respond to emergencies quickly and effectively. The laboratory is equipped with a comprehensive set of emergency response equipment for employees to use in case of emergencies. The equipment is checked every month to ensure that it is in good condition and there is a sufficient supply of safety equipment. Additionally, the company conducts an annual drill for toxic chemical spills to ensure that employees can respond quickly in case of emergencies and minimize the impact of disasters. In the future, the company plans to establish professional response personnel for toxic substances in accordance with the “Professional Management Measures for Responders of Toxic Chemical Leakages”. In case of accidents, the disaster response unit will be responsible for taking the necessary action to respond to the emergency and the subsequent cleanup, and the emergency response personnel of other unites will be responsible for supporting the main disaster response unit to implement the company's toxic disaster response procedures and train the toxic substance handlers.

2022 Chemical Hazardous Material Spill Emergency Response Drill

Emergency response personnel dressing training

Leakage and Hazardous Material Spill Rescue Exercise (QC Lab Acetonitrile Spill Emergency Response)

3

Human Capital Management

Summary of 2022

Excellent employees are the cornerstone of sustainable business operations and the key to the pursuit of excellence. PharmaEssentia adheres to a people-oriented philosophy, providing a comprehensive benefits system, diverse learning resources and competitive salaries to enhance employee core competencies and corporate competitiveness. By attracting professional technology talents to form a high-quality workforce, we create a safe, healthy and happy workplace environment for our employees.

Material Topic

- Commitment to Human Rights
- Talent Development & Career Planning

Highlights Performance

Diverse employee structure, Gender-balanced
Adhere to the principles of equality, diversity, and inclusion

94.74%
Employment rate of local talent for mid-to-senior management positions in Taiwan

100%
Maternal health protection plan execution in Taiwan for 3 consecutive

3 Events
Sponsoring social participation activities: carbon reduction, health, and cultural charity

229 Participants
33 training sessions of occupational safety and health

3.33 million NTD
32% growth in total employee welfare expenses in Taiwan

0 Complaint
No complaint about human rights

100%
Employees completed performance evaluations in Taiwan

3.1 Diversity, Equity, and Inclusion

To create a stable and appealing work environment for talent retention, we incentivize the development of internal talent through various programs and policies. We regularly refer to the Global Culture Report and conduct surveys to understand our employees' expectations and work towards continuous improvement. In addition, we systematically cultivate and attract external talents through corporate internships, government projects, and other initiatives. Our goal is to establish a globally operable and talent-focused structure that emphasizes localization, gender equality, inclusivity, and talent retention.

Employee Structure and Gender Equality

GRI 2-7/2-8/202-2/405-1

Gender-balanced
52% Female / 48% Male

All employees at PharmaEssentia and Panco Healthcare are full-time staff (regular or non-fixed term contracts) and work at least 40 hours per week. In addition to full-time employees, PharmaEssentia also employs 3 other types of workers (1 outsourced employee, 1 intern, and 1 regularly contracted employee). We value gender equality as well as diversity in terms of race and nationality among our employees, and the male-to-female ratio among senior executives is evenly distributed.

PharmaEssentia / Panco Healthcare 2022 Employee Structure Table

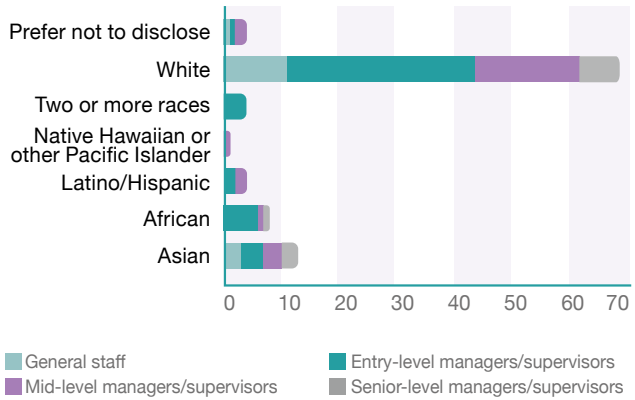
Number of Employees / Percentage

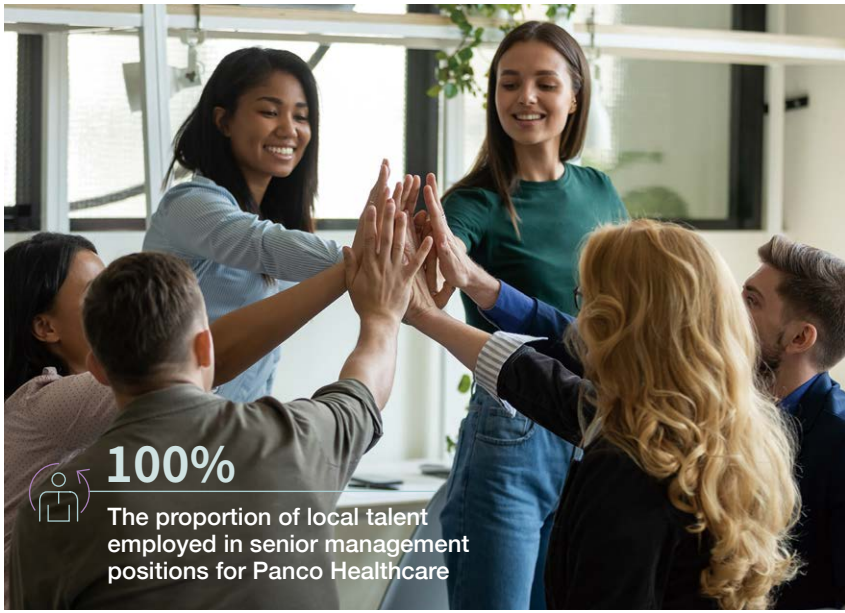
Classification	Category	PharmaEssentia						Panco Healthcare					
		Male		Female		Total		Male		Female		Total	
		Number of Employees	%	Number of Employees	%	Number of Employees	%	Number of Employees	%	Number of Employees	%	Number of Employees	%
Job Level	ManageMalet Executives (Vice President and above)	3	75%	1	25%	4	1%	0	0%	1	100%	1	6%
	Senior Managers (Director and above)	12	55%	10	45%	22	8%	0	0%	0	0%	0	0%
	Middle Managers (Manager and above)	19	61%	12	39%	31	11%	2	50%	2	50%	4	22%
	Supervisors (Team leader)	18	60%	12	40%	30	10%	1	100%	0	0%	1	6%
	General Employees	87	44%	113	57%	200	70%	8	67%	4	33%	12	67%
Age	30 years old and below	29	46%	34	54%	63	22%	0	0%	1	100%	1	6%
	30-50 years old	93	48%	102	52%	195	68%	10	77%	3	23%	13	72%
	51 years old and above	17	59%	12	41%	29	10%	1	25%	3	75%	4	22%
Education	Doctorate Degree	23	70%	10	30%	33	11%	1	100%	0	0%	1	6%
	Master's Degree	81	47%	90	53%	171	60%	4	67%	2	33%	6	33%
	Bachelor's Degree	34	43%	46	58%	80	28%	6	55%	5	45%	11	61%
	Other	1	33%	2	67%	3	1%	0	0%	0	0%	0	0%
Years of Work Experience	Less than 1 year	42	51%	40	49%	82	29%	3	100%	0	0%	3	17%
	1-3 years	17	36%	30	64%	47	16%	2	40%	3	60%	5	28%
	3-5 years	14	42%	19	58%	33	11%	0	0%	1	100%	1	6%
	5-10 years	51	57%	39	43%	90	31%	6	75%	2	25%	8	44%
	10-20 years	15	43%	20	57%	35	12%	0	0%	1	100%	1	6%
Total		139	48%	148	52%	287	100%	11	61%	7	39%	18	100%

The proportion of local talent employed in senior management positions (middle management, senior management, and executive management) is 94.74% for PharmaEssentia and 100% for Panco Healthcare. The overall age range of employees is dominated by young and middle-aged adults aged 30-50, with most employees having 5-10 years of service.

At the end of 2022, the US subsidiary of PharmaEssentia included two LGBTQI+ employees. PharmaEssentia currently employs two (weighted as three) employees with disabilities, while Panco Healthcare and the US subsidiary do not have any employees with disabilities. The Group strives to create an equal, diverse and inclusive workforce structure.

Diversity Indicators for the US Subsidiary in 2022





The US Subsidiary Employee Structure Table

Number of Employees / Percentage

Classification	Category	2021 Male		2021 Female		2021 Total		2022 Male		2022 Female		2022 Total	
		Number of Employees	%	Number of Employees	%	Number of Employees	%	Number of Employees	%	Number of Employees	%	Number of Employees	%
Job Category	Direct revenue generation Note1	22	58%	16	42%	38	53%	24	57%	18	43%	42	41%
	Indirect revenue generation	18	53%	16	47%	34	47%	27	44%	34	56%	61	59%
Job Category	STEM Note2	7	54%	6	46%	13	18%	10	53%	9	47%	19	18%
	Non-STEM	33	56%	26	44%	59	82%	41	49%	43	51%	84	82%
Job Level	Top-level executives	5	83%	1	17%	6	8%	6	55%	5	45%	11	11%
	Middle-level executives	9	45%	11	55%	20	28%	12	44%	15	56%	27	26%
	First-level executives/ supervisors	23	59%	16	41%	39	54%	28	56%	22	44%	50	49%
	General employees	3	43%	4	57%	7	10%	5	33%	10	67%	15	15%
Total		40	56%	32	44%	72	100%	51	50%	52	50%	103	100%

Note 1: Job categories that directly generate revenue include Regional Business Directors and Hematology Account Managers; job categories that do not directly generate revenue include Marketing, CMDA, IT, Legal, HR, etc.
Note 2: STEM refers to job categories related to mathematics, natural sciences, and engineering.
Note 3: All employees of the US subsidiary are full-time employees

Competitive and Fair Compensation

GRI 2-21 / 202-1 / 405-2

PharmaEssentia is fair in its payment of wages to all employees and conducts an annual salary review and survey to gauge market salary levels and overall economic indicators. Based on the achievement of annual business objectives, individual performance assessments and outsourced salary and benefit surveys, PharmaEssentia provides performance-based pay raises, promotions and structured pay adjustments, offering salaries above industry standards.

To develop our human resources, we offer diverse profit-sharing mechanisms to retain talent in addition to providing competitive compensation, such as issuing employee stock options, restricted stock units, and cash capital increase employee stock options to attract and retain outstanding professionals. These incentives encourage employees to innovate and improve the operational performance of the company to achieve sustainable management goals.

PharmaEssentia Note1 Compensation and Remuneration Ratio Note2 Between Male and Female Employees in 2022

Position		Average Basic Compensation Ratio	Compensation Ratio	Remuneration Ratio
Managerial Positions	ManageMalet Executives (Vice President and above)	0.75	0.75	0.94
	Senior Managers (Director and above)	0.81	0.81	1.11
	Middle Managers (Manager and above)	1	1	0.81
	Supervisors (Team leader)	1.15	1.15	1.36
Non-Managerial Positions	General Employees	1.06	1.06	1
Total Employees		1.22	1.25	1.22

Note 1: Due to the small number of employees in Panco Healthcare, and to protect the privacy rights of employees, the data in this table only includes employees in PharmaEssentia.
Note 2: Compensation refers to monthly salary; Remuneration refers to compensation plus bonuses.

PharmaEssentia Note1 Compensation Ratio of CEO and Employees in 2022

(Unit: NTD$ Thousands)

Position	Compensation	Average Raise Percentage	Compensation Ratio
CEO Compensation	15,870	75.73%	13.44
Median Employee Compensation Note2	958	4.36%	17.37
Mean Employee Compensation	1,166	-	-

Note 1: Due to the small number of employees in Panco Healthcare, and to protect the privacy rights of employees, the data in this table only includes employees in PharmaEssentia.
Note 2: "Employee" refers to all employees including full-time and part-time employees but excluding the individual with CEO Compensation.

In the past 3 years, the total salary and average salary of full-time employees who are not in management positions (excluding managers) have both significantly increased, demonstrating the company's success in providing salary incentives to middle and high-level talent as well as promotions to employees, and continuously adjusting salaries for grassroots-level employees. The salaries of all employees in Taiwan and the United States are regulated by local labor laws, and are not determined by race, gender, or other factors. In addition, the company's salaries in the United States are also based on AoN Radford Lifesciences Benchmarking Data.

PharmaEssentia Headquot Non-Managerial Full-Time Employee Compensation Data in the Past 3 Years

(Unit: NTD$ Thousands)

	2020	2021	2022
Total Number of Employee	181	198	195
Total Compensation	196,378	228,391	270,448
Mean Compensation	1,085	1,153	1,166 (▲1.1%)
Median Compensation	853	918	907 (▼1.2%)

Note 1: The information in this table has been audited by Ernst & Young.
Note 2: The denominator of Mean Compensation is calculated as the weighted average total number of employees for the entire year, based on the proportion of months worked by salaried employees.

Panco Healthcare Non-Managerial Full-Time Employee Compensation Data in the Past 3 Years

(Unit: NTD$ Thousands)

Total Number of Employee	18
Total Compensation	8,805
Mean Compensation	677
Median Compensation	516

The US subsidiary Compensation and Remuneration Ratio Between Male and Female Employees in 2022

Position		Compensation Ratio	Remuneration Ratio
Managerial Positions	Senior Managers (Director and above)	0.10	0.89
	Middle Managers (Manager and above)	0.94	0.87
Non-Managerial Positions	General Employees	1.31	1.31

Note 1: Compensation refers to monthly salary; Remuneration refers to compensation plus bonuses.

3.2 Commitment to Human Rights

Material Topic

0 Complaint GRI 3-3

Management Policy

Internal Policies

- Human Rights Policy
- Code of Ethics
- Practical Guidelines for Sustainable Development of Corporate
- Work Rules
- Measures to Prevent Workplace Misconduct
- Measures for Preventing and Punishing Workplace Sexual Harassment
- Information Security Control Measures
- PEC US Employee Handbook

External Guidelines

- United Nations Global Compact
- Universal Declaration of Human Rights
- International Labour Organization Declaration on Fundamental Principles and Rights at Work

Management Commitment

- Committed to protecting the basic human rights of all employees of PharmaEssentia, creating an environment that fully guarantees human rights and privacy, recognizing and supporting various international human rights conventions, and requiring cooperation from suppliers to eliminate any behavior that violates human rights in their operations, so that all members within and outside the company can be treated fairly and with dignity
- Implement measures to protect the privacy of human rights data, and adopt various strict information security maintenance and control measures

Accountable Units

- PharmaEssentia's board of directors, senior executives, regulatory unit, legal compliance unit, human resources unit, and various functional departments, as well as senior management unctional Teams and legal compliance Functional Taskforces of various subsidiaries
- ECCS - Employee Care Taskforce; Legal Compliance and IT Department of the Corporate Governance Taskforce; Procurement Department of the Product Ethics and Safety Taskforce

Input Resource

- Continuously recruit professional IT talents to form an information operation task force with a department size of about 5-8 people
- Complete the information security management regulations, and report to the board of directors on a regular basis every year
- Commission qualified information vendors to assist in risk control for information security; the amount of investment in internal hardware and software equipment upgrades is tens of millions of dollars
- The procurement department promotes our Supplier Code of conduct externally to implement the human rights initiative of the supply chain
- Implement human rights-related education and training

Targets

Short-term Targets for 2023

- The HR department will conduct internal activities or education and training on human rights policies and friendly workplace practices.
- The procurement department continues to promote the Supplier Code of conduct to suppliers and contractors.
- The IT department will continue to implement information security policies, conduct education and training on ERP, cybersecurity health checks or social engineering, and strengthen data security measures.

Medium-term Targets for 2024-2026

- The IT department has implemented ISO 27001: Information Security Management System.
- The IT department has completed the management of important equipment replacement, and expanded the scope of annual system disaster drills and private cloud virtual architecture.
- The HR department regularly conducts internal activities or education and training on human rights policies and friendly workplace practices.
- The procurement department plans to formulate the Supplier Code of conduct to enhance the implementation of the protection of human rights by suppliers and contractors.
- Plan and establish a human rights risk management plan to systematically identify, evaluate, mitigate and manage the risks of human rights violations.

Long-term Targets (2026 and beyond)

- Ensure that the working environment of the supply chain is safe, protect the rights and dignity of employees, and ensure that business operations are environmentally friendly, honest, and ethical.
- Safeguard the company's trade secrets and competitive advantages in new drug research and development, and continue to improve the density of confidential information Management Policy.
- The company complies with relevant policies and legal regulations, ensures the privacy and personal data security of patients and employees, and protects the rights and interests of relevant stakeholders.

Evaluation of Management Policy

Management Evaluation Mechanism

- Signing a “Statement for the Prevention of Workplace Violence of PharmaEssentia”
- The IT department reports on its execution of information security measures to the Board of Directors annually.
- Establishing internal and external complaint channels.
- Management of personal data protection.
- Internal audit and feedback.
- Implementing a system efficacy project and aiming to pass FDA certification.

2022 Evaluation Results

- No complaints of customer privacy or human rights violations.
- Conducted 1 online education and training session on legal risks of workplace human rights violations with a total of 216 participants and 363.6 hours of training.
- The Board of Directors had the Information Security Control Measures implemented, and commissioned the IT security promotion task force.
- Conducted 2 online education and training sessions on social engineering information security, with a total of 185 participants and 555 hours of training.

Human Rights Policy and Management

GRI 406-1

PharmaEssentia adheres to regulations regarding in all of its global operating locations in order to protect the rights and interests of its employees, as well as to the spirit and principles of human rights protection enshrined in various international human rights conventions, such as the United Nations Global Compact, the Universal Declaration of Human Rights, and the International Labour Organization Declaration on Fundamental Principles and Rights at Work. PharmaEssentia requires its partners to prohibit any behavior that violates human rights, such as the employment of child labor or the coercion of employees, to ensure that all internal and external members of our company treated justly and with dignity. PharmaEssentia has established a Human Rights Policy to uphold the protection of basic human rights of all employees.

PharmaEssentia's Human Rights Practices

Human Rights Issues	Specific management measures	2022 Implementation Status
Prohibition of any form of discrimination, and respect for workplace diversity, inclusion and equality	• Compliance with labor laws and the company's Human Rights Policy to eliminate discrimination • Establishment of rules and regulations such as Work Rules, Practical Guidelines for Sustainable Development of Corporate, and Measures for Preventing and Punishing Workplace Sexual Harassment • Implementation of the Complaints and Feedback Mechanism to establish internal and external complaint channels to protect the rights and interests of employees, customers, suppliers, and stakeholders	• No incidents of discrimination occurred • Balanced distribution of gender in the workplace • Multiple communication channels established such as the Employees' Mailbox and meetings organized by the Welfare Committee between the management and the employees • Regular quarterly meetings held by the Welfare Committee, and the Labor-Management Meeting.
Prohibition of forced labor and child labor	• Compliance with labor laws and the company's Human Rights Policy, and not forcing unwilling employees to work. • Prohibition of child labor.	• No incidents of forced labor have occurred. • No incidents of child labor have occurred.
Freedom of association for employees	• Implementation of the Human Rights Policy, and encouraging employees to form clubs and participate in club activities.	• There are clubs formed by employees, such as the Badminton Club and the Walking Club to promote healthy activities.
Fair and reasonable salary, benefits, and working conditions	• Annual adjustment of salary and benefits based on the achievement of annual goals, individual annual performance evaluations, and external salary and benefits surveys. • Implementation of Education and Training Management Measures and Talent Recommendation and Incentive Measures to train and develop talents in order to retain them.	• The company's salary and benefits policies are more favorable than the industry average based on external surveys conducted by consulting companies. • Our average employee retention rate in Taiwan is 90%. • Our employee growth rate in Taiwan is 30%.
Employee safety, health, and hygiene in the work environment, promoting employee physical and mental well-being	• Implementation of the Occupational Safety and Health Policy, Safety and Health Work Guidelines, Maternal Health Protection Management Measures, and other measures to strengthen the management of employee health, maternity care, and health promotion.	• Achieved a 100% implementation rate for the PharmaEssentia maternal health protection program. • Achieved a 100% retention rate for employees taking maternity leave. • Obtained the Healthy Workplace Certification in 2021. • Conducted health checks and health lectures.
Keeping employees' personal information private and secure	• Implementation of the company's Human Rights Policy, added the Information Security Control Measures, and set up a dedicated unit responsible for promoting, coordinating, supervising, and reviewing information security management matters.	• No complaints received regarding harm to customer privacy. • Adherence to the European Union's General Data Protection Regulation (GDPR) to protect the personal data of clinical trial patients. • Established an information security promotion task force to strengthen risk control of information security. • Conducted employee information security education and training.

0 Complaint

Human Rights Issues	Specific management measures	2022 Implementation Status
⊘ Prohibition of workplace illegal infringement and sexual harassment	• Compliance with labor laws and implementation of the company's Code of Ethics, Measures to Prevent Workplace Misconduct and Measures for Preventing and Punishing Workplace Sexual Harassment, and other regulations to prohibit workplace violence. • Setting up a hotline for reporting sexual harassment and an email address for reporting workplace infringement of laws and regulations (hr@pharmaessentia.com) to protect the personal information of the complainants and safeguard the rights of the complainant employees.	• No incidents of workplace violence or sexual harassment have occurred. • The GM signed the PharmaEssentia Written Statement on Preventing Workplace Violence. • Conducted online legal risk education on workplace infringement of the law. • Conducted surveys on infringements of the law, with a 70% response rate in 2022 for PharmaEssentia and Panco Healthcare.

GRI407-1/408-1/409-1/410-1/411-1

All of our major suppliers adhere to the Universal Declaration of Human Rights and value human rights. In terms of security management, we have tasked a professional security company to take full responsibility in keeping our systems secure. We also promote diversity and equality, and look forward to providing employment opportunities for colleagues of indigenous heritage in the future. We plan to require our partners to commit to ensuring the rights of all workers, including their freedom of association and bargaining rights. Our US subsidiary not only follows the group's Human Rights Policy, but also developed an employee handbook tailored to local needs. It clearly sets out regulations related to anti-discrimination, anti-harassment, complaints, employee behavior correction and disciplinary action, and complies with relevant federal and Massachusetts state laws to ensure fairness in opportunity as well as security for employees. In case of any incidents, employees can directly file complaints through online channels or a compliance hotline. No such incidents occurred this year, and further information can be found in section 3.1 of the US talent column.

Transparent Internal Communication and Complaint Channels

GRI 402-1

To create a harmonious workplace environment, PharmaEssentia actively builds diversified two-way communication channels for employees, and holds regular labor-management meetings to get their feedback. The issues and results of all complaint cases are stored and checked by the Group Internal Auditing Office to ensure compliance with regulations and fairness. In 2022, there were no complaints filed in any communication or complaint channels.

Labor-management meetings

- PharmaEssentia holds regular labor-management meetings to explain to employee representatives various matters related to employee health, environmental safety, welfare, etc., and the meeting minutes are posted for employees to be informed.
- In 2022, PharmaEssentia Taipei headquarters and Taichung branch each held 4 meetings.

Regular employee meetings and department meetings

- Our company does not have a labor union, so we use internal meetings to communicate regularly and bi-directionally with our colleagues. In addition to announcing important company matters and operational goals, we also allow top management to directly discuss company vision and culture, build consensus and goals with supervisors and employees. All employees can use this channel to provide feedback or suggestions.
- Employees can also directly express their grievances or demands to their immediate supervisors.

Internal Announcements

- Notices of significant changes in operations will be announced in accordance with the labor laws and regulations governing the termination of labor contracts.
- Internal policies or important information will be classified and announced according to their respective contents, so that employees can immediately grasp the information and achieve zero information errors.
- In addition, employee feedback will be collected through activity satisfaction surveys to improve subsequent event planning.

Complaint channels

- We have multiple communication channels such as employee suggestion box, labor-management meetings, welfare committee meetings, etc., to provide employees with a platform to raise concerns
- We have set up a "Complaint Channel for Stakeholders and Employees Violating Professional Ethics" on our official website to provide external parties a platform to report or file complaints.
- Employee Suggestion Box: voice@pharmaessentia.com
  Workplace Misconduct: hr@pharmaessentia.com.

3.3 Talent Development & Career Planning

Material Topic

84.85%
The retention rate of managers

GRI 3-3

Management Policy

Internal Policies

- Education and Training Management Measures
- Talent Recommendation and Incentive Measures
- Employee Incentives Mechanism
- Annual Compensation Appraisal and Performance-Related Mechanism

External Guidelines

- TPEx Company's Guidelines for Business Ethics
- TPEx Company's Practical Guidelines for Sustainable Development of Corporate

Management Commitment

- Talent cultivation is PharmaEssentia's responsibility and commitment to its employees. PharmaEssentia will continue to provide training and development to its employees in order to retain talent.

Accountable Units

- Talent development policy: HR and management executives
- Units responsible for talent development: Department managers
- ECCS - Employee Care Taskforce

Input Resource

- Conduct internal and external education and training, inviting top experts from the academia and research institutions to provide learning opportunities for employees.
- Continuously collaborate with academia and governmental research institutions for enhancements in professional fields and the integration of the capabilities of R&D talents for projects.
- Each department has an on-the-job mentorship system to assist in experience transfer and reduce new employee turnover. This system also trains senior colleagues to develop their talents.
- Hire expert consultants to optimize performance evaluation methods so that they can be incorporated into talent management and development mechanisms.
- Provide learning opportunities and reward measures for key talent, combining individual traits and career development goals, and implementing domestic and international rotation training programs.
- Invest millions of New Taiwan Dollars in talent training and development, strengthen the HR cloud management system, and promote digital learning platforms.

Targets

Short-term Targets for 2023

- Enhance training for new employees to strengthen their learning experience.
- Establish a talent development and growth mechanism, initially focusing on the immediate needs of each department, and promote it synchronously.
- Continuously improve the English proficiency of all employees to adapt to the company's global presence.
- Incorporate the company culture and core values into theme-based education and training, establish a learning organization for all employees, develop core competencies, and create a three-year training blueprint.

Medium-term Targets for 2024-2026

- Implement a job rotation system to improve talent mobility efficiency by 2-3%.
- Establish and implement an internal lecturer system, cultivate 5-7 internal lecturers to develop a knowledge management system, and pass on professional knowledge.
- Conduct the first employee satisfaction survey and work toward improvement on important issues.
- Implement leadership courses for supervisors that are complemented with a leadership assessment mechanism to cultivate future leaders and enhance talent retention rates.
- Establish a talent evaluation system for successors, as well as plan a 3-year development plan and leadership training for successors.
- Establish a 5-year long-term talent development plan and integrate it into the annual KPIs of department heads.
- Optimize organizational development based on the results of employee satisfaction surveys, and continuously improve employee retention rates and satisfaction.

Long-term Targets (2026 and beyond)

- Transform the company culture and core values into actionable employee core competencies (4-5 items), establish a learning organization, and enhance core competencies.
- Establish a talent management and development system, prioritize the development of key talents and successors, and provide talent evaluation reports to the management task force.
- Align with the company's sustainable development goals, identify key talents and positions, and provide continuous training and individual development evaluation mechanisms.

Evaluation of Management Policy

Management Evaluation Mechanism

- Performance evaluation and management policy
- Promotion rate of internal employees to managerial positions
- Retention rate of managers

2022 Evaluation Results

- The promotion rate of internal employees to managerial positions remained the same as last year at 29.01%
- The retention rate of managers decreased slightly to 84.85% due to the larger increase in total manpower resulting from the company's expansion of operations.
- The Taichung Plant established the School of PharmaEssestia, which focuses on training and knowledge transfer for new production process employees.

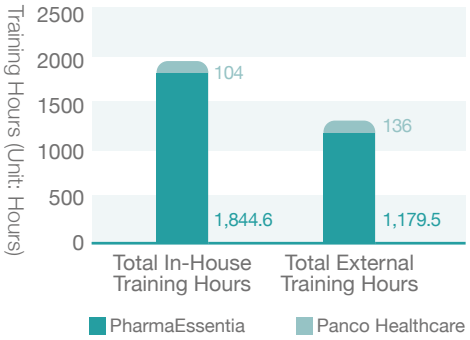
PharmaEssentia values the growth and development of its employees, and closely integrates core competencies with individual talent and organizational development strategies. As we enhance our human capital to effectively utilize human resources and achieve the company's business goals, we also help employees enhance their professional expertise and improve their management skills, so that their careers can continuously develop and that a win-win situation is created for everyone.

Employee Training and Development Targets GRI 404-1

PharmaEssentia values the growth and development of its employees, closely integrating core competencies with the characteristics of individual talents and the direction of our organizational strategic development. As we enhance our human capital to effectively utilize human resources and achieve the company's business goals, we also help employees enhance their professional expertise and improve their management skills, so that their careers can continuously develop and that a win-win situation is created for everyone. Through enriching on-the-job training, diverse learning channels, and sending top talents abroad for training, we cultivate professional talents in the biopharmaceutical field. We also supplement this with an on-the-job mentoring system to upgrade our talent management efficiency and cultivate long-term sustainable leadership capabilities. We conduct internal training by inviting external professional consultants to teach courses at the company. In 2022, PharmaEssentia and Panco Healthcare jointly conducted a total of 1,948.6 hours of internal training. For external training, employees can attend courses at external institutions according to their needs, and the company will provide subsidies after employees fill out an education and training application form. In 2022, PharmaEssentia and Panco Healthcare conducted a total of 1,315.5 hours of external training, with a total expenditure of NT$841,911 on external training.

PharmaEssentia's US subsidiary provides training on compliance with relevant laws and regulations, product-related training, and information security-related training in accordance with the regulations of each department. Every employee must pass these training sessions before interacting with external stakeholders. Please refer to section 6.3 for more information on information security-related training.

PharmaEssentia and Panco Healthcare Employee Training Hours in 2022



1,948.6 Hours
Total In-House Training Hours

1,315.5 Hours
Total External Training Hours

PharmaEssentia Headquarters and Panco Healthcare Average Training Hours and Costs for Employees in the Past 2 Years

(Unit: Hours, NTD$)

Position		2021 PharmaEssentia Hours	2021 PharmaEssentia Cost	2021 Panco Healthcare Hours	2021 Panco Healthcare Cost	2022 PharmaEssentia Hours	2022 PharmaEssentia Cost	2022 Panco Healthcare Hours	2022 Panco Healthcare Cost
Executive manager (Including vice president level and above)	Male	16.25	5,283	NA	NA	0	0	NA	NA
	Female	10.5	1,714	31	550	0	0	17	9,600
Senior manager (Including director level and above)	Male	11.34	4,681	NA	NA	0.47	0	NA	NA
	Female	17.43	5,884	NA	NA	10.65	6,892	NA	NA
Middle manager (Including section chief level and above)	Male	11.39	5,928	31	550	1.15	339	14.5	8,316
	Female	16.39	5,565	16.5	1,094	16.21	12,616	9	5,516
Entry-level manager (Including team leader level and above)	Male	10.1	5,857	34.5	1,122	2.72	652	24	15,033
	Female	11.35	1,236	NA	NA	5.69	1,353	NA	NA
General Employees	Male	10.1	12,153	23.3	3,190	1.324	353	3	1,833
	Female	7.4	7,499	9	2,797	4.5	2,335	0	0

Note: "NA" in the table indicates that there are no employees in that category

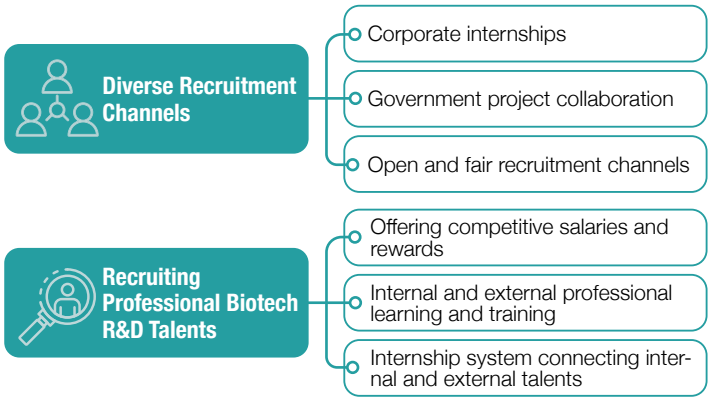
3.4 Talent Attraction and Retention

People-Oriented Recruitment Policy

SASB HC-BP-330a.1

PharmaEssentia has a people-oriented recruitment policy. We attract and retain outstanding talents through competitive compensation and benefits, a friendly environment, humane management, obstacle-free internal job rotation, and training and development opportunities. In addition to Taiwan, PharmaEssentia has locations in multiple countries around the world, with a diverse workforce serving the company. Since 2016, the number of female employees hired has exceeded that of male employees and is concentrated among those under 30, providing ample employment opportunities for women and building a diverse workplace.

The HR department is responsible for executing human resource analysis and providing bi-weekly reports on the company's human resource structure and recruitment status to senior executives in order to create a sound foundation for recruitment practices. The category of talents we particularly focus on are scientists and research personnel. In 2022, PharmaEssentia recruited over 19 research and medical research experts, accounting for 6.6% of the total number of employees.



6.6%

PharmaEssentia recruited research and medical research experts, accounting for 6.6% of the total number of employees.

Global Talent Recruitment Strategy - U.S. Talent Column

As a member of a knowledge-intensive industry, employees are PharmaEssentia's most important assets. In addition to the well-established talent system in PharmaEssentia Headquarters, we have also developed an employee system and benefits manual in the United States, detailing the company's commitment and guarantee to employees.

Fair Employment and Recruitment

Provide equal opportunities to all individuals, regardless of their race, religion, skin color, gender (including pregnancy status, sexual orientation, and gender identity), nationality, disability, age, or genetic information. The company adheres to the principle of fair employment and is committed to eliminating all forms of discrimination. In addition to taking ability and experience into consideration when hiring new employees, the company also provides a referral bonus to encourage colleagues to recruit talent. In 2022, the company recruited 40 new employees in response to increased demand in the United States.

Employee Performance Management and Promotion System

Establish a systematic performance management system, conduct annual performance evaluations, and determine employee salary adjustments and promotions based on work performance, attendance, work quality, ability to work independently, attitude, ability to accommodate the company's needs, and rewards and punishments. In 2022, all employees in the U.S. underwent performance evaluations.

Employee Care Policies

Implement various employee care policies and establish a workplace violence prevention policy, and being committed to take appropriate measures to establish a safe and stable working environment for employees while doing their jobs. In 2022, there were no incidents of violence in our U.S. locations.

Anti-Discrimination and Anti-Harassment

The company is committed to providing employees with an equal, respectful, and dignified working environment, upholding the basic human rights of all employees. To show our commitment, we have adopted a zero-tolerance policy for harassment, and strictly follow the Prohibition of Discrimination, Fair Employment for Pregnant Workers Act, and Americans with Disabilities Act to protect a quality workplace. Regarding workplace harassment, we have established a comprehensive handling procedure, treated sexual harassment allegations with caution, established an internal complaint channel and improved investigation mechanisms, imposed disciplinary measures to eradicate such behavior, and also provided legal remedies to employees to build a workplace environment that is truly friendly and safe. In 2022, there were no incidents of discrimination or harassment in the U.S.

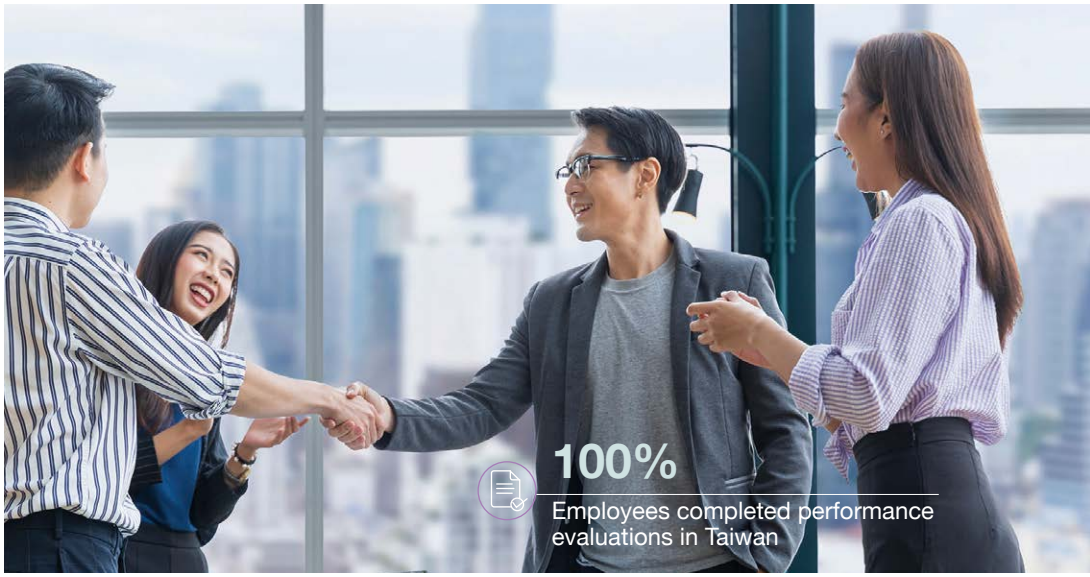
Competitive Compensation and Benefits

The company has a comprehensive salary system and benefits policy, including general welfare, medical insurance, tax and health insurance systems, retirement plans, employee assistance programs, workers' compensation insurance, travel policies, employee stock options plans, etc. In addition to meeting local requirements, we also provide paid parental leave, breastfeeding facilities, and flexible working hours to ensure the well-being of employees.

Performance Assessment and Promotion System

GRI 2-20/404-3

Performance management at PharmaEssentia is based on driving organizational growth, establishing a fair and objective performance assessment system that is aligned with the company's strategic development, and respecting the diversity of its employees, whatever their race, gender or age may be. PharmaEssentia also implements a performance-based compensation system, and all full-time employees around the world receive regular performance and career development checks as a reference for their work objectives and personal growth and development. The company combines new employee assessments with annual performance evaluations and talent development systems to enhance individual and company competitiveness. As of 2022, the percentage of full-time employees at PharmaEssentia's Headquarters and Panco Healthcare who have undergone performance and career development checks is 100%, excluding variables such as incomplete probationary periods and leave without pay. The completion rate of performance evaluations for male and female employees in various job categories is also 100%.



New Employee Evaluation

- Prior to the end of the probationary period, the supervisor should conduct a performance interview and evaluation with the employee.
- If the employee fails to pass the evaluation, the company may terminate the employment contract in accordance with relevant laws and regulations or extend the evaluation period with mutual agreement.

Annual Performance Review

- Conduct two regular performance reviews each year, through the cycle of goal-setting, medium-term review, and year-end evaluation, to help employees and supervisors reach a consensus on work goals, improve employees' work abilities, and achieve the company's operational goals.
- Manage employees' output performance and tap their potential through the performance review system, to select talents. Use the performance review to understand the weaknesses in employees' work and improve work methods and efficiency.
- Arrange suitable courses for employees through the HR department to achieve improvement goals. Also, establish a training blueprint based on professional job functions and provide individual development plans, so that each colleague can have better communication with their supervisor on their career development.

For high-performing employees with potential, we provide promotion opportunities through an annual employee promotion nomination and evaluation process. We also have a system for internal rotations, which allows us to prioritize internal candidates when internal vacancies arise; developing multiple professional skills among our employees; promoting internal talent retention; and facilitating cross-departmental communication and coordination. We hope that every employee in PharmaEssentia can unleash their potential, and further develop their skills through continuous learning and career development, which is one of the key tasks of our human resources strategy.

A well-developed performance assessment system, while a long-term performance bonus plan has been implemented to incentivize retention at the same time.

The long-term performance bonus system of the US subsidiary includes

employee stock option plans, specific employee stock plans, and salary adjustments, which are determined by overall performance.

The performance indicators of the US subsidiary's performance system include

Management by Objectives (MBO), diversified performance evaluation and formal comparative ranking of specific employee categories. All employees were assessed in 2022.

Diverse Employee Benefits System

GRI 201-3 GRI 401-2/404-2

3.33 million NTD

32% growth in total employee welfare expenses in Taiwan

In 2013, PharmaEssentia established a Welfare Committee to plan employee welfare activities in collaboration with the company. The committee meets four times annually. In 2022, PharmaEssentia and Panco Healthcare spent approximately NT$3.33 million on employee welfare, an increase of 32% from the previous year. A total of 571 employees applied for various welfare benefits.

We have developed and implemented a workplace plan for supporting our employees' family planning, including marriage, childbirth, and child-rearing. For three consecutive years, the retention and return-to-work rates of employees taking parental leave in Taiwan have reached 100%, and the implementation rate of our maternal health protection plan has also been 100%. In the second half of 2023, we plan to hold a Family Day event to promote family values and allow our employees to share the joys of parenting with loved ones.

Competitive salary

- Three major holiday bonuses
- Project bonuses
- Employee stock options
- Restricted stock units
- Cash capital increase employee stock options

Comprehensive insurance plan

- Labor insurance
- Health insurance
- Group insurance
- Overseas travel insurance

Retirement benefits and welfare

- Retirement farewell dinner
- For those to which the old system applies, retirement benefits are calculated at 2% of monthly salary for each year of service and deposited into the old system retirement reserve account at Taiwan Bank.
- After the implementation of the new retirement system, the company will contribute 6% of the employee's salary to individual retirement accounts based on the employee's retirement benefit level.

Comprehensive employee transition assistance

- The company will report any laid-off employees to government employment assistance agencies in accordance with the Employment Services Act, in order to help the laid-off workers find new employment through counseling and support services provided by the competent authorities and public employment service organizations.

Marriage and childbirth care

- Collaboration with childcare centers
- Pregnancy and parental leave
- Marriage assistance and leave policies
- Breastfeeding rooms with a subsidy of NT$6,000 for new mothers

Flexible leave system

- Flexible working hours
- Comprehensive leave policies that exceed the requirements of the Labor Standards Act

Overall employee care

- Health check-ups
- Weight loss programs
- Stress-relieving massages
- Sabbatical leaves
- Health seminars
- Employee recognition programs
- Special discounts from partner stores
- Free taxi rides for night shift employees

Diverse employee activities

- Departmental gatherings
- Club activities
- Sports competitions
- Employee trips

Note: This table does not include the compensation and benefits of the US subsidiary. Please refer to section 3.4 of the US Talent Column for the US welfare system.

100%

Maternal health protection plan execution in Taiwan for 3 consecutive

GRI 401-3

PharmaEssentia Headquarters and Panco Healthcare's Statistics on Employees on Parental Leave Without Pay in the Past 3 Years

Item	2020			2021			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Number of employees eligible for parental leave in the current year (A)	23	11	34	18	16	34	11	12	23
Number of employees who actually applied for parental leave in the current year (B)	-	5	5	0	5	5	0	5	5
Parental leave application rate (B/A100%)	0%	45%	15%	0%	31%	15%	0%	42%	22%
Expected number of employees who will return to work after parental leave in the current year (C)	-	3	3	0	4	4	0	4	4
Number of employees who returned to work after parental leave in the current year (D)	-	3	3	0	4	4	0	3	3
Parental leave return-to-work rate (D/C*100%)	-	100%	100%	0%	100%	100%	0%	75%	75%
Number of employees who returned to work after parental leave in the previous year (E)	1	3	4	0	3	3	0	4	4
Number of employees who continued to work for one year after returning from parental leave in the previous year (F)	1	3	4	0	3	3	0	4	4
Parental leave retention rate (F/E*100%)	100%	100%	100%	0%	100%	100%	0%	100%	100%

Hiring New Employees and Employee Retention

SASB HC-BP-330a.1 / a.2

GRI 401-1

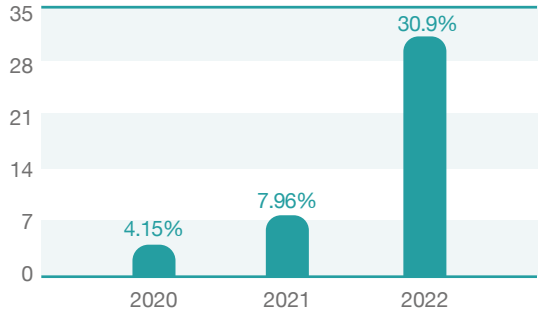
30.9%

Growth Rate of All Employees in 2022

We actively recruit talents in the fields of biopharmaceuticals, research and development, clinical medicine, and global management. Job competency and core functions are our main criteria for talent recruitment, and we adhere to the spirit of non-discrimination and fair treatment. We use diverse and open recruitment channels to select qualified talents. Over the past three years, the overall personnel growth rate of PharmaEssentia has continued to grow steadily. In 2022, we increased the number of personnel in research and development and production to meet the demand for expanded business.

To stimulate organizational vitality and cultivate all-round talent, we prioritize personnel rotation evaluations when new business demands emerge or when important positions become vacant. In 2022, the proportion of internal promotions for managerial positions was as high as 84.62% for frontline supervisors, and around 50% for middle and high-level managers, establishing a virtuous cycle for talent development, promotion, and retention. For employees who express their intention to leave, we also require supervisors to conduct interviews to understand the reasons and identify areas for improvement, and establish comprehensive retention plans to reduce employee turnover rates and enable the retention of outstanding talent.

PharmaEssentia Growth Rate of All Employees in the Past 3 Years



Note: Employee growth rate = (Number of employees at the end of the current year - Number of employees at the end of the previous year) / Number of employees at the end of the previous year.

PharmaEssentia 2022 New Hires by Job Level

Job Level	Internal promotion (Number of Employees)	Internal promotion (Percentage)	External promotion (Number of Employees)	External promotion (Percentage)	Managerial Retention Rate
ManageMalet Executives (Vice President and above)	0	-	0	-	100%
Senior Managers (Director and above)	7	46.67%	8	53.33%	81.48%
Middle Managers (Manager and above)	7	58.33%	5	41.67%	88.57%
Supervisors (Team leader)	11	84.62%	2	15.38%	93.75%
General Employees Note1	20	22.99%	67	77.01%	-

Note 1: General employees are not included in the calculation of managerial retention rate.

PharmaEssentia and Panco Healthcare New Hires and Departures Statistics in 2022

Category	Item	New Hires Note1 (Number of Employees)	New Hires Note1 (%)	Voluntary Departures Note1 (Number of Employees)	Voluntary Departures Note1 (%)
Total Number of Employees		85	28%	24	8%
Age	30 years old and below	38	12%	3	1%
	30-50 years old	43	14%	19	6%
	51 years old and above	4	1%	2	1%
Gender	Male	45	15%	10	3%
	Female	40	13%	14	5%
Position	ManageMalet Executives (Vice President and above)	0	0%	0	0%
	Senior Managers (Director and above)	8	3%	5	2%
	Middle Managers (Manager and above)	5	2%	4	1%
	Supervisors (Team leader)	2	1%	2	1%
	General Employees	70	23%	13	4%
Organization	PharmaEssentia	82	27%	22	7%
	Panco Healthcare	3	1%	2	1%

Note 1: Starting from 2022, the ratio of newly hired and resigned employees is calculated as (the cumulative number of newly hired and resigned employees in the current year) / (total number of employees at the end of the year).
Note 2: In 2022, the number of non-voluntary resignations at the Headquarters of PharmaEssentia and Panco Healthcare was both 0.

In the past three years, our US subsidiary has been recruited new talents significantly in response to market demand for operational development.However, in 2021, due to the delay in obtaining FDA drug license until November, the number of employees voluntarily leaving also increased in the current year. In 2022, due to the successful FDA approval, US subsidiary actively promoted various operational businesses and adhered to the spirit of gender equality and racial diversity, continue to optimize recruitment, selection, talent development, and retention systems.The retention rate of employees has significantly increased in 2022.

The US Subsidiary New Hires and Departures Statistics in the Past 3 Years

(Unit: Number of Employees)

Category	Items	New Hires Note1 2020	New Hires Note1 2021	New Hires Note1 2022	Departure Employees Note1 2020	Departure Employees Note1 2021	Departure Employees Note1 2022
Total Number of Employees		31	49	42	4	30	13
Age	30 years old and below	2	1	2	0	2	0
	30-50 years old	19	13	29	3	13	6
	51 years old and above	10	35	11	1	15	7
Gender	Male	18	26	17	1	13	7
	Female	13	23	25	3	17	6
Job Level	Senior Managers (Director and above)	3	6	5	1	2	0
	Middle Managers (Manager and above)	19	8	20	1	8	6
	Supervisors (Team leader)	6	34	14	2	18	7
Race and Nation	Asian	1	3	9	1	6	1
	African	3	5	2	0	4	2
	Latino/Hispanic	1	3	2	0	1	1
	White	25	34	29	3	17	9
	Two or more races	0	4	0	0	0	0
	Others	1 Note2	0	0	0	2	0

Note 1: Starting from 2022, the proportion of newly hired and resigned employees does not include the calculation of the retention rate of supervisors.
Note 2: Native Hawaiians

Employee Satisfaction Survey

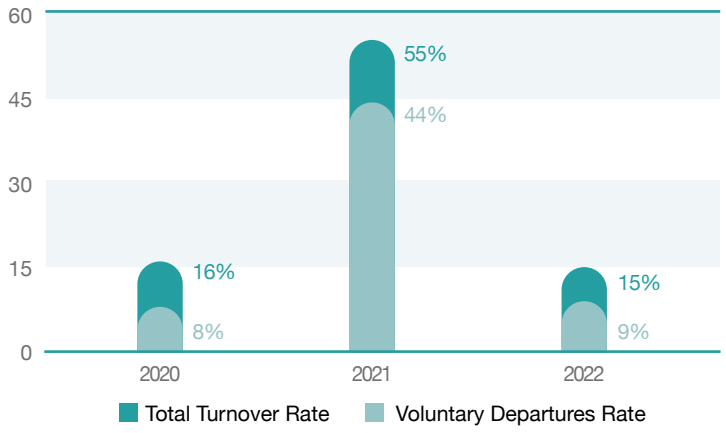
In 2022, our US subsidiary conducted an employee satisfaction survey, with 94 employees participating and an average satisfaction score of 4.2 out of 5.

We also use surveys to understand what our employees' actual needs are as a basis for safeguarding and improving our key areas of concern.

4.2/5

US subsidiary employee satisfaction score

The US subsidiary Employee Turnover Statistics in the Past 3 Years



PharmaEssentia and Panco Healthcare's 2022 Employee Activity Survey Results

Activity Item	Description of Activity and Survey Methodology	Total Feedback Count
Legal risks arising from workplace harassment and dishonesty	Feedback survey on 2 online seminars	216
On-site medical care service for employee care	3 times, at fixed times each month, along with Work Overload Questionnaire	99
Employee health check-up	The Work Overload Questionnaire was conducted simultaneously with health check-ups for Taichung employees	122
Employee health check-up	Satisfaction survey on employee health check-ups	73
2022 cash capital increase plan	Employee stock subscription solicitation and notification of consent	306

3.5 Philanthropic Activities

In 2022, PharmaEssentia carried out three major public welfare projects. The first project involved sponsoring the Jane Goodall Institute to replace old refrigerants with environmentally friendly ones, thereby reducing greenhouse gas emissions. The second project involved sponsoring a telehealth promotion program for disadvantaged elderly people to resolve the issue of insufficient medical services in rural areas. The third project involved sponsoring the annual charity concert of the OneSongOrchestra for the fourth consecutive year, promoting a new ecosystem of inclusiveness and shared prosperity.

The US subsidiary of PharmaEssentia focused on the healthcare industry in 2022 to create a better community, launching a patient financial assistance program to provide partial payment or insurance support for patients who need BESREMi but deal with financial difficulties. This program includes free copay cards and emergency medications to help patients who do not have access to medication due to delayed insurance payments or insufficient insurance coverage. In addition, free medication was provided for patients without insurance or insufficient coverage. Our US subsidiary also invested $25,000 in 2022 to provide cancer kits to Boston residents through the Boston Cares charitable organization, and encouraged employees to participate in community activities by providing paid volunteer leave. This year, a total of 80 employees participated in volunteer activities, with a total of 160 hours of volunteer works.

3 Events

Sponsoring social participation activities: carbon reduction, health, and cultural charity

80 volunteers

employees of The US subsidiary participated in volunteer activities, with a total of 160 hours of volunteer works

Charity Program

Promoting Care for Seniors in Rural Areas - Health Charity Event

Core Connections

In line with our principles of helping to provide access to medicine, we sponsored an action plan to support the areas that are the most lacking in medical resources in Taitung, Taiwan. Service bases are set up for the elderly and caregivers of those with dementia in this rural health promotion program by the Digital Humanitarian Association, which includes remote health promotion app services, live online courses, consultations with medical expert consultations and more to provide comprehensive medical resources and services to elderly people in rural communities.

For more information.

Investment

Invested a total of NT$540,000, and sent two people to Taitung for on-site inspections to support the three rural communities sponsored.

Internal Benefits

- Implementation of SDG 3 "Ensure and promote healthy lives and well-being for all ages."
- Our core philosophy is to promote the right of patients to access medical resources in a timely and equal manner, thus we promoted remote health care for vulnerable groups such as the elderly in rural areas, and resolved the shortage of medical resources in remote areas.
- Participation in causes to do with public welfare, and establishment of a positive cycle to influence other enterprises, non-profit organizations, and the general public

External Benefits

- Inclusion of financial support to disadvantaged institutions in rural areas in the annual budget
- Exertion of corporate influence in reducing the isolation felt by the elderly and vulnerable groups, alleviation of the burden of young adults caring for the elderly, and promotion of healthy living and well-being for all ages, echoing SDG 3-health and well-being, SDG 8-employment and economic growth, SDG 10-reducing inequality, such as increasing employment opportunities for online health instructors, allowing companies and communities to cultivate long-term relationships, and thereby improving the quality of health care and eliminating the disparity in health care resource.

Charity Program Making Environmental Sustainability a Reality - **Carbon Reduction Charity Event**

Core Connections

Sponsorship of the Jane Goodall Institute to replace the refrigerants in two sets of air conditioning systems with low-carbon refrigerants in order to reduce greenhouse gas emissions and extend the spirit behind our internal Environmental Policy to benefit an external organization, creating long-term economic benefits for society and taking up our corporate social responsibility in mitigating global warming. For more information.

Investment

Invested a total of NT$60,000, and sent two people to conduct on-site inspections and review the results of the replacement.

Internal Benefits

- Alignment with our Environmental Policy, advocation for energy conservation, and reduction of environmental impact, thus achieving our sustainability goals.
- Participation in causes to do with public welfare, and establishment of a positive cycle to influence other enterprises, non-profit organizations, and the general public.

External Benefits

- Collaboration with the Jane Goodall Institute to help them create a better learning environment and make it appealing for children to continue learning.
- The two sets of air conditioners can be used for 6 years. After the replacement, 2.5 kg of the old refrigerant was recovered, which directly reduced carbon dioxide emissions by about 5218kg. It was estimated that the new, environmentally-friendly hydrocarbon refrigerant can save electricity by up to 34.7%. The estimated annual electricity savings is 735 degrees, leading to an indirect reduction of carbon dioxide emissions by about 374kg per year.

Charity Program Promoting Cultural and Artistic Revitalization - **Charity Event**

Core Connections

To realize our corporate social responsibility, sponsoring the Wan Sheng Vocal Orchestra's New Year's charity concert for four consecutive years, supporting cultural and artistic development and bringing vitality to the economy. For more information.

Investment

Nearly one million dollars in donations have been accumulated, with 32 people participating in the charity concert.

Internal Benefits

- Participation in causes to do with public welfare, and promotion of cultural development through implementing the " Practical Guidelines for Sustainable Development of Corporate of Listed Companies on the Stock Exchange."

External Benefits

- Supporting cultural and artistic development and bringing vitality to the society and the economy, as well as promoting employees' personal and mental well-being, helping them to balance life and work, and furthering a new ecology of coexistence and common good.

3.6 Occupational Health & Safety

GRI 403-1/403-8

100%

Coverage rate of Occupational Health & Safety Policy

Following the Occupational Health & Safety Policy of PharmaEssentia, we continue to enhance our employees' health management and promotion measures, covering a total of 287 full-time employees (including the Taichung Plant) with a coverage rate of 100%. We plan to introduce the ISO 45001 Occupational Health & Safety Management System in 2023 and establish an Occupational Health & Safety Committee to carry out comprehensive measures, such as hazard identification, risk assessment, and accident investigation throughout the company in order to create a safe, healthy, and zero-accident work environment.

Compliance with government regulations	Emphasis on hazard prevention	Implementation of continuous improvement	Encouragement of all employee participation
Adhere to government regulations to promote safety and harmony	Strive for zero accidents and provide a safe environment	Create a safe and healthy corporate image by implementing continuous improvement	Encourage employee participation to enhance safety culture

Employee participation in "Office Ergonomics Prevention and Stretching Exercise" health promotion lectures

Occupational Health Services

GRI 403-2/403-3/403-4

We are committed to reducing occupational health risks and creating a working environment that enables employees to have physical and mental well-being, health, and happiness. Following PharmaEssentia Headquarters first-time achievement of the Healthy Workplace Certification/Health Promotion Label and the Taichung Plant's recertification in 2020, we have been actively promoting employee health and safety. We have also organized health promotion seminars such as "Ergonomic Workplace Design and Stretching Exercises" to encourage employees to improve their own health. These efforts have been recognized, and our Taipei Headquarter has been awarded a Healthy Workplace Certification with a validity period of 3 years, affirming our commitment to protecting the health of our employees.

PharmaEssentia's emphasis on occupational health and safety is based on the Labor Health Protection Regulations and the Occupational Safety and Health Act. All employees are provided with a free annual health checkup, which is more than what we are legally required to do, to help employees learn about the status of their health and focus on areas that need improvement, thereby reducing or avoiding illnesses. Additionally, we have contract medical and nursing staff to provide on-site services, provide health education, arrange in-person appointments with physicians when necessary, reduce or eliminate potential health risks, and hold quarterly labor-management meetings to maintain smooth communication channels, allowing employees to raise health concerns at any time. In 2022, two health seminars were held, namely "No More Metabolic Syndrome" and "Office Ergonomics and Stretching Exercise", with 75 and 66 participants, respectively, to enhance our employees' awareness of the three major risk factors to health and encourage them to focus on daily prevention and healthcare.

PharmaEssentia Headquarters health workplace certification/ health promotion label

Taichung plant health workplace certification/health promotion label

Service	Description of Service	2022 Results of Pharma Essentia and Panco Healthcare's Execution of Health Service
Health check-ups Regular health checkups and advanced health checkups for those engaged in high-risk operations	• We provide regular health check-ups once a year to assist employees in managing their health. • For employees engaged in special hazardous operations, we provide special health check-ups.	We invest NTD 1.18 million annually for regular health check-ups for 236 colleagues. We invest NTD 25,885 for special health check-ups for 58 colleagues. Those identified by the doctor as having abnormalities (level two management) that are unrelated to work have completed physician consultation and health education.
On-site health education service Contract nursing staff on-site to provide health education services	• We arrange for appointment and health education sessions every Wednesday, approximately three times a month. • Medical professionals give out timely health information in accordance with the company's internal system.	We invited nurses, physicians, physical therapists and psychological counselors to promote health education on-site, and held 39 sessions in total.
Maternal health protection Evaluate hazard factors to ensure workplace safety for female employees	• Assessing risk factors to ensure the safety of female employees in the workplace. For pregnant women and women who have given birth within one year and are engaged in work that may affect the health of the mother and baby during pregnancy or lactation, we provide assessments, recommendations from professional physicians, and health protection measures such as modifying their work conditions, adjusting working hours, and having them switch duties with other employees based on identification, assessment and control of work environments and the hazardous chemicals present in them.	For pregnant women and women who have given birth within one year, all employees who were pregnant at the Taichung Plant have been evaluated and arranged for suitable posts. The execution rate of our maternal health protection plan in the past three years has been 100%.
Occupational Hazard Prevention Plan Identification of hazards and injury/illness assessment	• Based on the 2022 Occupational Hazard Prevention Questionnaire, employees suspected of being impacted by occupational hazards have had appointments with doctors and nurses arranged for follow-up health monitoring.	According to the 2022 Musculoskeletal Symptoms Scale Questionnaire, back pain is the most common issue, and in 2023, we will arrange to have rehabilitation specialists available for consultation and education.
Prevention of diseases caused by abnormal workloads Integration of health promotion services and assessment of employee health risks	• Assessing and evaluating risk levels based on annual health examination reports, attendance records, and personal and workload charts.	After assessment, appointments with medical specialists have been arranged for employees with moderate risk for follow-up health monitoring.
Regular monitoring of work environment Grasp the reality of the work environment and assess the exposure status of employees	• Conducting work environment monitoring every six months and every quarter. • Commissioning qualified testing companies to conduct chemical and physical environmental monitoring. • The monitoring plan and results are logged into the company's system, and notifications are implemented.	Chemical and physical factor tests are within allowable standards.
Accident investigation and handling procedures	• Conducting investigation and follow-up improvement measures for occupational accidents based on the Accident Investigation and Handling Procedures.	One accident resulted in moderate injuries, which is within the acceptable range. Education and training have been implemented, and the maintenance, supervision, and inspection of existing protective equipment have been enhanced. No commuting accidents have occurred.

Employee Health Promotion GRI 403-6

We have organized a multitude of health promotion activities to cultivate good exercise habits in employees during work, and provided various ways for them to relieve stress for their physical and mental well-being.

Massage Station

To promote public welfare and employee health, PharmaEssentia has set up a "Massage Station" with one visually impaired massage therapist. Since its establishment in 2014, it has served more than 7,736 people. Its effectiveness and dedication have been highly praised by colleagues and external parties, successfully creating a model of a healthy workplace. In 2022, the massage station was used by a total of 520 people.

Diverse Clubs

To be healthy, one needs to be active. Developing good exercise habits or cultivating an interest in sports is the direction the company expects its employees to strive for. Through the welfare committee's subsidy, employees are encouraged to participate in club activities in their spare time, make friends with like-minded colleagues across departments, relieve stress, and enrich their lives. There are various types of clubs, such as badminton clubs, table tennis clubs, etc., which use the power of small groups of sports enthusiasts to promote a culture of exercise and fitness within the company. In 2022, there were 33 members in the clubs of PharmaEssentia.

DIY workshop for epidemic prevention

To cope with the long-term epidemic prevention measures that can lead to anxiety and emotional problems, the annual health promotion lecture at our Taichung plant has arranged a DIY workshop to help reduce psychological stress and anxiety (including DIY hand sanitizing spray and soap, and therapeutic succulent planting). Each workshop can accommodate 20 participants.

Walking Challenge

PharmaEssentia is hosting a 3-month walking challenge where participants must accumulate 200,000 steps per month to reach the goal. Those who reach the target will receive a sports towel and be entered into a prize draw for a sports wristband. The challenge aims to encourage healthy habits and promote physical activity among colleagues.

In Response to the COVID-19 Pandemic

The COVID-19 pandemic has lasted for more than three years, and we have entered a phase in which we are coexisting with the pandemic. PharmaEssentia has established a pandemic response task force, which includes the Chairman, the CEO, the General Manager, the COO, the Director of Production and Manufacturing, the HR department, and Environmental Health and Safety department. Meetings are held as needed in response to the development of the pandemic, and we cooperate with the policies and guidelines issued by the Central Epidemic Command Center (CECC) and other authorities as well as implement various measures to safeguard the health and safety of our employees.

PharmaEssentia and Panco Healthcare's COVID-19 Contingency Plan

Personnel Control Measures	✓ Home quarantine and exposure tracing should follow CDC policies ✓ Replace in-person meetings with video conferencing as much as possible to reduce risk of exposure ✓ Internal personnel: Have body temperature measured when entering the office, wear masks, and implement disinfection measures ✓ External personnel: Reduce the number of visitors and keep them in designated areas of the office ✓ Suspend large-scale education and training sessions (except those required by law) and activities
Preventive Measures in Advance	✓ Insure employees with pandemic insurance ✓ Subsidize employees' influenza vaccine costs ✓ Purchase rapid screening kits to ensure that employees can learn about the status of their health quickly and take measures if they have any discomfort ✓ Enhance cleaning and disinfection of the company's premises
Continuous Promotion of Precautionary Measures	✓ Encourage employees to receive COVID-19 and influenza vaccines ✓ Avoid crowded and poorly ventilated public places ✓ Wear masks when entering public places or enclosed spaces to keep droplets in the air out of respiratory system ✓ Encourage employees to avoid large gatherings and events ✓ Encourage employees with fever or acute respiratory symptoms to rest at home and keep records on their health

Note: The above control measures will be adjusted based on the level of pandemic's threat and the latest regulations.
Note: To ensure continuous operation, Panco Healthcare has divided its logistics center into two groups of personnel who do not come into contact with each other; and controls the entry of outsourced personnel, who are required to undergo rapid screening test before entering the site if necessary.

Workplace Safety and Accident Prevention Mechanism

GRI 403-5 | GRI 403-7 | GRI 403-9~10

Our company has established our own Labor Safety and Health Work Guidelines and Emergency Response Procedures to regulate various safety measures, and we regularly conduct emergency response drills so that we may respond to various types of emergencies and prevent occupational accidents. Employees receive regular on-the-job safety and health education and training, and personnel are assigned according to legal regulations to be supervisors for particular projects, and non-designated personnel are not allowed to be involved with their operations. Our plant also implements various measures and tests, such as the Important Facility Operator Test; Factory Health and Safety Regulations; and Contractor Entry and Operation, which regulate entry, facility operation and factory safety to ensure the health and safety of all personnel in the plant.

Panco Healthcare Logistics Center has established the Logistics Center Safety Management Operating Procedures and Emergency Response Handling Operating Procedures to prevent occupational injuries and ensure that all equipment stay in normal operation. In the event of an emergency, the logistics center manager is notified immediately, and the emergency response task force take action to evacuate personnel or provide medical attention to those who are injured in accordance with the established management mechanism.

In 2022, PharmaEssentia and Panco Healthcare jointly held 33 occupational health and safety training sessions, with a total of 229 participants trained.

229 Participants

33 training sessions of occupational safety and health

PharmaEssentia and Panco Healthcare's Occupational Safety and Health Employee Training Statistics in 2022

Training Topic		Number of Sessions	Number of participants
Internal	General safety and hazard training for employees (including new employees)	10	74
	AED & CPR training	4	86
	Toxic substance disaster emergency response and dress rehearsal	2	16
External	On-the-job safety and health training (includes operators of hazardous equipment, emergency relief personnel, and fur-nace/ boiler operators)	9	10
	Toxic disaster professional emergency response personnel general level training	1	2
	General training for professional responders of poisonous disasters in Central Taiwan Science Park	1	2
	GHG internal auditor education and training	1	34
	Environmental protection seminars and briefings on legal compliance	5	5
Total		33	229

Our company tracks incidents of occupational injury at PharmaEssentia, Panco Healthcare and our US subsidiary, and conducts investigations and follow-up improvement measures in accordance with the Accident Investigation and Handling Measures. In 2022, there was only one incident of occupational injury event that occurred at PharmaEssentia's Taichung Plant. An employee was injured in the foot when a steel plate slipped during observation of plant operations. The employee resumed work the following week. In response to this isolated incident, the relevant equipment was checked, and improvements were made to fix the groove that caused the accident. It was also stipulated that employees must wear steel-toed cleanroom shoes during operations to ensure their safety.

In 2022, the Taipei office of PharmaEssentia Pharmaceutical invited external professional consultants to conduct a laboratory environment inspection. The Taichung Plant held three emergency response drills, including a biosecurity emergency response drill, self-defense firefighting Taskforce training, and a full-plant personnel evacuation drill. In 2023, the company will introduce the ISO 45001 Occupational Health and Safety Management System to conduct systematic safety risk assessments in production processes and laboratory operations.

Occupational Injury and Illness Statistics for PharmaEssentia's Taichung Plant in 2022

	Male	Female	Total
Number of Occupational Injuries	1	0	1
Number of Occupational Fatalities	0	0	0
Days Lost Due to Occupational Injuries Note1	4	0	4
Frequency Rate (FR) of Disabling Injuries Note2	3.84	0	3.84
Severity Rate (SR) of Disabling Injuries Note3	15.36	0	15.36

Note 1: The type of injury in this incident is temporary total disability, and the total number of days lost is 4, including 2 weekend days.

Note 2: Frequency rate (FR) of disabling injuries is defined as (1 x 1,000,000) divided by the total number of hours worked, which is 260,264, resulting in 3.84 persons per million hours.

Note 3: Severity rate (SR) of disabling injuries is defined as (4 days lost x 1,000,000) divided by the total number of hours worked, which is 260,264, resulting in 15.36 days lost per million hours.

Note 4: The definitions of frequency rate (FR) and severity rate (SR) of disabling injuries follow the Labor Standards Act

Example Introduction - 2022 Biological Safety Emergency Response Exercise

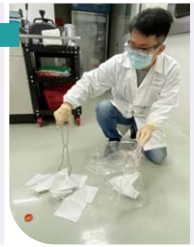
- Exercise scenario: Standard strain overturns in BSL2 laboratory
- Participants: 9 colleagues from various units at the Taichung Manufacturing Plant

Emergency response process for the exercise

1. Ensure that all personnel in the laboratory are evacuated and accounted for, and close the room door
2. Notify the laboratory supervisor. If the leak cannot be controlled, nearby laboratories should be evacuated as well
3. Wait for 30 minutes for the aerosol to settle
4. Wear protective equipment: lab coat, rubber gloves, goggles, and a mask

5. Enter the room and cover the area of the leak with wiping cloth, starting from the outermost part and moving inward
6. Carefully pour disinfectant (32X Minncare or 1% bleach solution) around the area of the leak, avoiding the production of sprays and aerosols

7. Allow it to sit for 30 minutes
8. Use additional wiping cloths or absorbent material to remove the disinfectant
9. Clean the leak area with a wiping cloth moistened with disinfectant
10. Place all wiping cloths into a sterilization bag and dispose of them as medical waste



11. Dispose of or clean all personal protective equipment, and wash hands thoroughly before leaving the laboratory

Contractor Safety Management

We established a contractor management system to ensure the safety of contractors who enter our company's premises. Management mechanisms were set up for before construction, before entry, and during construction to protect the safety of both our employees and our partner contractors. In 2022, there were no cases of occupational injuries or recorded cases of occupational diseases involving contractors working on the premises of PharmaEssentia and Panco Healthcare. In the future, we will continue to ensure the safety of contractors while they work and protect their rights while promoting a safe and reliable work environment.

Before construction

- The vendor submits the "Contractor Safety, Health, and Environmental Commitment Letter" and "Contractor Entry Undertaking Letter."
- Submit employee insurance information and a 6-hour safety and health education training certificate.
- Retained by our company's environmental safety unit.

Before entering the site

- Arrange for contractors to receive pre-entry safety and health training.
- Contractor personnel must sign the "Workplace Environment and Hazard Notification Form."

During construction

- The engineering unit must ensure that the contractor complies with the provisions of the "Contractor Environmental Protection and Safety Management Guidelines."
- In the case of special operations, training certificates must be provided.
- The environmental safety unit may conduct spot checks. If safety concerns arise, work should be stopped immediately.

4

Contribution to Access to Medicine

Summary of 2022

PharmaEssentia is dedicated to the pursuit of developing new drugs. Through its access to a medicine strategies program, it continues to promote access to new drugs for patients around the world. Our core philosophy, to which we are committed, is to enhance drug accessibility, ensure affordability, and promote availability. We have adopted the framework of the 2022 Access to Medicine Index to develop our group's strategy and policy to meet unmet medical needs.

Material Topic

- Governance on Access to Medicine
- Globalizing Local Capacity Building and Access to Healthcare

Highlights Performance

3,800+

Over 3,800 patients worldwide have used BESREMi®

No.1

The world's first long-acting interferon alpha drug approved for the treatment of PV /

Assist to establish the first MPN center and the Taiwan Myeloproliferative Neoplasms Association (TMPNA)

500+

Sponsoring underprivileged group patients to use BESREMi®

MPNiCare

Launched the MPN iCare interactive platform for patient education and support

NCCN

BESREMi® has been included in the US NCCN Guidelines

0

No incidents of adverse drug recall

5 Patient Groups

Support for over 8 events for 5 major North American patient groups

40

Patients who benefit from compassionate use

89

Effective patent certificates

3,200+

Patient Power Viewing Record in the US

4.1 Governance on Access to Medicine

Material Topic

PharmaEssentia is committed to continuous research and development of new drugs, and through the Access to Medicine program, we strive to promote access to medication for patients around the world. Our core philosophy, to which we are committed, is to enhance drug accessibility, ensure affordability, and promote availability. We have formulated our group strategy guidelines based on the 2022 Access to Medicine Index framework to address unmet medical needs. Our goal is to reduce the gap in drug accessibility for patients, so that they can obtain the drugs they need in a reasonable, affordable, correct, and convenient manner. Through a drug accessibility governance policy that is closely integrated with our business development strategy, we aim to create shared value for patients. We also hope to use the power of the PharmaEssentia group to achieve SDG 3- Good Health and Well-being by 2030.

GRI 3-3 / 203-1

Management Policy

Internal Policies

- Clinical Study Policy (Draft)
- Compassionate Use Policy (Draft)
- Standard Operating Procedures related to Clinical Trials
- Standard Operating Procedures for Compassionate Use
- Intellectual Property Management and Utilization Measures

External Guidelines

- International regulatory guidelines
- ICH E6 Good Clinical Practice
- Local country regulatory guidelines (e.g. Taiwan)
  - Pharmaceutical Affairs Act
  - Medical Care Act
  - Human Subjects Research Act
  - Personal Data Protection Act
  - Regulations Governing Human Research Ethics Review
  - Good Clinical Practice for Drugs
  - Regulations Governing Sample and Gift Offerings of Drugs

Management Commitment

PEC commits to adherence with relevant international and local laws and standards, and uses our strengths to implement the three approaches of access to medicine strategies from the Access to Medicine Index: Governance on Access to Medicine, Research & Development, and Product Delivery. We expect to contribute to the improvement of global health with our technology and expertise, and committed to following the 6 major aspects of access to medicine strategies:

- Enhance the management strategies of drug accessibility.
- Innovative medicine – addressing unmet medical needs
- Responsible and transparent intellectual property right management
- Provide stable and safe medicines.
- Leading the industry development to enhance the local capabilities.
- Committed to developing innovative drugs to treat rare and ultra rare diseases, benefiting vulnerable patients

Accountable Units

- At present, the Board of Directors and senior management functional taskforces of each subsidiary are responsible for issue management, and the implementation of access to medicine governance is integrated with our business strategy within the current system.
- ECCS - Access to Medicine team

Input Resource

- The resources allocated for access to medicine is concentrated on research and development expenses and marketing expenses. Global R&D expenses are expected to reach around NTD 1.43 billion, an increase of 12.5% compared to last year, and marketing expenses are expected to reach around NTD 1.54 billion, an increase of 63% compared to last year.
- To enhance product life cycle management, the company has hired an international biopharmaceutical intellectual property lawyer by the end of 2022.
- A quarterly demand-forecasting mechanism for commercial and clinical development will be managed using the SAP S4 system starting from 2023.
- Manage drug safety and supply shortage reporting systems with regulatory authorities in different countries.
- Maintain and operate the drug complaint system established by PharmaEssentia Headquarters.
- Panco Healthcare meets the medication needs of patients in hospitals, and manages the medication pickup process in various hospitals.

Targets

Short-term Targets for 2023

- Ropeg is used to treat polycythemia vera (PV), a condition in which the body produces too many red blood cells
  - Obtaining approval for the drug in Japan
  - Submit drug license applications for Ropeg in Malaysia, Singapore, and Hong Kong
- Apply for coverage of Tirbanibulin (KX01) kinase inhibitor for the treatment of actinic keratosis under Taiwan's National Health Insurance program
- Establish internal pricing policies that are reasonable and fair in order to achieve global operational goals
- Strengthen the management system of global logistics supply chains, effectively manage drug transportation and recycling, and ensure that high-quality products are delivered to patients at the right time
- Initiation and application of research protocol
  - Initiate human clinical trials related to TCRT cell therapy
  - Complete IND application for Ropeg in treating epithelioid hemangioendothelioma, a very rare disease, in Taiwan
- Improve the technology for scaling up production for biologic drug processes and pass PMDA inspections in Japan
- Collaborate with Taiwan's National Health Insurance system to obtain hospital contracts and expand the use of medications beyond Panco Healthcare
- Continue to protect the patented new drug BESREMi® with the most basic global patent protections, be involved in the R&D process of PharmaEssentia, and continue to file new patent applications
- Establish an international-level research institution to expand the breadth and depth of new drugs that can be developed, and apply for intellectual property patents in a timely manner

Medium-term Targets for 2024-2026

- Ropeg
  - Obtain regulatory approval for the treatment of polycythemia vera (PV) in Southeast Asian and Central/South American countries
  - Obtain regulatory approval for the treatment of essential thrombocythemia (ET) after completing Phase 3 clinical trials in the United States, Taiwan, China, Japan, and South Korea
- Continue to strengthen drug life cycle management by continuously planning and applying for patents related to the substance and methods of the new drug, expanding exploration of new drug usage, collaborating with academic and research institutions in various countries, and enhancing social impact on the local biotech and biopharmaceutical industry with value chain partners
- Promote advocacy for issues related to access to medicine and collaborate fully with Panco Healthcare and subsidiaries to support the Group's new drug market launch process

Long-term Targets (2026 and beyond)

- Accelerate the application for drug approvals in each country, and integrate the prevalence of indications for the company's new drugs in developing countries for people with low to middle income into drug pricing strategies based on reasonable and fair pricing principles, while considering patients' ability to pay for the drug
- Ropeg
  - Obtain marketing authorization for the treatment of polycythemia vera (PV) in Eastern Europe, Central Asia, and Africa
  - Obtain marketing authorization for the treatment of essential thrombocythemia (ET) in Southeast Asia, Central and South America, Eastern Europe, Central Asia, and Africa
- Responsible and transparent intellectual property management
- When conducting patent layout, the company will gradually promote the use of drugs in low-income countries and developing countries based on the expansion of access to medicine in major industrialized countries, to ensure that the treatment needs of patients worldwide are met through licensing and external authorization as well as clinical trials and sales after launch conducted around the world

Evaluation of Management Policy

Management Evaluation Mechanism

- Rigorously comply with the laws and relevant regulations involved in the product cycle from research and development, production to sales
- Conduct drug supply, pricing, and international marketing in an ethical and responsible manner in accordance with internal policy

2022 Evaluation Results

- BESREMi® has obtained licenses in 38 countries and is expected to obtain a license in Japan in the first quarter of 2023.
- The board of directors has approved the drafting of a distribution and licensing agreement for Ropeg in Latin American with an international pharmaceutical company.
- Ropeg has been included in the reimbursement program of the largest hospital chain in the United States, the Kaiser Permanente.
- The Macau Health Bureau has granted approval for the import of Ropeg as a "pre-approved imported drug".
- The American NCCN treatment guidelines have listed BESREMi® as a treatment option for adult patients with polycythemia vera (PV).
- The Compassionate Use Program has benefited a total of 40 patients worldwide.
- A special import program for myeloproliferative neoplasms (MPNs) was executed in Hong Kong and Singapore.

3,800+

Over 3,800 patients worldwide have used BESREMi®

40

Patients who benefit from compassionate use

Key Strategies and Actions on Access to Medicine

SASB HC-BP-240a.1 / 000.A

To meet the medical needs of patients with rare diseases around the world, not only does PharmaEssentia address key issues at each stage of the value chain, but we also follow the 2022 Access to Medicine Index framework to develop our strategies and policies as well as take concrete actions to promote the positive impact of drug repurposing.

Corporate Purpose and Strategy

To solve the pain of patients and promote the health and well-being of all mankind with our new drug products.

Core Vision and Commitments

Improve Accessibility	Provide drugs that can treat disease needs and supply them through legal and safe channels.
Ensure Affordability	Responsible, reasonable, and fair pricing mechanism.
Enhance Availability	Assist economically disadvantaged countries' patients in accessing the required drugs and reducing accessibility gaps.

Strategy and Accessibility Plan

Accessibility Governance

Access to medicine governance closely integrated with business strategies.
Promote access to medicine by the board of directors and senior management teams of subsidiaries.

Meet the access to medicine needs of vulnerable groups.
Focus on the medical needs of economically or resource-poor patients, and provide assistance in resolving medical burdens.

500+

Sponsoring underprivileged group patients to use BESREMi®

For Patients

Ensure access to medicine support for patients and eliminate economic barriers to using BESREMi®

For Healthcare Institutions

Accelerate patient treatment progress by providing support programs or other channels to prescribe BESREMi®

Value Chain	Issues	Strategy	Scope and Market	Impact	Correspond SDGs
New Drug Development	Early-stage research	Continuously develop innovative drugs	• Create value through innovation and improvement of existing drugs to reduce the risk of developing new drugs • Develop diverse products effectively using technology platforms	• Active investment in early R&D with NTD1.43 billion spent and over 120 R&D clinical staff globally	
	Intellectual Property Management	Actively collaborate with academia and industry for research	• Engage in industry-academia collaborations with pharmaceutical companies outside of Taiwan • Patent application considerations for access to drugs that are urgently needed in developing countries	• Accelerated clinical trials and market launch by licensing in and out • 89 effective patent certifications	
Clinical Development	Clinical Trials	Conduct global clinical trials	Conduct multi-country and multi-center clinical trials following relevant laws, regulations, and ethical guidelines	• Conducted over 20 clinical trials for the approval and prescription of new drugs, benefiting over 850 clinical patients	
	Compassionate Use	Provide stable and timely supply of drugs	Provide timely medical assistance to patients with serious or life-threatening diseases who cannot participate in clinical trials	• Continuously benefiting 40 people worldwide, improving medical access for vulnerable groups	
Production and Manufacturing	Product Quality	Produce and manufacture products in a strict and legal manner	• Production and manufacturing processes are approved and inspected according to international standards • GMP certification has been obtained from the FDA, EMA, TFDA, MFDS, and other regulatory bodies	• Passed Japan's PMDA plant inspection to ensure the safety of the production process and drug safety	
	Transport and Supply	Real-time stable drug supply	• Establish a secure and stable drug supply chain in Taiwan and globally • Develop international import/export and transportation procedures that meet PIC/S GDP requirements.	• Regularly reviewing and evaluating the execution of injection filling, logistics, and supply chain • In 2022, BESREMi® product shipments grew by 2.7 times compared to the previous year	
Drug Registration	Access Program	Actively obtain multiple national drug approvals	• Establish marketing task forces in multiple countries and strategic alliances with external partners • Plan short and medium-term drug approval applications around the world	• BESREMi® has obtained approval from more than 38 countries • Obtained the "pre-import license for imported drugs" for Ropeg from the Macau Pharmacology Administration • Obtained NHI pricing in Taiwan, benefiting more local patients	

Value Chain	Issues	Strategy	Scope and Market	Impact	Correspond SDGs
Marketing and Sales	Academic Exchange	Demonstrate medical value	• Collaborate with partners to expand the social impact of local biopharmaceutical industries • Promote access to medical initiatives and sponsor related organizations and activities	• Assisted in establishing the first MPN treatment center in Taiwan and the Taiwan Myeloproliferative Neoplasm Care Association • Provided support for five major North American patient-related group activities	3, 17
	Fair Pricing	Witness the economic value of products	Assess the value of products in different countries' medical and economic systems based on pharmacoeconomics and health technology assessments (HTAs)	• Achieved legitimate and sustainable pricing strategies • BESREMi® has been included in the NCCN in the United States and the ELN guideline in Europe	3
	Patient Support	Provide resources to remove barriers	Host multiple health education activities to enhance patient awareness of disease treatment and support patient support programs to remove medical barriers	• Taiwan MPN iCare Program • The patient support SOURCE Program in the United States • The Patient Power program in the United States, patient advocacy groups and education activities for MPN advocacy and education, and the MPN Research Foundation's clinical trial search engine	1, 3
	Medical Contribution	Reduce disparities in medical use	Provide medicine to patients with MPN through various channels and sponsor medication for disadvantaged patient groups	• Over 3,800 patients have been treated with BESREMi® • The medicine has been provided in 20 hospitals in Taiwan to support local needs • Sponsored BESREMi® for more than 500 disadvantaged patients in the United States, Taiwan, South Korea, Singapore, and other places	1, 3
Patient Safety	Pharmacovigilance	Multi-channel pharmacovigilance	• Establish a mailbox for reporting adverse drug reactions and a market notification management center • Establish a database to ensure local clinical data generation and quality	• Mailbox for reports ▶ 5.4Patient Safety Management • Regular publication of PSUR reports for real-time monitoring of drug safety	3, 17
	Product Tracking	High-tech serialization of products	Implement drug serialization to comply with the US Drug Supply Chain Security Act regulations	• The US drug packaging plant we have partnered with implements drug packaging and serialization correctly • Establishment of a drug traceability system for continuous monitoring of drug flow and usage records	3
	Product Recall	Recall management mechanism	Establish a comprehensive product traceability mechanism	• No drug recall incidents occurred in 2022 • No product-related deaths were reported to the FDA in 2022	3

4.2 Globalizing Local Capacity Building and Access to Healthcare

Material Topic

PharmaEssentia adheres to a patient-centered approach, and plans various actions and support programs to implement access to medicine and meet patients' health-related needs. Through activities such as health education, financial and medical support, academic exchanges and more, we provide patients with a comprehensive and integrated plan that covers every stage of their treatment.

Management Policy

Internal Policies

- HCP& HCO Interaction Policy
- Promotional Material Policy

External Guidelines

- World Health Organization (WHO)
- International Research-Based Pharmaceutical Manufacturers Association (IRPMA)
- Pharmaceutical Research and Manufacturers of America (PhRMA)
- National Council for Prescription Drug Programs (NCPDP)

Management Commitment

Implement various action plans related to patient health

- Ensure complete collection and timely reporting of safety data through multiple channels for adverse drug events in compliance with laws and regulations
- Ensure that all patients using PharmaEssentia's drugs have clear knowledge of the disease's characteristics, the effects of the drug, and treatment outcomes
- Promote disease-related knowledge as well as provide treatment consultation and referral services
- Provide health care and follow-up for patients during the treatment period
- Promote local medical care and social participation to expand PharmaEssentia's external social influence

Responsibility Unit

- Marketing departments and medical affairs teams at PharmaEssentia Headquarters and our subsidiaries
- ECCS – Access to Medicine team and Product Quality and Patient Safety Taskforce

Input Resource

- Taiwan Patient Education Support Program, assisting the establishment of the first MPN treatment center and the Taiwan Myeloproliferative Neoplasms Association (TMPNA)
- An interactive patient education platform "MPN iCare Program" in Taiwan, providing educational information to patients and their families
- Providing Besremi® to medical institutions participating in clinical trials through the PharmaEssentia Can Help project
- Commissioning a professional management consulting company to set up a toll-free hotline for a medical information consultation center, notifying those in departments relevant to hospital and factory pharmacovigilance who are in charge of monitoring and quality assurance (QA). The email address for receiving drug safety reports has been announced on the company's website in Taiwan
- Establishing an electronic mailbox representing PharmaEssentia in collaboration with a drug safety research institution to receive reports on drug safety from countries where the drug is marketed

Targets

Short-term Targets for 2023

- Implement MPN education program: Increase awareness of MPN and provide education to help patients understand the disease or get proper diagnosis and treatment, such as sponsoring the MPN Asia International Symposium and American Society of Hematology (ASH)
- Continue to promote the patient support SOURCE program to serve US patients
- Participate in local medical, educational and academic-related seminars and events to build positive connections with the local community
- Continue to collaborate with TMPNA to hold patient education activities
- Collaborate with the Chiayi Chang Gung Memorial Hospital to provide assistance for occasional health education activities
- Provide the latest health information through MPN iCARE
- Initiate clinical research and development of BESREMi® in the field of tumors

Medium-term Targets for 2024-2026

- Continuously promote various BESREMi®/Pacritinib® related health education activities with patient groups from different countries to give them accurate information about disease treatment
- Continuously strengthen diverse activities and stakeholder negotiations, and expand to more local medical organizations
- Promote other BESREMi®-related patient support programs in countries where BESREMi® is already on the market to comprehensively expand global coverage
- Accelerate research and development of BESREMi® for other MPN-related diseased, and expand BESREMi® to other disease treatments
- Monitor related advocacy issues around the world, and examine available resources and benefits
- Assist Taiwanese patient groups to connect with patient groups from all over the world, and share their experiences in treatment

Long-term Targets (2026 and beyond)

- Expand BESREMi® to all countries where it is on the market, and establish a system for giving medical care to those need it. With comprehensive care for those with rare diseases and community participation, we will enhance the company's positive contributions and influence on the global medical system for treating rare diseases and for society in general
- Assist Taiwanese patient groups to connect with international patient groups and share treatment experiences

Management Evaluation Mechanism

- Evaluation of the budget goals and execution of various marketing and seminar activities by the marketing departments and medical affairs task forces at PharmaEssentia Headquarters and the subsidiaries

2022 Evaluation Results

- Continuation of the operation of Taiwan's first MPN treatment center in collaboration with Chiayi Chang Gung Memorial Hospital
- Continuation of the operation of the MPN iCare platform for patient education and interaction in Taiwan
- Panco Healthcare organized four educational events and invested more than 28+ person-times with a total participation of nearly 800 people. One such session was to increase physicians' knowledge of MPN and the effectiveness of long-acting interferon therapy
- The "PharmaEssentia Can Help" project provides BESREMi®
- Initiated the patient support SOURCE Program in the United States to serve American patients
- Assisted the Taiwan Myeloproliferative Neoplasms Association (TMPNA) in establishing and held the first national patient education seminar in collaboration with Chiayi Chang Gung Memorial Hospital's MPN center
- Organized special blood disease education events with a total of 40 participants
- Initiated the patient support SOURCE Program in the United States to serve American patients
- Sponsored the MPN Asia International Medical Symposium regularly each year, but was suspended due to the pandemic. The plan is to continue hosting physical conferences in Taiwan in 2023

Value Chain Empowerment Program

GRI 413-1/413-2

PharmaEssentia's value chain empowerment program focuses on key activities and training programs for each stage of the value chain. The company has not assessed any negative impact of its operations on the local community. To improve access to medicine for patients in need of financial assistance, the company has developed initiatives. For patients already using BESREMi, a series of health promotion activities have been planned to extend their medication duration and improve overall treatment outcomes.

Capacity building programs related to the value chain

Research and Manufacturing

- **PharmaEssentia Innovation Research Center:**
  Establish an innovation research center (PIRC) in Boston, Massachusetts, recruiting 25 researchers to develop a more diverse product line. Artificial intelligence and machine learning will be combined to provide information for new research targets and indications, expanding the field of disease research
- **New drug development strategy - Taiwan Biotech Academy in-person and online seminars:**
  The course shares the process that takes place from new drug development to approval and marketing, development strategy, and practical problems that need to be solved. It is also hoped that after the course can stimulated more ideas for R&D ideas and pass on experiences of successful development of new drugs in Taiwan
- **2022 summer internship program:**
  Combining the advantages of schools and industry practices, students will receive 1-2 months of project lectures and training before being assigned to related departments such as R&D or clinic testing for practical operations, which helps to cultivate professional talents for the biopharmaceutical industry from the source

Drug licenses application process

- **Regulatory considerations and experience-sharing on the use of overseas data in the development of new drugs in Taiwan :**
  Development of new drugs in Taiwan targets the global market, and is based on R&D strategy and international collaboration; pivotal trials are often conducted overseas. This session will be about strategies on using overseas data for approval of new drugs in Taiwan

Medical education and outreach

- **Assistance in the establishment of the Taiwan Myeloproliferative Neoplasms Awareness Association (TMPNA) and the organization of health education events in collaboration with the MPN Center at Chiayi Chang Gung Memorial Hospital:**
  Aimed at enhancing patient awareness and understanding of the disease and its treatment, as well as reducing information gap between patients and healthcare providers

- **Cooperation and Academic Exchange in Taiwan:**
  Collaboration with the Taiwan Hematology Society and the Young Pharmacists Association to hold health education events aimed at enhancing physician knowledge of MPN and the efficacy of interferon treatment, with a cumulative attendance of over 700
- **Medical education programs in the US:**
  Sponsorship of medical education programs by the US subsidiary, including conferences and on-demand educational content
- **Participation in the Patient Power Program in the US:**
  Aimed at providing support to PV patients and promoting the correct information about the disease's treatment through online digital content, with over 3,200 viewings recorded. The project not only facilitates dialogue between patients and physicians, but also enhances public understanding of the disease
- **Assistance to MPN patient groups and international education events:**
  Support for over 8 events for 5 major North American patient groups, including the MPN Research Foundation, Canadian MPN Research Foundation, MPN Advocacy & Education International, Patient Power, and PV Reporter. These events include both online events and 2 in-person events whose aim is to enhance patient knowledge and facilitate the exchange of opinions, as well as promote diagnosis of the disease, treatment goals, and related information, while also increasing awareness of the medical benefits of BESREMi among the MPN community

MPN RESEARCH FOUNDATION

- **The MPN Research Foundation and Clinical Trial Search Engine in US:**
  Helped establish the MPNRF clinical trial search tool, which provides a good matchmaking channel for MPN patients and their physicians. The search engine helps MPN patients and their physicians find suitable clinical trials to initiate subsequent treatment

Supply Chain Management

- **Supply Chain and Healthcare System Enhancement:**
  Collaborate with external CMO companies that have obtained qualified certifications to complete the final filling of BESREMi and sell it directly to local markets, ensuring that all patients can access the medication in a timely manner

Pharmacovigilance

- **Establishment of Special Task Forces:**
  PharmaEssentia has established an active drug surveillance task force with a global presence, assigning dedicated personnel in each subsidiary region and collaborating with external partners to monitor drug use safety

Data Generation and Quality Improvement

- **Data Maintenance:**
  Establish dedicated medical affairs task forces and quality management task forces to handle issues related to clinical data collection, ensuring the generation and quality improvement of clinical data

Finance and Medical Assistance

- **Compassionate Use:**
  Provide medical solutions to patients with severe or immediately life-threatening diseases who do not qualify for clinical trials. After internal review, compliance with regulations and ethics committees, eligible patients can apply to use experimental new drugs that have been researched but not yet approved for marketing worldwide, and start treatment courses. Currently, 40 patients around the world continue to receive medical assistance through the Compassionate Use program.
- SOURCE Program:
  Applicable to patients using BESREMi as a prescription drug, it provides comprehensive support, including insurance information, medication-related guidance, and the process of the continued prescription of the medication. It helps provide more convenience for patients who cannot access the medication due to insurance payment delays or insufficient insurance coverage, as well as free medication for patients without insurance or has insufficient insurance coverage, aiming to provide a stable supply of Pharmigene drugs and reduce financial burden.

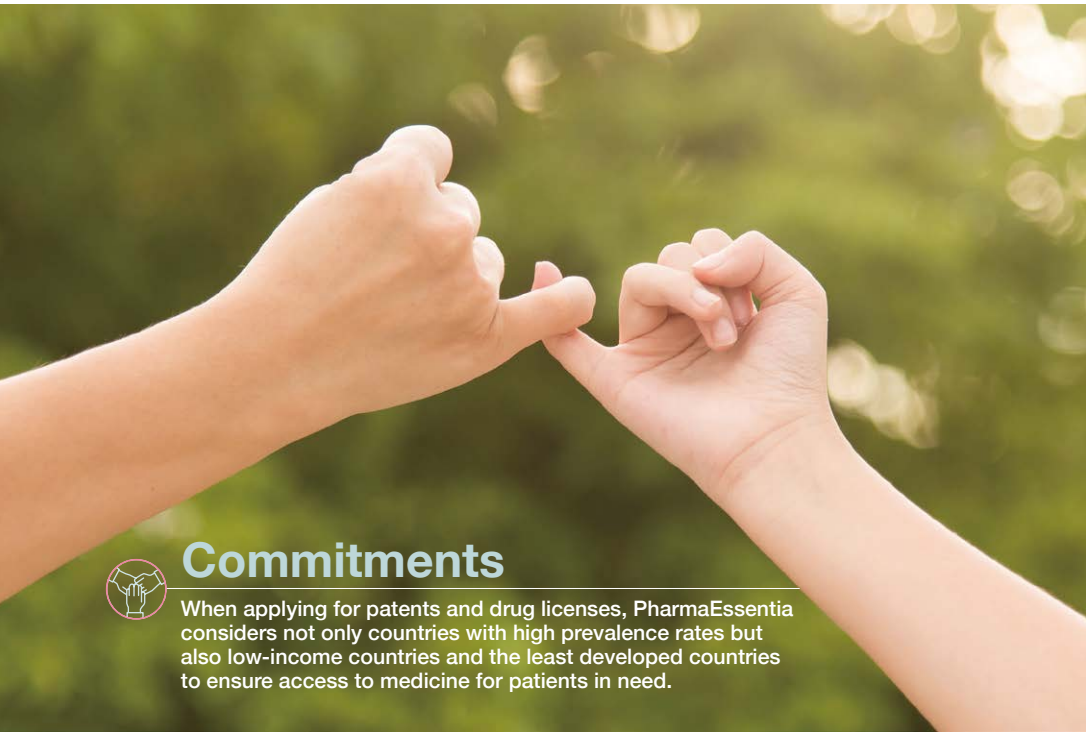
PharmaEssentia SOURCE
Your resource for patient support & education

Cross-Value Chain

- National Biotechnology Park Investment and Talent and Technology Matchmaking Conference:
  Participate in jointly organizing the National Biotechnology Research Park Investment and Talent and Technology Matchmaking Conference, including trend forums, investment matchmaking meetings, talent matchmaking, and biomedical startup exhibitions, etc., as well provide an integrated resource platform to assist biotech startup talents and task forces in accelerating the process of productization
- 2022 Taiwan Biopharmaceutical Industry Analyst Training Course:
  The course aims to cultivate professional new drug analysts, and Pharmigene was invited to jointly teach the course, with the aim of establishing a professional knowledge exchange platform for domestic finance and biotechnology industries and cultivating students as professionals in the field of biomedicine.

Intellectual Property Sharing Promotes Access to Medicine

Based on the differences in medication adherence and demand, PharmaEssentia adjusts its operational strategies when entering local markets where it has obtained patents. To prevent the penetration of intellectual property rights in the least developed countries and the reluctance of the international biopharmaceutical industry towards the right to access to medicines, not only are the countries where patent applications for important new drugs are filed investigated for the global prevalence of the new drug indications but special considerations are given to developing countries with high total demand and relatively low national income, as well as low-income countries and least developed countries, to meet the needs of patients in less advanced countries and their access to medicine. When faced with a trade-off between patent rights and humanitarian aid, medical needs are given priority, and patented new drugs are made available to patients at affordable prices and through convenient channels.



Commitments

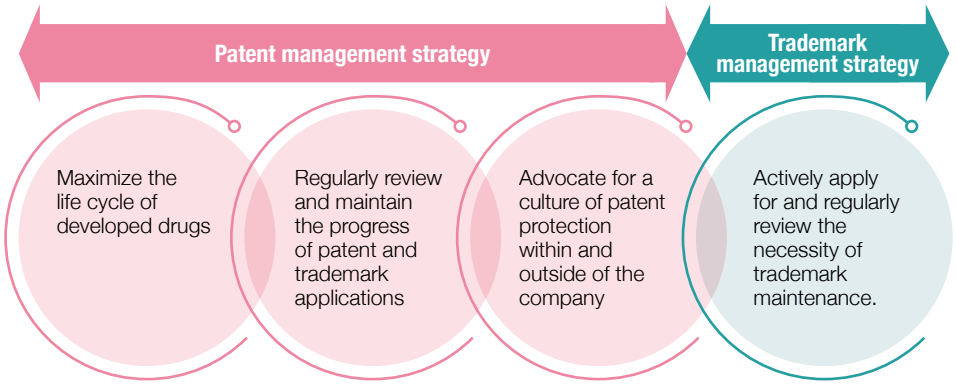
When applying for patents and drug licenses, PharmaEssentia considers not only countries with high prevalence rates but also low-income countries and the least developed countries to ensure access to medicine for patients in need.

Well-Established Patent Management and Application Policies

89	202	112	29
Effective patents	Valid patents cover 202 sovereign states	Effective registered trademarks	Valid registered trademarks cover 29 countries/regions

PharmaEssentia has formulated the "Intellectual Property Management and Utilization Measures" to regulate intangible assets such as patents, trademarks, copyrights, and trade secrets. The measures are closely linked to R&D cycle regulations and asset acquisition or disposal procedures to ensure the protection of the company's intellectual property and its widespread application and registration in the world. This allows more people in need to be informed about and have the opportunity to use new drugs.

PharmaEssentia has a strong global presence in terms of R&D patents and has proactively implemented a global intellectual property strategy for obtaining multiple country-specific drug licenses. As of 2022, the company has obtained a total of 89 (an increase of 6) valid patents in 202 sovereign countries. In addition, the company has registered 112 trademarks in 29 countries/regions, with 8 new certificates in 2022. The Intellectual Property Department reports annually to the board of directors on the implementation of the intellectual property management plan and includes the management of intellectual property in the internal control procedures, in accordance with the Corporate Governance Guidelines for Listed and OTC Companies, to ensure the protection of the company's intellectual property rights.



Technology Licensing can Maximize the Value of Intellectual Property

To accelerate the promotion of access to medicine, the company has collaborated with external partners to license its patents to others. Additionally, the company has also collaborated with pharmaceutical companies outside of Taiwan to obtain licensing for patents and technology, enabling further development and commercialization. In the future, we plan to establish a systematic management mechanism for external collaboration and technology transfer, maximizing the social value of our intellectual property management.

Out-licensing

AOP Orphan has been granted a license to market Ropeg for the treatment of rare blood disorders in Europe, the Middle East, and the Commonwealth of Independent States. In 2019, the drug received European Union marketing approval, and the company has been promoting its marketing and sales in the region.

Licensing In

- Licensing of Tirbanibulin (KX 01) from Athenex Inc. in the regions of Taiwan, Singapore, China, Malaysia, Japan, and Korea, with indications expanded to include skin cancer and all dermatologic indications.
- Exclusive licensing of the cancer drug Oraxol® from Athenex Inc. for sales in Taiwan, Singapore, and Vietnam, with ongoing efforts to obtain market approval in the US, Taiwan, Singapore, and Vietnam.
- Collaborating with licensing partner Axis Therapeutics on the technology transfer and clinical trials of a new TCRT-ESO-A2 cell therapy product for solid tumor treatment.

The company has obtained the exclusive rights to sell Tirbanibulin in certain regions.

The company has obtained the exclusive rights to sell Oraxol® in certain regions.

Short-to-Medium-Term Drug License Registration Plan

The company has successfully obtained licenses for Ropeg, a product used to treat rare blood disorders, for the treatment of polycythemia vera (PV) in over 38 countries, including the European Union, Israel, Taiwan, South Korea, and the United States, and continues to submit applications for PV licenses to other regulatory authorities. Phase III clinical trials for essential thrombocythemia (ET) are also underway in various countries, and the trial results will support the ET licensing plan, benefiting more patient communities suffering from MPN-related diseases.

2023

- **Ropeg for treatment of polycythemia vera (PV):** Obtained drug approvals in Japan, Malaysia, Hong Kong, Singapore, and Macau
- **Ropeg for treatment of essential thrombocythemia (ET):** Completed phase 3 clinical trials in the United States, Taiwan, China, Japan, and South Korea

2024 -2026

- **Ropeg for treatment of polycythemia vera (PV):** Obtained drug approvals in Southeast Asia and Central/South America countries
- **Ropeg for treatment of essential thrombocythemia (ET):** Obtained drug approvals and market authorization in multiple countries after completing phase 3 clinical trials in Southeast Asia, Central/South America, Eastern Europe, Central Asia, and Africa

2027

- **Ropeg for treatment of polycythemia vera (PV):** Obtained drug approvals in Eastern Europe, Central Asia, and Africa
- **Ropeg for treatment of essential thrombocythemia (ET):** Obtained drug approvals and market authorization in Southeast Asia, Central/South America, Eastern Europe, Central Asia, and Africa

Global Marketing and Market Promotion

To improve services for local patients and comply with local market regulations, in addition to AOP Orphan's responsibility for the European, Middle Eastern, and CIS markets, PharmaEssentia has deployed subsidiaries in the Asia-Pacific region and throughout the United States, and established professional marketing task forces to accelerate local market sales. In 2022, no complaints were received regarding sales activities from regulatory authorities or voluntary complaints.

European Market

30+ countries

Providing nearly a thousand patients in over 30 countries in Europe with access to treatment

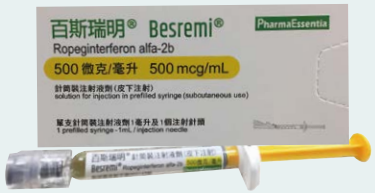
BESREMi® sold in Europe

Available in the European Union since 2019, the drug is currently sold in more than 30 countries in Europe, with nearly 1,000 patients using the drug. In 2022, sales in Europe continued to grow and tripled from the previous year, spreading the positive influence brought by the access to the medicine.

Taiwan and Asia-Pacific Market

Sales and distribution in Asia-Pacific

Expanding sales and distribution in the Asia-Pacific region with Taiwan at the center



百斯瑞明®sold in Taiwan

With Taiwan as its central base, Ropeg has established professional marketing task forces in South Korea and Japan to devise marketing strategies that increase the drug's visibility and sales, ultimately providing better clinical outcomes for patients. In 2020, Ropeg's BESREMi® was approved by Taiwan's Food and Drug Administration for the treatment of polycythemia vera (PV), making it an official medication covered by Taiwan's National Health Insurance. In 2021, BESREMi® received its second drug license in Asia from South Korea's MFDS, and in 2022, it was also approved for PV treatment in Macau. As of early 2023, Ropeg has successfully passed an inspection by Japan's PMDA, and plans to obtain regulatory approvals in other Asia-Pacific regions such as China, Hong Kong, Singapore, Malaysia, and Vietnam are ongoing.

US Market

Expanding the US market penetration

Expanding market penetration and insurance coverage to benefit more patients

BESREMi® sold in the U.S.

Ropeg has been expanding its market penetration in the US and increasing insurance coverage to benefit more patients since BESREMi® was granted approval in 2021. The drug has received enthusiastic responses from US physicians and patient communities, and the US subsidiary task force has gradually expanded market penetration and increased medical insurance coverage to reach 100% and commercial insurance coverage to 85%. Promotion in leading myeloproliferative neoplasms (MPN) medical centers has exceeded 80%. To address the challenges of the US supply chain and market marketing, the task force regularly reviews the execution of injection filling, logistics, and supply chain, and actively discusses process and process optimization solutions with partners to ensure the drug's logistics and supply chain are safe and stable, and to continue expanding the US business market.

4.3 Tackling Medical Costs

Improving Product Medical Efficiency

GRI 416-1 | SASB HC-BP-240a.1

Improving medical efficiency by providing innovative drugs that contribute to healthcare is a goal that PharmaEssentia strives to achieve. We have completed a comprehensive economic evaluation, including cost-effectiveness, cost-utility, and cost-benefit analysis, for BESREMi® upon its launch in Europe, to analyze the product's impact on medical costs. BESREMi® has achieved a coverage rate of 100% and has already been included in the European LeukemiaNet (ELN) guidelines in 2021. As for the US market, although BESREMi® has not yet been evaluated by any Health Technology Assessment (HTA) organization, it has been included in the National Comprehensive Cancer Network (NCCN) guidelines, a global authority on cancer clinical treatment standards. BESREMi® can be used as a suggested treatment for polycythemia vera (PV) in adults, regardless of previous treatment or high-risk population status. The guidelines also include details on recommendations, providing comprehensive advice for medical practitioners on diagnosis, treatment, and patient management. We are actively collecting relevant data as the basis for future medical technology evaluations to certify the medical value of BESREMi®.

*Note 1: The European LeukemiaNet (ELN) is a platform that includes 44 countries, 220 institutions, and over 1000 researchers and clinical professionals. Its goal is to integrate 120 pioneering leukemia clinical trial groups in Europe, as well as relevant services and resources provided by agencies, industries and enterprises, to jointly promote the importance of leukemia treatment.

*Note 2: The National Comprehensive Cancer Network (NCCN) is a non-profit organization in the United States that is composed of 31 cancer centers, most of which are designated by the National Cancer Institute as comprehensive cancer centers. BESREMi® has been included in the NCCN guidelines, which provide comprehensive recommendations for the diagnosis, treatment, and management of patients with polycythemia vera (PV).

Fair and Reasonable Pricing

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

BESREMi® is the first interferon approved by the US FDA for the treatment of polycythemia vera (PV), a rare blood disorder, and is eligible for orphan drug licenses. It has also been included in the NCCN guidelines for PV treatment. Due to the difficulty in developing orphan drugs, significant research and financial resources are required. To realize our pursuit of expanding access to medicine, we are still willing to invest substantial resources to ensure that patients who need these drugs can access the drugs when they are first approved for market.

When pricing our drugs, patient interests are our top priority. We take into consideration various factors, such as the investment in research and development, the number of patients who would benefit from the treatment during the patent period, the pricing of competing products, expected profits, third-party insurance claims, and health insurance coverage provided by regulatory authorities. We then use these factors to determine a fair price, taking into account the ability of different countries to afford the medication, their level of economic development, and the cost of manufacturing the drug. We also refer to the WHO Guideline on Country Pharmaceutical Pricing Policies published by the World Health Organization to determine reasonable and fair drug prices.

1 Tiered pricing

The sales regions are categorized based on the level of economic development of each country, and the drug prices are set accordingly.

3.a Drug prices are approved by national insurance agencies

In the Asian region (using Taiwan as an example)

Drug pricing is based on the principles of the National Health Insurance drug payment pricing system, taking into account clinical opinions, efficacy evidence, current treatment costs, national budget criteria for reimbursement, and other factors. A payment standard, drug price plan, 5-year budget, financial impact analysis, and pharmacoeconomic analysis are proposed to develop a pricing strategy for drugs that benefit the most patients.

STEP 1 → STEP 2 → STEP 3.a → STEP 3.b

2 Determine whether national insurance covers the drug

If the sales region has a national unified medical insurance coverage, then move on to step 3.a for pricing evaluation. If not, proceed to step 3.b for the next pricing evaluation stage.

Note: It is a special qualification set by drug regulatory agencies in advanced countries such as European countries and the United States to encourage pharmaceutical companies to develop drugs for rare and difficult-to-treat diseases. It has advantages such as reducing the size of clinical trials and fast-tracked reviews, and the drug is granted market exclusivity for 10 years in Europe and 7 years in the United States from the approval date, to protect the pharmaceutical company's patent rights.

3.b Private medical insurance pricing strategy

- **Affordability:** Price set according to each country's affordability
- **Economic data:** Referring to each country's gross domestic product, private medical insurance expenses, and prices of drugs with similar indications.
- **Product value analysis:** Using pharmacoeconomic analysis, health technology assessment (HTA) and other methods.
- **Medical contribution evaluation:** Analyzing the benefits and risks of the product in various countries' healthcare and economic systems.

Europe and the United States

BESREMi®'s marketing and exclusive sales rights in the European market are licensed to AOP Orphan, and the "value-based pricing method" is used to set the drug price. The 2022 list price of BESREMi® in the United States is $7,507.

4.4 Contributions Throughout a Patient's Treatment

PharmaEssentia not only stops at the development of new drugs but takes concrete action to improve patient care throughout their treatment.

Patient education

As polycythemia vera (PV) is a hematopoietic stem cell mutation and is basically unpreventable, PharmaEssentia conducts various advocacy activities and collaborates with partners on programs to raise awareness and educate people on the disease as well as corresponding treatment methods.

- **Taiwan Myeloproliferative Neoplasms Association (TMPNA):**
  PharmaEssentia helped establish the TMPNA to gather information about the patients' concerns about treatment.
- **MPN iCare:**
  As one of Taiwan's main MPN-related disease information platforms, MPN iCare shares information about new treatments and advice on care.

Disease Treatment

- **National Health Insurance coverage in Taiwan:**
  BESREMi® has been officially included in the National Health Insurance coverage in Taiwan, benefiting more patients who need treatment.
- **Patient support activities in the United States:**
  Yung Shin offers many patient support activities related to treatment, which can be found on BESREMi.com and SOURCE Program.

End-of-life care

- **Taiwan Case Management Care:**
  Follow-up on the treatment and subsequent medication response of individual patients through a project-based approach.
- **US Medication Adherence Tracking:**
  If patients stop taking the medication due to adverse drug reactions, PharmaEssentia can receive cessation information through specialized pharmacy databases and record it in the drug monitoring program for subsequent follow-up.

Disease Diagnosis

- **MPN Center at Chiayi Chang Gung Memorial Hospital:**
  Both PharmaEssentia and Chiayi Chang Gung Memorial Hospital have been deeply involved in the field of MPN for many years. In addition to promoting the importance of disease treatment through the center, they also conduct genetic mutation testing through clinical research to improve disease diagnosis accuracy and techniques.
- **WHAT'S NEXT PV:**
  As a major health education website in the United States, it allows the public to learn about the disease and recognize risks. By leveraging the power of the platform to connect the patient community, the goal is to provide comprehensive physical, mental and spiritual support for each patient in the treatment process, and to promote smooth communication with medical practioners. Clinical education for healthcare professionals is expected to be added in 2023, which will help with accurate diagnosis and judgment of PV symptoms in the future.

4.5 Ethical Pharmaceutical Marketing

Marketing Ethics Policy and Commitment

GRI 417-3 | HC-BP-270a.2 / 510a.2

Our company strictly adheres to all applicable industry regulations and stipulated provisions in marketing and sales, ensuring that all relevant personnel receive appropriate training and comply with ethical standards. All employees of PharmaEssentia who interact with internal staff and healthcare professionals are subject to marketing ethics policies. All activities, marketing materials, and daily operations are subject to review processes based on the following principles:

Principle 1

Prioritize patient healthcare and welfare as the top priority.

Principle 2

Meet the high standards of quality, safety, and efficacy required by regulatory authorities.

Principle 3

Interact with relevant agencies or individuals in an ethical, appropriate, and professional manner. Do not provide or supply any goods or services that may directly or indirectly cause undue influence.

Principle 4

Provide accurate, balanced, and scientifically valid product information.

Principle 5

Ensure that product marketing activities are ethical, correct, and balanced, and avoid any misleading information. Product marketing materials must include a correct assessment of the product's risks and benefits and appropriate usage instructions.

Principle 6

Respect patient privacy and personal information.

Principle 7

Sponsor/support clinical trials or scientific research for the purpose of pursuing new knowledge, enhancing patient benefits, and promoting the advancement of medical technology. Maintain transparency in human clinical trials sponsored by the industry.

The US subsidiary currently uses policy manuals and PhRMA industry standards as core guiding principles for marketing and sales. In 2022, there were no violations of any marketing and communications-related regulations, and the company adhered to ethical pharmaceutical marketing practices.

5

Product Quality and Safety

Summary of 2022

PharmaEssentia, with Taiwan as its base, has established a comprehensive operating model that covers everything from innovative inventions, experimental development, production and manufacturing, to obtaining drug licenses, marketing in international markets, and providing innovative and reliable medication to improve patient health and contribute to drug safety. For upstream suppliers of raw materials, such as our external or channel partners, as well as downstream agencies and patients, we rigorously follow external regulations and internal quality system management to maintain a high-quality and stable supply to meet the needs of patients so as to give them access to medicine.

Material Topic

- New Drug Development and Innovation
- Sustainable Supply Chain Management
- Good Manufacturing Practices and Product Safety

Highlights Performance

NT$1.43 billion
R&D spending grew by 12.6% and accounted for 49.6% of sales revenue

95.7%
Over 90% of local procurement suppliers for 3 consecutive years

100%
Completion of signing quality agreements for 4 consecutive years
Completion of supplier internal assessments for 4 consecutive years

NT$32.91 million
ET clinical trial received a subsidy from the Ministry of Economic Affairs

83.3%
Proportion of New Local suppliers in 2022

100%
Completion rate of pharmacovigilance training for new employees

PIRC
Establishing an innovative research center in the US

3rd
The third PSUR for BESREMi® has launched

0 Case
No incidents of adverse drug recall in 2022

PMDA
Passed the Japan PMDA inspection (new)

289 New Patients
New P1101 clinical trial participants added in 2022, accumulated to over 850 beneficiaries

135,179 training hours
Conducted a total of 265 GMP/GDP-related training sessions

5.1 New Drug Development and Innovation

Material Topic

Since its establishment, PharmaEssentia has been dedicated to the research and development of new drugs and drug improvement, with the goal of addressing unmet medical needs. We have independently developed the PEGylation technology platform to improve existing drugs and successfully developed a new generation of the PEGylated interferon alpha drug, Ropeg, which has the characteristic of being applicable to multiple indications. It can not only be used to treat indications related to blood diseases, but also tumors and viral infections, creating significant value for patients with solid results.

NT$1.43 billion

R&D spending grew by 12.6% and accounted for 49.6% of sales revenue

GRI 3-3

Management Policy

Internal Policies

- Our company follows internal control research and development cycle regulations, which cover intellectual property patent applications and related measures from early-stage basic research, product technology research, pre-clinical experiments, medium-term drug trial production and phase 1 and 2 human clinical trials, to mature product development and phase 3 human clinical trials. Our goal is to seek new technologies and products with market competitiveness, and explore the development of new drugs for needs that have not yet been met using our own technology
- Internal R&D Control Cycle Regulations and related Management Measures

External Guidelines

- Helsinki Declaration
- Good Clinical Practice Guidelines for clinical trials (ICH-E6-GCP)
- Good Laboratory Practice (GLP) and Good Manufacturing Practice (GMP) guidelines for clinical trials, among other international standards

Management Commitment

We are committed to complying with relevant applicable regulations and focusing on four major disease areas. We aim to innovate new biopharmaceuticals with the most refined technology and of the highest quality, and contribute to improving the health of people worldwide by providing innovative and reliable medications

Accountable Units

- New drug exploration is mainly coordinated by the New Drug R&D Department. The Project Evaluation Taskforce, which includes representatives from funtional teams and senior management executives, is the decision-maker for new drug research. The decisions made in the project review meetings are done so jointly. After establishing the R&D project, the project leader will coordinate the project's progress and complete reports on a regular basis.
- The clinical trial part is managed by the Clinical Operations Department
- ECCS - Access to Medicine team

Input Resource

- In 2022, there were 123 R&D clinical personnel in the global network of PharmaEssentia, with a total R&D expenditure of NT$1.43 billion, a growth of 12.6% compared to last year.
- In the early stages of new projects, in-depth data collection is carried out to understand the clinical progress of competing drugs, evaluate unmet needs and commercial development opportunities in the market, and incorporate the development platform to guide drug development processes
- Rolling summarization and feedback of market dynamics of each project are regularly reported to the management task force in biweekly R&D meetings, enhancing the project task force and management task force's understanding of the market and risk assessment capabilities related to R&D projects. The R&D department actively evaluates the possibility of introducing a drug market database for new cases and encourages colleagues to participate in market evaluation-related education and training.

Targets

Short-term Targets for 2023

- Stabilize the development of ongoing projects or technologies, including Anti-PD-1, PEG-GSF, and TCRT, and gradually enter the application for clinical trial permission stage in 2023
- Collaborate on projects related to cell therapy technology and use imported technology to construct a cell factory. Continuously evaluate new drug development directions and apply for clinical trials of a cell therapy product
- Conduct a multinational, multicenter phase III clinical trial for essential thrombocythemia (ET), which is expected to be completed in the first quarter
- Launch various R&D activities of the PharmaEssentia Innovation Research Center Corporation in the United States

Medium-term Targets for 2024-2026

- Continuously promote the multi-center Ropeg (P1101) phase III clinical trial for essential thrombocythemia (ET) and apply for drug license registration
- Actively carry out the PEGylation project of new target proteins, and apply for clinical trial approval
- Develop a new process technology platform to improve production efficiency, reduce costs, and shorten development time; apply the new process technology platform to a new drug product and apply for a clinical trial

Long-term Targets (2026 and beyond)

- Continuously seek licensing collaboration or permission, and jointly develop or introduce new drug candidates with strategic alliance partners to expand the company's product line
- Accelerate the progress of key clinical trials and product drug license registration in various countries to maximize product benefits
- Establish a platform and procedures for R&D and marketing collaborations to promote cross-departmental communication and enhance the market evaluation capabilities of research and development task forces

Evaluation of Management Policy

Management Evaluation Mechanism

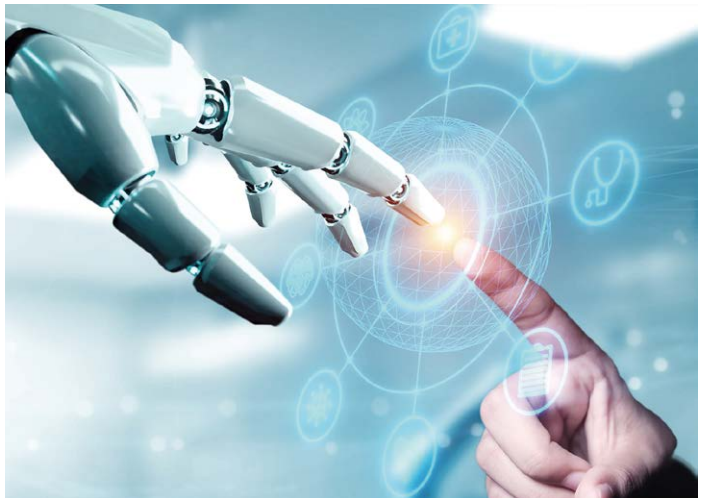
- All R&D projects follow the internal control R&D operation cycle. Every quarter, project progress and execution efficiency management are conducted based on the financial data compiled by the finance department, and project cost control evaluations are conducted every six months. When there are significant R&D achievements or milestones in the project plan, the project task force members will jointly decide whether to continue the project.
- Large-scale projects and annual R&D budgets must be submitted to the board of directors for approval before proceeding with related research and development.
- The auditing unit conducts audits of the R&D cycle management mechanism according to the annual audit plan.
- The Clinical Operations Department reviews the company's clinical trial progress every two weeks at the medical research bi-weekly meeting.

2022 Evaluation Results

- The project task force has regularly evaluated and made decisions regarding various ongoing R&D projects, and the overall management and evaluation has been well-done.
- Results related to Ropeg (P1101)
  - Phase 1 clinical trial recruitment: Clinical trials using this drug followed by anti-PD1 treatment for B or D-type hepatitis have started recruiting subjects
  - Clinical trials at different stages: Clinical trials for the application of this drug in primary thrombocytosis (ET), hepatitis virus infection and tumors are being conducted in 8 countries. The design of phase 3 clinical trials for the treatment of COVID-19 patients using this drug has been significantly modified and approved by the Ministry of Health and Welfare. Preliminary clinical data from the second-phase bridging clinical trial in China for the treatment of polycythemia vera (PV) are available
  - "A+ Enterprise Innovation R&D Program" grant: The "Ropeg (P1101) Treatment of Primary Thrombocythemia (ET) Multinational and Multicenter Phase 3 Clinical Trial Plan" has been fully supported and granted NT$32,918,000 by the Ministry of Economic Affairs
  - Drug Licenses application: An application for market approval for the treatment of PV in Japan has been submitted to the PMDA
- Introducing and developing new drug KX 01 for the treatment of actinic keratosis under authorization from Athenex in the United States
  - Clinical trial: A phase 3 clinical trial has been launched in Japan to meet regulatory requirements for applying for a drug license in Japan
  - Drug licenses application: The drug licenses has obtained marketing authorization in Taiwan
- Establishing the PharmaEssentia Innovation Research Center in the United States

Process Innovation: Creating Value through Innovation - the PEGylation Technology Platform

SASB HC-BP-240a.1



The PEGylation technology platform has been a powerful and core part of R&D at PharmaEssentia since its inception. It is a technology that combines protein drugs with long-chain high molecular weight PEG (polyethylene glycol) to extend the effective concentration time of protein drugs in the human bloodstream. Using this platform technology can significantly reduce R&D costs while improving the tolerability and convenience of the medication. To further expand its R&D innovation capabilities, PharmaEssentia has officially launched various R&D projects through the PharmaEssentia Innovation Research Center (PRIC) in the United States. The projects are expected to combine AI artificial intelligence and machine learning platforms to identify research targets in the early stages of research and reduce development time and costs, accelerating the process of new drug development from research to market.

Myeloproliferative neoplasms (MPNs) are rare chronic blood cancers, and patients with such diseases have significant and unmet medical needs. In the same field of true polycythemia vera (PV), we have used the PEGylation technology platform as a basis for the improvement of existing drugs and have successfully developed a new generation of the PEG long-acting interferon alpha drug, Ropeg, which has shown significant results in the treatment of this disease. Our partner, AOP Orphan, conducted a 7.5-year clinical study using Ropeg to treat PV, and found that more than 60% of patients achieved a complete hematological response, confirming the potential of innovative interferon drugs to benefit patient populations.

The near-term value of the "PEGylation technology platform" for the development of original protein drugs.

Improvement of existing drugs - reducing the risk of developing new drugs

By using the **PEGylation** platform to improve existing drugs, a new generation of PEGylated interferon α drugs has been successfully developed, significantly reducing the risk of new drug development failure. The side effects of the new drug are reduced, enabling doctors to provide better treatment options for patients, and creating shared value through drug therapy.

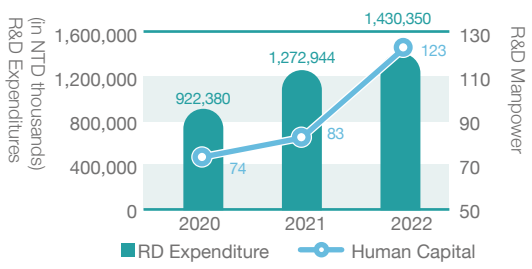
Using the technology platform - effectively developing diverse products

By continuously developing innovative drugs using the technology platform, it can be used in four major areas, including blood-related diseases, with the characteristic of one drug for multiple indications. If the indication is a rare disease, the positive impact of providing patients with the drug after it has been launched is immeasurable.

5 major professional fields

- Analytical Science
- Chemistry
- Cell Engineering
- Pharmaceutical Science
- Process Development

Ongoing growth in research and development (R&D) spending



Competitive advantage in developing new drugs

Ropeginterferon alfa-2b (P1101)
Next-generation PEGylated long-acting interferon alpha drug

- High purity
- High tolerability
- Low side effects
- Stable and single component
- Can treat multiple indications
- Dosing frequency will be reduced to once every 2 weeks

4 major disease areas of focus

- Rare blood diseases
- Viral infection diseases
- Tumor diseases
- Skin diseases

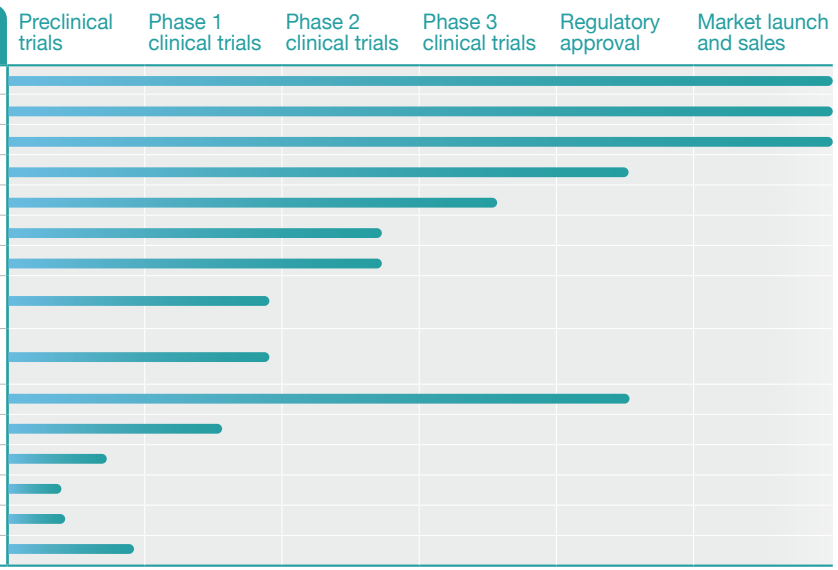
4 R&D products

- Ropeginterferon alfa-2b，Code P1101
- Ropeginterferon alfa-2b (P1101)+ Immune checkpoint inhibitor anti-PD-1 antibody
- Oral paclitaxel Oraxol®
- Kinase inhibitor Tirbanibulin (code name KX01)

Product Innovations PharmaEssentia's R&D Pipeline

SASB HC-BP-000.B

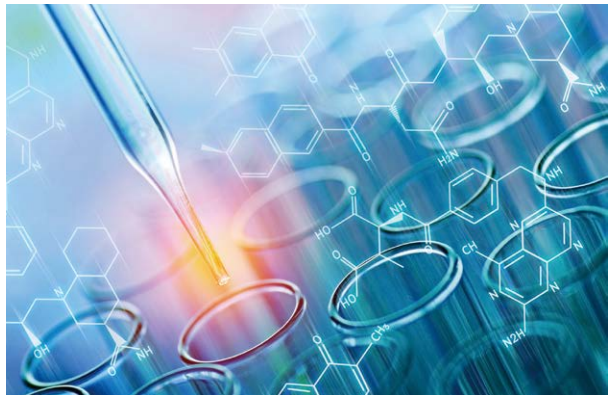
Disease classification	Technology / product	Indications	Market
Blood disorders	Ropeginterferon alfa-2b（P1101）	Polycythemia vera	Europe, Switzerland, Israel
			Taiwan, Korea
			United State
			Japan, China
		Primary thrombocytosis	Global
		Pre-fibrotic myelofibrosis	Global
		Adult T-cell leukemia/lymphoma	Japan, Taiwan、China
Infectious diseases	P1101 + Entry inhibitor	Hepatitis D	United State, Europe, Taiwan
Skin diseases	Tirbanibulin（KX01）	Psoriasis	Taiwan, China, Macau, Singapore, Japan, Korea
		Actinic keratosis	Taiwan, Japan, Korea
Solid tumors	P1101 + anti PD-1	Hepatocellular carcinoma	Global
	PEG-GCSF	Neutropenia	Global
	PEG-IL2	Solid tumors	Global
	PEG-IFN-Gamma	Solid tumors	Global
	TCR-T	Solid tumors	United State, Taiwan



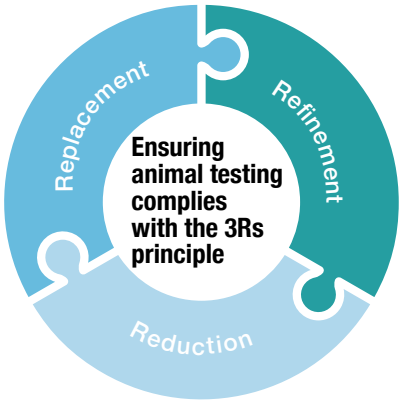
Note: For the latest updates on the R&D product pipeline, please refer to the company website.

Data source : https://hq.pharmaessentia.com/tw/pipeline

Persuit of Animal Welfare of Preclinical Animal Experiments



In order to ensure animal welfare in preclinical animal experiments, our company selects and outsources relevant matters to domestic and foreign research institutions with GLP certification and follow the relevant regulatory requirements of the Institutional Animal Care and Use Committee (IACUC) for animal care and use in experiments. We have commissioned three qualified domestic and foreign institutions to conduct preclinical animal experiments in a humane manner.



A Rigorous Process of Human Clinical Trials

SASB HC-BP-210a.1

To ensure the quality of human clinical trials, PharmaEssentia has established more than 20 standard operating procedures (SOPs) for clinical operations, as well as for selecting and managing contract research organizations (CROs). There are audit and review mechanisms at each stage of clinical development, and clinical trials are conducted in accordance with approved trial protocols and local regulations for Phases 1, 2, and 3.

Phase 1 clinical trial
Safety exploration

Phase 2 clinical trial
Preliminary efficacy study

Phase 3 clinical trial
Large-scale confirmatory efficacy study

Study planning

- Evaluate the trial risk based on the clinical trial services and characteristics provided by the CRO.
- Develop a monitoring plan, audit plan, and clinical trial quality management and quality assurance plan according to the level of risk.

Pre-trial

- The trial plan and related documents are subject to review and approval by the health authority and the human subjects committee.
- Hold a coordinator meeting to conduct relevant training.
- Obtain written informed consent from the subjects: They must be fully informed and have carefully considered the agreement before signing the consent form to participate in the clinical trial.
- Strictly screen suitable subjects based on the inclusion and exclusion criteria in the trial plan.

During the trial

- The clinical operation department performs collaborative monitoring with the CRO that undertakes the monitoring business.
- The clinical quality assurance department performs audits according to the relevant audit plan to ensure that the CRO's services meet quality requirements.

After the trial

- Compile the efficacy and safety data of the clinical trial.
- Approval for marketing is granted after the health authority's written review and on-site inspection and a risk-benefit assessment.

Assessment of Risk to Ensure the Quality of Clinical Trials

The quality risk assessment and maintenance of clinical trials are conducted by external research institutions. They follow our standard operating procedures and assess the clinical trial risks before and during the trial. Relevant safety education and training on clinical trial products are conducted both internally and externally before conducting the trial. Quality assurance and management activities are also implemented during the clinical trial.

Before clinical trials
Evaluate the potential risks that may be encountered during the trial based on the characteristics of the test drug and the trial design.

Focus of evaluation

Based on the level of risk, develop a case-specific "monitoring plan" and "audit plan" to execute QA and QC items. Ensure that the rights and welfare of subjects are protected, and that the conduct of the clinical trial, data generation, recording, and reporting comply with the trial plan, GCP, and relevant regulations.

Execution process

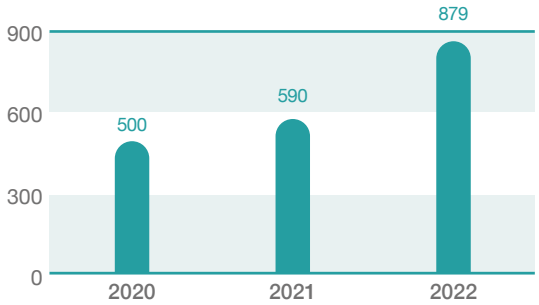
Quality Assurance (QA)
Includes an independent audit system, where any issues found will be appropriately evaluated and tracked, and relevant corrective and preventive measures (CAPA) will be proposed.

Quality Control (QC)
Includes monitoring and collaborative monitoring.

Multinational and Multicenter Clinical Trials Validate the International Competitiveness of Drugs

As of the end of 2022, our company has conducted more than 20 clinical trials worldwide using Ropeginterferon alfa-2b (P1101), benefiting patients from Taiwan, Europe, the United States, Japan, China, Hong Kong, and other regions. The clinical trials covered various indications including PV, ET, hepatitis B and C, as well as mild-to-moderate COVID-19 cases. In 2022, nearly 290 new patients were enrolled, bringing the total number of beneficiaries to more than 850. These multinational and multicenter clinical trials aim to validate the international competitiveness of our drug products.

Number of Benefited Patients in Clinical Trials Phases 1-3



289 New Patients

New P1101 clinical trial participants added in 2022, accumulated to over 850 beneficiaries

Cross-National Industry-Academia Collaboration - Establish Local Research and Clinical Trial Capabilities

In addition, we also collaborated with universities and research institutions in and outside of Taiwan to gain a deeper understanding of global market demand for disease treatment. Through clinical collaboration, we studied relevant diseases and updated our knowledge of the latest technology and techniques in order to jointly develop access to medicine programs that meet the needs of people with different diseases around the world.

2018
Completed a research project in collaboration with a domestic university to develop and apply new drugs in the field of nephrology, with a total investment of nearly NT$2.7 million in Q2 2020.

2019
Sponsored a research project on viral hepatitis in collaboration with domestic medical centers and Japanese academic institutions, with an investment of over NT$1 million, which was completed in Q2 2020.

2020
Collaborated with domestic universities to research hepatitis and anti-PD-1 immunotherapy, investing nearly NT$3 million. Due to the impact of the pandemic, the project was extended to the end of July 2021.

2021
Collaborated with 6 top domestic and international universities on various research projects, with a total investment of over NT$5 million, and all projects are currently ongoing.

2022
Invested about NT$300,000 with a domestic medical university to improve production yield, and the project is still ongoing.

5.2 Sustainable Supply Chain Management

Material Topic

PharmaEssentia adheres to the PIC/S GDP (Good Distribution Practice) regulations to establish a legal and comprehensive global marketing management mechanism. There are over 4,000 quality and safety management procedures, standard operating procedures, and various plans and reports within the company to ensure compliance with operating procedures, accuracy and completeness of records, and to ensure the quality and safety of drugs from the production factory to patient use, safeguarding the medication safety of every patient.

GRI 3-3

Management Policy

Internal Policies

- Raw Material Management Policy, Storage and Distribution Policy and Product Packaging and Labeling Policy
- Supplier Management Policy (Supplier Management Standards Operating Procedures, Supplier Management Procedures, Procurement Management Standard Operating Procedures and Supplier Audit Procedures).
- Quality Management Policy, Risk Management Policy and Outsourced Activities Policy

External Guidelines

- WHO Good Storage and Distribution Practices for Medical Products
- Strict adherence to laws and related external GxP regulations at all stages of the product life cycle, from research and development to production and sales
- Practical Guidelines for Sustainable Development of Corporate

Management Commitment

- PharmaEssentia is committed to building a stable, safe and high-quality drug supply chain, and strives to improve the accessibility, affordability, and availability of drugs. We continuously strengthen the safety and stability of the overall supply chain and reduce the impact of COVID-19 on the supply chain.

Accountable Units

- The Supply Chain Management (SCM) department of PharmaEssentia Headquarters includes business units, procurement units, production units, logistics units, manufacturing units, QA units, and SCM units of each subsidiary
- ECCS - Product Quality and Patient Safety Taskforce

Input Resource

- Professional division of labor and task execution among responsible personnel, with continuous on-the-job training
- Regular quarterly assessments for commercial and clinical development needs
- Transportation planning: Establishment of large cold-chain spaces to increase product storage capacity and turnover flexibility
- Supplier management: Increased communication frequency to ensure stable supply sources in response to COVID-19, cross-departmental collaboration for stocking, signing of supply or quality contracts, and completion of audits for commissioned transporters/storage facilities
- Outsourcing partner management: Establishment of communication channels to review quality management, provide demand estimation plans, and update them in a timely manner
- Tracking actions: Drug traceability management software, self-established drug complaint system, drug safety notification system, and supply shortage notification system for regulatory authorities in various countries
- System implementation, enterprise resource planning system (ERP), business process management system (BPM)

Targets

Short-term Targets for 2023

- Continuously expanding emerging markets and fields for BESREMi®: Launching in Japan in 2023
- Continuously expanding and strategically allocating production capacity: Construction of manufacturing center
- Upgrading and implementing ERP system to accurately plan raw materials and product inventory and production control
- Establishing good working relationships with suppliers: Mastering upstream original factory supply and rapid response stocking strategies
- Continuously developing and implementing secondary source of raw materials
- Continuously developing Supplier Behavior Code of conduct
- Managing long-term demand and other requirements requested by customers

Medium-term Targets for 2024-2026

- Continuously expanding emerging markets and fields for BESREMi®: Launching in new markets and regions, or clinical research projects for different indications
- Continuously expanding and strategically allocating production capacity: Optimizing the connection between front-end and back-end processes
- Establishing good working relationships with suppliers: Improving delivery reliability and flexibility
- Improving customer satisfaction: Planning for potential market demands to create maximum benefits for both the group and patients
- Forecasting demand from various countries: Planning and preparing production lines and raw materials to ensure timely and stable supply to potential markets
- Continuously optimizing internal operational processes and communication: Benefiting multiple parties and effectively reducing costs
- Optimizing internal processes within the group: Integrating the demands of various subsidiaries/countries and managing and allocating resources in a rational manner
- Integrating various country regulations and market requirements: Coordinating the launch of drugs in different countries to make the best use of group resources

Long-term Targets (2026 and beyond)

- Optimizing internal processes within the group: Integrating the demands of various subsidiaries/countries and managing and allocating resources in a rational manner
- Integrating various country regulations and market requirements: Coordinating the launch of drugs in different countries to make the best use of group resources

Evaluation of Management Policy

Management Evaluation Mechanism

- Establishment of supplier evaluation mechanism
- Implementation of internal audit and control guidelines at PharmaEssentia
- National drug safety reporting systems in different countries
- National drug supply shortage reporting systems in different countries
- Establishment of a drug complaint system at PharmaEssentia
- Regular management meetings and product quality reviews at PharmaEssentia
- SAP-related document operations

2022 Evaluation Results

- BESREMi® has been supplied to patients at a steady paceafter being approved for marketing in various countries
- COVID-19 still had a significant impact on the supply chain in 2022, but the introduction of a second source of materials and the search for alternative materials in the market ensured the supply of goods and reduced costs
- No complaints were received from hospitals or patients
- Sufficient stock was ensured based on the number of users
- No products were found to be ineffective or unsafe due to transportation and storage activities

Establishing a Stable and Reliable Supply Chain

SASB HC-BP-260a.1

Building a robust cross-border supply chain to provide high-quality and safe medicines that meet the urgent needs of patients with rare diseases worldwide is an important mission that PharmaEssentia and its upstream and downstream supply chain partners are committed to.

Integrated planning and management of drug demand

- **Cross-departmental coordination of production and sales:**
  Integration of clinical and external pharmaceutical business demands between headquarters and subsidiary companies
- **Manufacturing and production scheduling:**
  Confirming requirements coordination and supply with supply and production sides

PharmaEssentia

- Taiwan Headquarters
- US
- Malaysia
- Japan
- Singapore
- Hong Kong
- Korea
- Macau
- China
- Vietnam

Responsible procurement and supplier management

- **Supplier management:**
  Screening, evaluating, and approving suppliers in strict procedures, with priority given to local vendors as cooperative partners
- **Establishing safety stocks:**
  Timely grasp of raw material delivery times
- **Establishing alternative material sources:**
  Reducing the risk of material shortages
- **3 major supplier management points:**
  Conveying sustainable values to partners and jointly establishing a sustainable supply chain

- Procurement of raw materials, supplies, and equipment
- Supplier sustainability declaration

High-quality production and manufacturing

- **Complying with international normative standards:**
  Following Good Manufacturing Practices (GMP), ICH, EMA, FDA, and more than 4,000 internal standard operating procedures and other related regulations
- **Strict safety control:**
  Quality assurance and quality control departments managing and supervising quality safety and product release
- **Outsourcing filling and contract manufacturing:**
  Injection filling for the US market is done by qualified contractor Pyramid Laboratories Inc.

Biopharmaceutical manufacturing plant

PYRAMID Laboratories, Inc.

Fill and finish for injectable products

Drug storage and international logistics transportation

- **Stable marketing and distribution:**
  Strict control of packaging, transportation, and cold chain maintenance
- **Domestic marketing and distribution:**
  In-house sales and logistics teams responsible for supply and marketing
- **International marketing and distribution:**
  After injection filling is completed in the US, it is sent to a third-party logistics warehouse by contractor Pyramid Laboratories Inc., and ultimately delivered to patients through specialty distributors and pharmacies.

Warehouse and logistics center

CardinalHealth™
Third-party logistics

Specialty pharmacies and distributors

Effective Pharmacovigilance and Recall

- **Dedicated Pharmacovigilance team:**
  Composed of Pharmacovigilance personnel from headquarters and subsidiary companies and quality assurance personnel for Pharmacovigilance
- **Assistance from outsourcing research institutions:**
  Managing and maintaining safety data databases, collecting/exchanging drug safety information, and reporting to regulatory agencies
- **Safety monitoring reports:**
  Quarterly submission of regular safety reports and safety signal detection reports
- **Product traceability mechanism:**
  When quality problems arise, products can be recalled and related inventory can be processed within regulatory deadlines.

PharmaEssentia Headquarters Adverse Drug Reaction Reporting Email: Safety@pharmaessentia.com

Global Adverse Drug Reaction Reporting Email established by outsourcing research institutions:
PharmaEssentia.drugsafety@labcorp.com

Taiwan Adverse Drug Reaction Reporting Center Phone: 0800-818-886

PEC U.S. Call Center (800) 999-2449, a reporting management center specializing in serving the U.S. market. (800) 999-2449

Strengthening Sustainable Supplier Management with 3 Key Points

Adhering to the belief of mutual benefit and sustainable practices with suppliers and contractors remain a top priority for PharmaEssentia in the face of the global impact of COVID-19 on upstream supply chains. Together with our partners, we will continue to work towards these three key points to create long-term and sustainable value for the biopharmaceutical industry and patients.

Sustainability Declaration and Supplier Partnership

We strive for mutual benefits and sustainable development with our supplier partners. Our plan is as follows:

- **Declaration:** Communicate PharmaEssentia's sustainable philosophy and practices to our stakeholders.
- **Action 1:** Promote the Supplier Code of Conduct.
- **Action 2:** Sign the Supplier Code of Conduct.

Enhancement of Management Capabilities

To cope with the ever-changing world, our strategies for enhancing management and contingency capabilities are:

- Acquisition of information
- Strengthening supplier management capabilities
- Enhancing interaction with suppliers

Establishment of Alternative Material Sources

To ensure a stable supply, we take the following steps:

- Identify critical materials
- Screen candidate raw materials
- Confirm quality and conduct experiments
- Produce trial batches
- Monitor quality assurance to ensure compliance with regulations

Sustainability Declaration: Building Sustainable Supply Chain

We continuously communicate with our supply partners through formal and informal sustainability declarations to create positive and long-lasting impact. Our procurement and other related units have initiated the development of a Supplier Code of conduct and will roll out its promotion and signing in phases. In 2022, we promoted our PEC Corporate Sustainability Report to 177 suppliers. Currently, we are working on revising the Supplier Code of conduct and the Supplier Management Operation Guidelines, and plan to complete the signing by the suppliers in the third quarter of 2023. We hope to work together with each of our supply partners to grow, prosper, and prioritize corporate sustainability responsibilities.

Establishing Alternative Sources of Materials

To prevent interruptions in the supply of critical raw materials due to various factors such as suppliers not passing evaluations or the COVID-19 pandemic, we have conducted a comprehensive investigation of raw materials and established an internal standard operating procedure to determine the priority for introducing alternative sources for these materials.

Inventory of raw materials that require alternative sources to be established

The following criteria are used to determine whether alternative sources are needed:

- Notification from the supplier that they will stop production
- Regulatory agency requirements
- Key Material Assessment program to evaluate material risks

Quality confirmation

For materials with an immediate risk of shortage, quality confirmation will be carried out.

Process development and testing

Trial production will be carried out to test the quality of the materials. Qualified raw materials will then be entered into the GMP control process (supplier evaluation, specification inspection, and method establishment, etc.). After completing the relevant procedures, they will be added to the backup list.

Continuous monitoring of quality assurance

The quality assurance department will continuously monitor the test data and documents at each stage of material development to ensure that the entire process fully complies with regulatory standards.

Supply Chain Management and Resilience Enhancement

To mitigate the impact of the COVID-19 pandemic on the supply chain, PharmaEssentia is continuously enhancing its supply chain management and resilience. This includes maintaining safe inventory levels, establishing alternative sources of materials, balancing cost and long-term stockpiling, and actively reducing the risk of stockouts that could result in delayed or unstable supply.

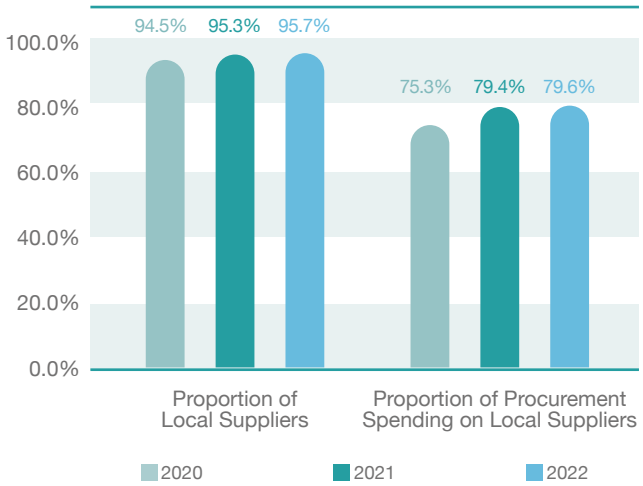
- Real-time monitoring of potential factors that may affect the supply chain, such as diseases, climate change, natural disasters, etc.
- Strengthening supplier management, adjustment, and contingency capabilities.
- Deepening communication with suppliers, monitoring the transportation and logistics status of materials in real-time, and obtaining complete information on transportation and logistics.
- Updating the lead time for the arrival of purchased materials from suppliers.
- Improving safety stock and monitoring changes in demand from healthcare institutions and patients.
- Paying attention to the epidemic situation in countries where raw materials are produced, evaluating the risk of material shortages, and proactively preparing for such risks.
- Actively establishing alternative sources of materials to reduce the risk of material shortages.

Management Process of Suppliers/Contractors

GRI 2-6 / 204-1 SASB HC-BP-430a.1

To ensure that the raw materials and equipment provided by our suppliers meet our company's standards for quality and delivery as well as Good Manufacturing Practice (GMP) regulations, our Quality Assurance department has formulated the Supplier Management Standards Operating Procedures and the Supplier Management Procedures as its approval procedures and operating standards for suppliers and contract service providers. We strictly monitor the screening, evaluation, and approval of raw material, material, and instrument/equipment suppliers. We also require suppliers to sign a Quality Agreement to ensure that both parties have a shared understanding of product and quality requirements. All vendors who should have signed the Quality Agreement have done so, with the proportion of local suppliers increasing to 95.7% in 2022, and the procurement amount from local suppliers increasing by 79.6%.

Proportion of Local Suppliers and Procurement Spending on Local Suppliers



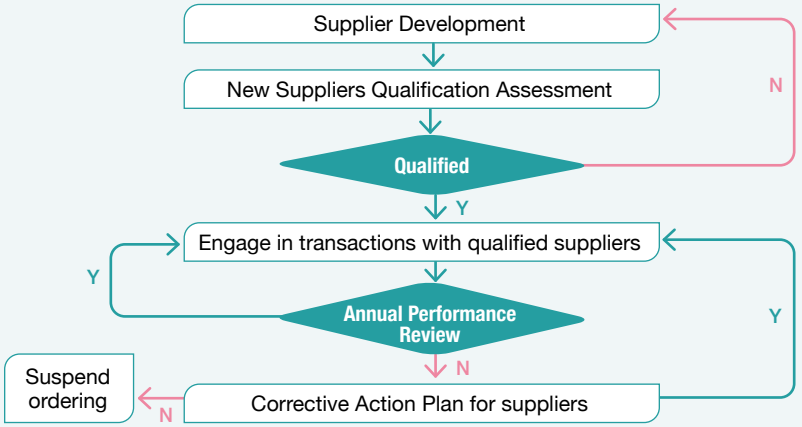
95.7%

Over 90% of local procurement suppliers for 3 consecutive years

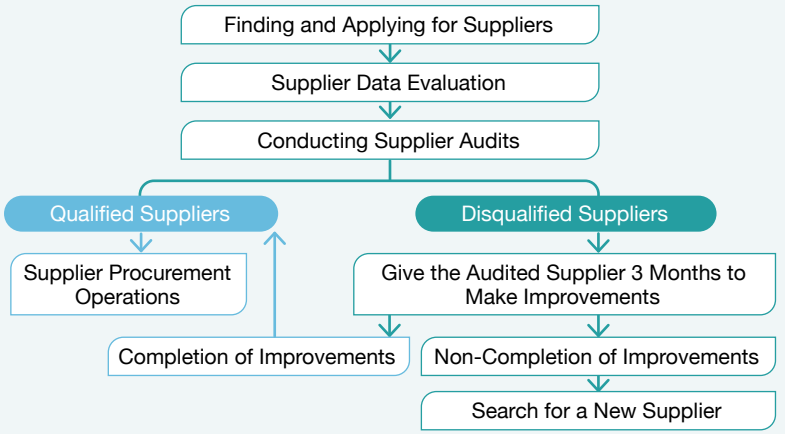
Note 1: The data range includes figures for both PharmaEssentia Headquarters and Panco Healthcare; the supplier number for 2021 and 2022, as well as the local procurement amount for 2021 are shown.

Note 2: Local suppliers refer to manufacturers, producers, and agents that provide products and services domestically. This includes those based in Taiwan.

Supplier Management Process at PharmaEssentia Headquarters



Supplier Management Process at Panco Healthcare

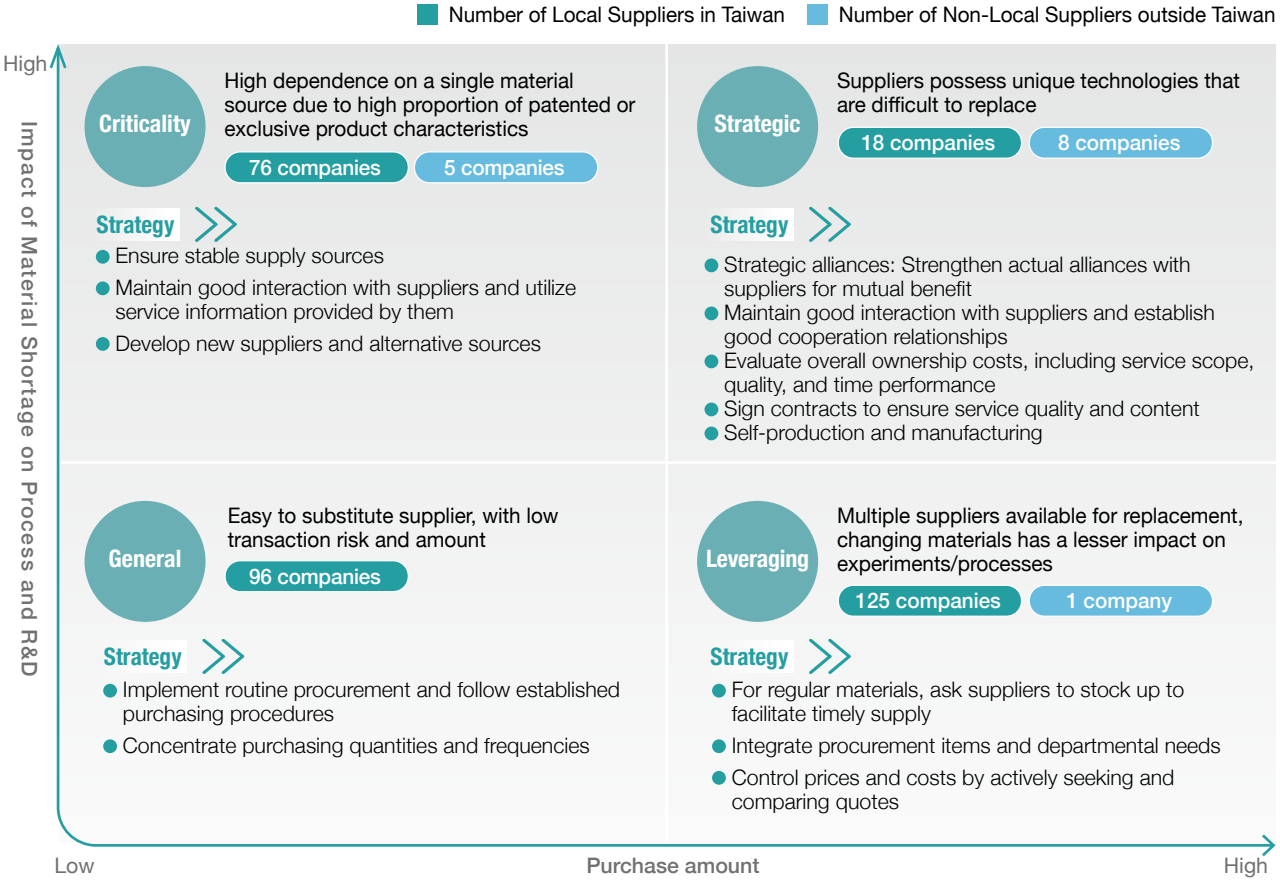


Suppliers/Contractors Management Strategy

Both PharmaEssentia and Panco Healthcare divide suppliers into four categories based on risk and procurement amount: strategic, critical, leverage, and general. Corresponding supplier management strategies are then formulated based on market characteristics and the attributes of each category's materials or services.

PharmaEssentia's US subsidiary categorizes suppliers into two categories, critical and non-critical, and conducts rigorous supplier risk assessments for critical-level suppliers, with a safe amount of stock as a main KPI to ensure the reliability of supplier delivery.

Supplier Management Process at PharmaEssentia Headquarters and Panco Healthcare



Supplier Management Process at PharmaEssentia's US subsidiary

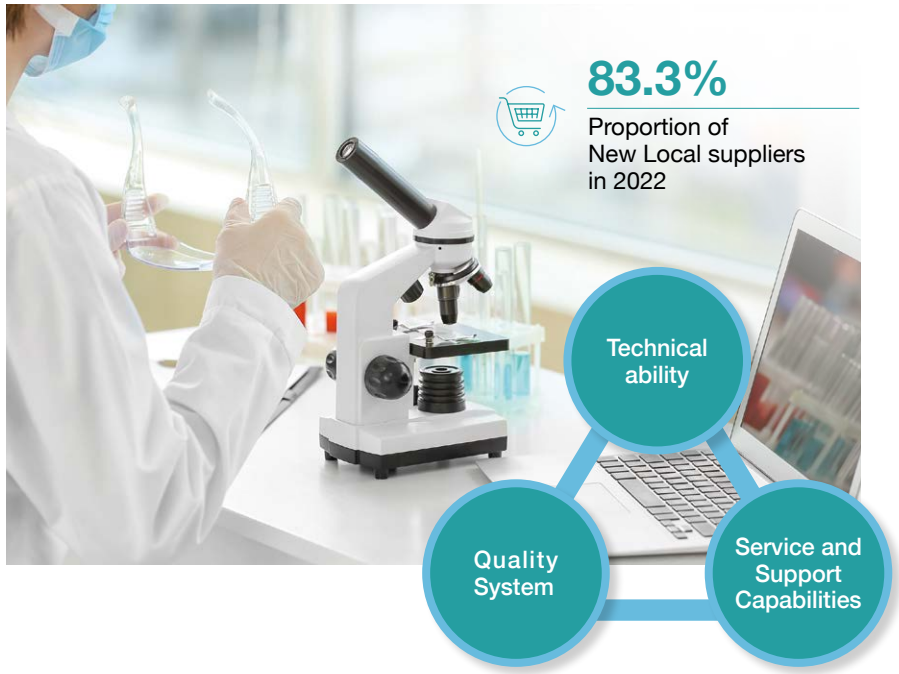
Level 1 Critical Suppliers

Suppliers that must pass GMP certification, are supervised by US quality management processes, and are difficult to replace

6 suppliers

Strategy

- Supplier risk assessment: Suppliers must comply with regulations and GMP requirements, and safety inventory levels will be evaluated as a key KPI
- Evaluation of 5 key points: Ensuring supply continuity, regulatory compliance, quality requirements, delivery time, and cost price



3 Key Indicators for Evaluating New Suppliers/Contractors

Screening and Evaluation of New Suppliers/Contractors

GRI 308-1 / 308-2 / 414-1 / 414-2

In the screening and evaluation of new suppliers/contractors by PharmaEssentia, there are three main indicators: quality system, technical capability, and service and support capability, covering aspects such as quality, cost, delivery, service, and management. The evaluation is carried out in accordance with the Procurement Management Standard Operating Procedures and the Supplier Management Operation Procedure Manual before transactions take place by the User department, Quality Assurance department, and Procurement department. The company attaches great importance to the impact of the supply chain on the environment and society. Currently, it plans to evaluate and introduce environmental and social standards into the supplier screening mechanism in the third quarter of 2023 and regularly conduct supplier performance assessments. In 2022, a total of 12 new suppliers/contractors were added, of which 10 were local suppliers, accounting for 83.3% of the total.

Annual Assessment of Suppliers/Contractors

100%
Completion of supplier internal assessments for 4 consecutive years

175
Suppliers/contractors completed internal assessments and reviews

72%
on-site audit rate

47
Suppliers/contractors conducted on-site audits

Each year, we conduct supplier/contractor assessments in accordance with our Supplier Audit Procedures, which includes both internal assessments and on-site audits. In the case of high-risk suppliers, we will shorten the reassessment frequency and take corrective action. If there are significant deficiencies, we will immediately cease procurement activities. In 2022, all 175 suppliers who were due for internal assessment had their assessments completed. Due to the impact of the COVID-19 pandemic, on-site audits were unable to be completed for 18 suppliers. One local supplier and two foreign suppliers had completed on-site audits by the end of February 2023, and they passed all items in the audit checklist. The remaining suppliers have scheduled their audits for 2023. We will evaluate whether to use alternative solutions, such as the Rx-360 audit report, to replace on-site audits to ensure the completion of our supply chain management even during the pandemic.

Assessment List of Suppliers/Contractors for PharmaEssentia and Panco Healthcare in 2022

	Internal assessment review (Note1)		On-site audit	
	Number of suppliers/contract		Number of suppliers/contract	
Value chain stages	to be assessed	actually assessed	to be audited on-site	actually audited on-site
New Drug Development	65	65	41	41
Clinical Trials	0	0	0	0
Production Manufacturing	126	126	24	6
Pharmaceutical Application	0	0	0	0
Marketing and Sales	5	5	0	0
Total (Note2)	175	175	65	47

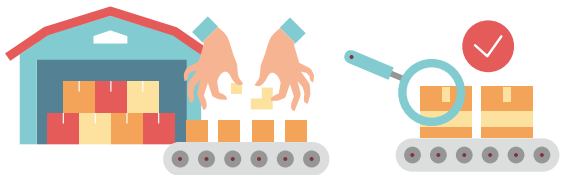
Note 1: The suppliers assessed are those who have transactions from July 1, 2021 to June 30, 2022. If the internal assessment reaches grades A and B in the previous year, it will be exempted from assessment in the current year.
Note 2: There are 21 manufacturers that span both the new drug development and production manufacturing stages. Therefore, the total number is deducted to avoid double counting.
Note 3: For the suppliers in the production manufacturing stage, due to the impact of the epidemic, 2 are local suppliers and 16 are foreign suppliers who have not yet completed on-site audits in 2022.

Safe and Stable Cross-Border Logistics and Transportation

Inventory transportation and sales operation system

We have established the Storage and Distribution Policy and established storage and transportation procedures to ensure that all raw materials, intermediate products and products can be stored and managed well. We have also established a Product Distribution Management Procedure Manual to establish a distribution procedure and tracking mechanism that meets the PIC/S Good Distribution Practice (GDP) requirements. We have established an Import and Export and Transportation Management Procedure Manual to establish import/export and transportation procedures to ensure that all transported goods are delivered to the designated destination in accordance with regulations, quickly and safely, and to maintain the safety of the medication. In response to the immediate risk of climate change-induced disasters in the United States, we maintain a safe level of stock of more than 4 months in the United States to ensure that patients there can obtain their medication in a timely manner.

Panco Healthcare Logistics Center also complies with Taiwan's Good Distribution Practice (GDP) for pharmaceuticals, and assists in the supply of the group's listed products and clinical drugs. From logistics management, warehouse management, processing and labeling to quality management in various operational processes, we have established an Emergency Response Handling Procedure to prevent or reduce the negative impact of natural disasters on our transportation processes.



Warehouse Management

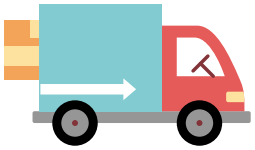
We have established the Standard Operating Procedure for Product Storage Management and the Storage and Distribution Policy to ensure that the quality of products is not affected by any activity or location. Panco Healthcare's Logistics Center has also established the Temperature Verification Plan for Storage Areas, and conducts temperature verification twice every three years to ensure the quality of the storage environment.

Product receiving and storage process

Receiving Application	Physical Verification	Compliance Confirmation	Confirmation of Receipt	Drug Storage
Submit the "Product Receiving Application Form" to the warehouse management personnel for product storage.	Warehouse management personnel, together with quality assurance personnel, confirm and perform physical verification based on the information in the application form.	The product name, code, batch number, required temperature, quantity, and container information on the product label must match the information in the application form.	Confirm that the product is properly sealed and packaged, and store it in the appropriate location according to the storage conditions.	Monitor the storage environment during storage to ensure optimal drug storage.

Quality monitoring of shipping and transportation

We have a Product Shipping Operations Standard to ensure that products from the Taichung Plant are shipped to contract manufacturing plants and storage facilities through a comprehensive transportation procedure before shipment to ensure the effectiveness of transportation. Medicines are transported in designated temperatures, ensuring the safety of our products as they are being transported worldwide.



Quality monitoring

Packing operation

- Check the cleanliness and temperature of the transport box, and place a temperature recorder inside the box for temperature monitoring
- Taking Ropeginterferon alfa-2b (P1101) as an example, it is necessary to ensure that the product is stored between 2°C and 8°C.

Transportation process

- Establish appropriate storage and transportation procedures based on the "Storage and Transportation Policy" as the quality objective.
- Pre-scenario analysis: Confirm that the cold storage status and equipment specifications meet the requirements.
- Regular verification: Ensure that raw materials, intermediate products, and products can be stored properly.

5.3 Good Manufacturing Practices and Product Safety

Material Topic

Throughout the value chain, from R&D and clinical trials to commercial production and distribution for patient use after launch, PharmaEssentia adheres to standardized operating procedures, quality management systems, and product traceability systems. We examine potential factors that may affect the stable supply of medication to patients and seek solutions to ensure safe, stable and timely delivery of our products in order to meet the needs of patients.

Early Stage	Medium Stage	Late Stage
Demand Integration and Planning	**High-Quality Production**	**Safe Product Transportation**
Periodic cross-functional meetings to integrate clinical and commercial demands and establish safety stock and second source.	Approved and inspected to comply with GMP certifications from the US FDA, EU EMA, Taiwan TFDA, etc., and strictly supervised by the quality control unit to ensure quality, safety, and product release standards.	The warehouse management unit arranges the shipment operation according to the shipment instructions, coordinating and arranging transportation operations in compliance with the temperature requirements of the drugs and GDP regulations.

GRI 3-3 / 416-2 SASB HC-BP-250a.1 / a.2 / a.3 / a.4 / a.5

Management Policy

Internal Policies

- Developed more than 20 quality Management Policy that comply with international standards such as those in Europe and the United States
  - Examples of these policies include Quality Management Policy, Raw Material Management Policy, Production and Process Control Policy, Validation Policy, and Complaints and Recalls Policy
- Regarding pharmacovigilance
  - Pharmacovigilance Policy
  - Post-Marketing Adverse Event Reporting Standard Operating Procedures
  - Product Quality Complaint Reporting Standard Operating Procedures
  - Global Post-Marketing Safety Data Collection Standard Operating Procedures
  - Global Product Safety and Risk Management Mechanism Standard Operating Procedures

External Guidelines

- Regulations issued by local regulatory authorities in various countries, such as European Pharmacopoeia, US Pharmacopeia, and guidelines issued by the US FDA
- "Medical Law," "Pharmaceutical Affairs Law," "Pharmaceutical Affairs Law Enforcement Regulations," "Pharmaceutical Good Manufacturing Practice Regulations," "Drug Safety Surveillance Regulations," and "Serious Adverse Drug Reaction Reporting Regulations"

Management Commitment

We are committed to following the relevant regulations of the regulatory authorities in various countries for quality management at each stage, complying with the local standards for drug application and strictly controlling the packing process and transportation. We will carefully track adverse drug events and reporting channels, instill the concept of "quality first, keep patients safe" in our daily operations and the minds of every employee, and implement drug risk management to ensure the safety of the medication we produce.

Accountable Units

- The Product Safety & Risk Management (PSRM) Team composed of pharmacovigilance personnel from PharmaEssentia Headquarters and subsidiary companies in various countries, as well as pharmacovigilance quality assurance personnel
- The quality assurance department and quality control department of the Headquarters are responsible for the quality of marketed drugs and clinical drugs, and cooperate with the clinical trial quality assurance and Pharmacovigilance Taskforce
- ECCS - Product Quality and Patient Safety Taskforce
- The Product Safety & Risk Management (PSRM) team composed of pharmacovigilance personnel from PharmaEssentia Headquarters and subsidiary companies in various countries, as well as personnel responsible for pharmacovigilance and quality assurance
- The Quality Assurance department and Quality Control department at PharmaEssentia Headquarters are responsible for the quality of marketed drugs and clinical drugs, and collaborate with the teams responsible for clinical trial quality assurance and pharmacovigilance
- ECCS - Product Quality and Patient Safety Taskforce

Input Resource

- Invested more than NT$15 million in global pharmacovigilance
- Hired a Global Vice President of Pharmacovigilance and an Global Executive Director of Pharmacovigilance to oversee the work
- Established an independent pharmacovigilance department at Headquarters of PharmaEssentia, and set up dedicated pharmacovigilance personnel in each subsidiary or office
- Commissioned a pharmacovigilance CRO company to form a project taskforce to manage and maintain the BESREMi® drug safety database, assist in drug safety information collection/processing/exchange, and report to regulatory authorities in each country
- Held 11 education and training sessions for new employees on pharmacovigilance throughout the year
- Regularly confirmed and tracked the notification items and quantities of safety incidents from external research institutions and subsidiaries
- Regularly evaluated drug safety cases, submited periodic safety reports in accordance with regulatory authorities' requirements, and produced quarterly safety reports

Targets

Short-term Targets for 2023

- Update and revise standard operating procedures related to pharmacovigilance in accordance with regulations, and revise quality assurance-related clinical operation SOPs and pharmacovigilance SOPs
- Develop a pharmacovigilance plan in accordance with regulatory requirements
- Achieve a 100% completion rate for new employee's pharmacovigilance training
- Implement all required items of the pharmacovigilance plan in accordance with legal compliance requirements
- Achieve a 100% execution rate for the reporting of drug safety information by PharmaEssentia's Headquarters and subsidiaries within the designated timeframe
- Conduct a demonstration drug safety inspection under the TFDA program
- Continuously retrieve and analyze academic literature on drug safety, continuously perform drug and adverse reaction identification and analysis, and regularly produce safety reports
- Establish independent personnel dedicated to pharmacovigilance quality assurance, develop a pharmacovigilance quality assurance annual plan, and conduct quality assurance activities
- Complete the response procedure to PMDA plant inspections in Japan, pass FDA follow-up plant inspections for raw materials and injection plants, and pass follow-up plant inspections by Taiwan's FDA
- Introduce an electronic equipment management system to optimize the quality management system process

Medium-term Targets for 2024-2026

- Maintain or update the PharmaEssentia's global pharmacovigilance standard operating procedures, and assist subsidiary companies in developing standard operating procedures that comply with local regulations
- Continuously revise and implement the pharmacovigilance plan so as to comply with various legal requirements
- To have the execution rate of drug safety information notification by PharmaEssentia Headquarters and subsidiary companies within the prescribed timeframe reach 100%
- To continuously search global academic literature for information related to the safety of PharmaEssentia products, and to have the execution rate of adverse drug reaction identification and analysis reach 100%
- Expand the PharmaEssentia Headquarters pharmacovigilance department by 1-2 staff members, and continuously provide the pharmacovigilance training to new employees
- Establish the responsibilities and information sharing of quality assurance for PharmaEssentia's subsidiaries/branches in various countries, and hold global meetings on quality

Long-term Targets (2026 and beyond)

- Continuously review, update, or revise pharmacovigilance management regulations and pharmacovigilance standard operating procedures
- Develop and construct a self-managed drug safety database for PharmaEssentia
- Increase the number of employees on the PharmaEssentia Headquarters' pharmacovigilance department, and continuously train new pharmacovigilance personnel so that the department can independently manage the collection, analysis, and notification of drug safety around the world in the future
- Pass the periodic Good Clinical Practice (GCP) and pharmacovigilance audits by regulatory agencies in countries where PharmaEssentia has obtained drug licenses
- Continuously improve the level of drug quality management

Evaluation of Management Policy

Management Evaluation Mechanism

- Post-market safety monitoring: Timely notification according to regulatory requirements of various countries and maintaining normal operation of real-time reporting mechanism
- Regular safety reports: Regular submission of drug development safety reports and periodic safety reports to regulatory authorities in various countries
- Internal auditing: Auditing conducted by the Quality Assurance department or an independent third-party unit commissioned for this purpose
- External inspections: Inspections by international and domestic drug safety regulatory authorities
- Assessment of the operation status of the real-time reporting mechanism
- Assessment of the operation of drug safety reporting hotlines (Taiwan, USA, South Korea, Japan)
- GMP certificate renewal or extension according to plan

2022 Evaluation Results

- Compliance with regulations to report the third PSUR after the launch of BESREMi®
- 100% completion rate of new staff training in pharmacovigilance. No drug safety regulatory authority conducted inspections related to pharmacovigilance in 2022
- The Taichung Plant successfully completed the GMP inspection by the PMDA of Japan
- No occurrence of serious violations of relevant drug quality regulations or health and safety laws and regulations in official inspections conducted by external organizations
- No incidents related to product quality requiring official reporting occurred in 2022; a total of 103 customer complaints were received, with a complaint rate of 0.86%

High-Standard Production Certification

We are committed to providing high-quality pharmaceuticals to patients, and in 2022 we invested over NT$30 million on maintenance, calibration, verification, and new equipment purchases. Considering the physical risks caused by climate change, we also insured our plants to reduce possible property losses and added preventive measures to prevent flooding. Our Taichung Plant is Taiwan's first biologics plant to pass the European Medicines Agency (EMA) audit and receive Good Manufacturing Practice (GMP) certification. Since 2020, we have also obtained GMP certification from Taiwan's TFDA, South Korea's MFDS, and the FDA of the United States. In addition to passing external inspections by the EMA and Japan's PMDA in 2022, we also completed 12 internal audits, during which no serious deficiencies were found, and improvement plans were submitted within the deadlines.

During the 2022 internal quality audit at the Panco Healthcare Logistics Center, only non-critical quality assurance system deviations were identified, and all were properly handled. With these actions, PharmaEssentia vertically integrates its supply chain from production to quality control, filling and shipping, and global market layout in steps to realize its blueprint for international pharmaceutical production certification.

PharmaEssentia's Taichung Biopharmaceutical Plant is the first protein drug plant in Taiwan to pass the European Medicines Agency (EMA) inspection and obtain GMP certification

2022 No major deficiencies were confirmed after a PMDA plant inspection in Japan.

2021 Passed GMP audit by Korea MFDS and FDA plant inspection in the United States and obtained drug licenses

2020 Newly established injection plant obtained TFDA evaluation approval for GMP and "Good Distribution Practice (GDP)" certification in Taiwan

2018 Became the first protein drug manufacturer in Taiwan to pass the EMA audit and obtain GMP certification

2013 GMP certification obtained for the Taichung Biotech Manufacturing Plant

2012 Completion of the construction of the Taichung Biotech Manufacturing Plant

3 Main Facilities of PharmaEssentia

- DS Manufacturing Plant
- PEG Production Factory
- Sterile Agent Filling Plant

Internal Audit

- Conduct at least 1 internal audit per month
- Each department should receive at least 1 internal audit per year
- For any non-conformities found during the audit, corrective and preventive action (CAPA) plans must be submitted and completed within the specified time frame based on the severity level.

External Audit

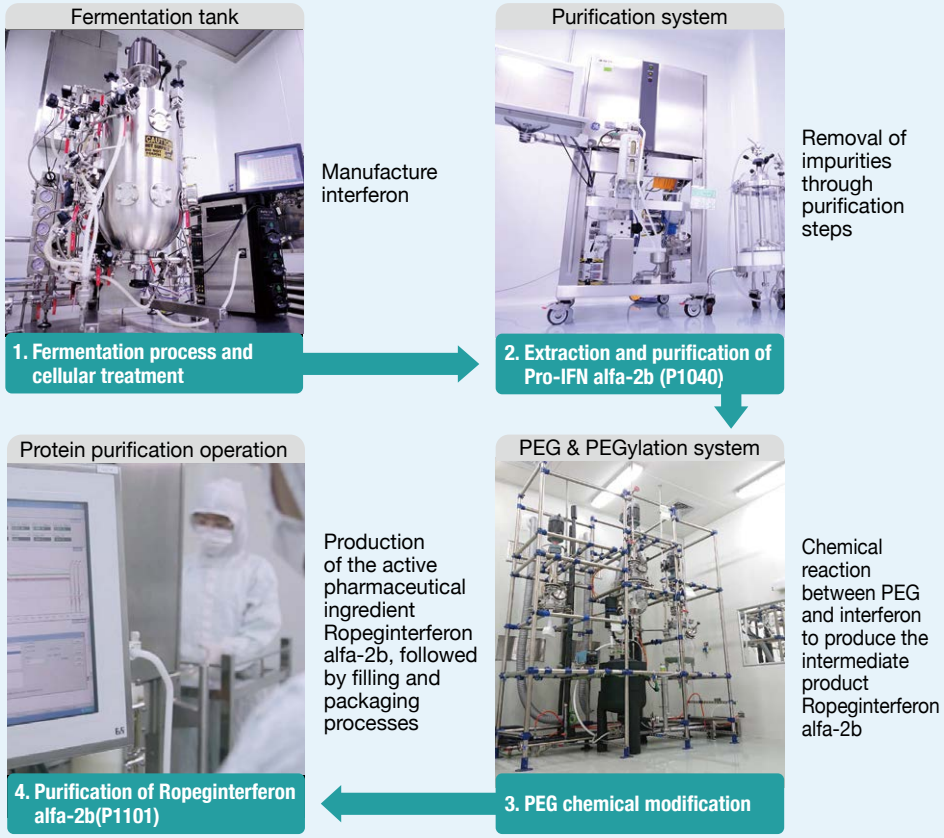
- Receive official GMP inspections every 2 to 3 years
- The first protein Biopharmaceutical factory in Taiwan to obtain GMP certification from the European Medicines Agency (EMA)
- Short, medium, and long-term goals include passing official GMP inspections on a regular basis.

Quality audit/Factory inspection/Verification record passing in 2022

Execution Date	Executing Unit	Process and Key Observation Items	Conclusion
2022/09/19-2022/09/23	European Medicines Agency (EMA)	Routine GMP Inspection for API	GMP certification successfully extended
2022/12/19-2022/12/23	Pharmaceuticals and Medical Devices Agency of Japan (PMDA)	Pre-Approval Inspection for API and Biological medical product (Injection)	No material deficiencies were found
2022/01-2022/12	Internal Audit	12 internal audits were conducted	All audits were completed without any major deficiencies

International Standard Manufacturing Process

Our company's product, Ropeginterferon alfa-2b (P1101), undergoes four main processes in its production. The first step involves the manufacturing of raw materials, followed by the filling and packaging process. Each stage strictly adheres to the Good Manufacturing Practice (GMP) for pharmaceutical products, ensuring quality management and standard operating procedures that meet international standards.



Sterile Filling and Packaging of the Highest Quality

Ropeginterferon alfa-2b (P1101) undergoes four primary processes before it goes through the filling and packaging stage based on market demands. The filling and packaging operations involve compounding, sterile filtration, aseptic filling, labeling, and packaging. Each step is performed with strict standards using aseptic techniques to ensure the highest level of medication safety for patients.

Dispensing and Aseptic Filtration

Dilution and adjustment of high-concentration raw material Ropeginterferon alfa-2b (P1101) and aseptic filtration before filling.

Aseptic Filling

Fully automatic pre-filled syringe filling method. After 100% visual inspection for foreign particles, the filled product will be stored in a high-quality environment throughout the process.

Labeling and Packaging

Labeling of pre-filled syringes according to the label, and placing relevant inserts, plunger rods, push rods, safety needles into the packaging box.

Next Generation Process Optimization

In addition to having high-quality equipment, professional staff, and internal and external audit mechanisms to maintain process and product quality, we also continuously optimize each stage of the process every year. In recent years, we have also enhanced our overall production capacity to meet commercial production demands, reduce production supply chain risks, and ensure stability in supply.

Process Stage

Improving overall production capacity

Improvement Objective

Increase overall production capacity by introducing second and third sources of raw materials to reduce supply chain risks and ensure stability in supply

Results and Benefits

In 2022, five new secondary sources for materials were added, and 3 more are still in testing. Due to the significant changes in the global supply chain caused by the COVID-19 pandemic, implementing this plan can significantly reduce production risks and ensure drug supply

Outsourcing Manufacturing Management

In addition to carrying out filling and packaging operations at our sterile pharmaceutical filling plant in Taichung, our company also outsources filling and packaging operations to internationally-certified contract manufacturers in the United States and Germany. This allows us to supply products to local patients in a timely manner. Our current partners, a US syringe filling contract manufacturer and a German syringe filling contract manufacturer, are both quality partners who have official GMP certification.

Stable and Safe Marketing in the US Market

User manual and packaging printing → Release after completing drug filling, packaging, serialization, quality assurance, and other operating procedures → Transporting products to third-party logistics → Transporting products to specialty pharmacies/ distributors

Process Quality and Safety

135,179 training hours

Conducted a total of 265 GMP/GDP-related training sessions

Our Taichung Manufacturing Plant has a Quality Manual, standard operating procedures for quality-related processes, and over 4,000 plans and reports that detail the organization's operational processes. Our quality assurance and quality control departments are responsible for managing and supervising the processes to maintain product quality, monitor environmental quality, and provide comprehensive personnel training to ensure product safety. We have also established an Emergency Response Management Standard for Plant Facilities to implement emergency response mechanisms. In the event of a natural disaster or equipment malfunction, we can ensure that equipment continues to operate normally and that all personnel perform process operations in a safe environment. In 2022, we conducted a total of 265 GMP/GDP-related training sessions, with a total training time of up to 135,000 hours.

Production Quality Maintenance

We have established the Production and Process Control Procedures and the Prevention of Cross Contamination Management Procedures to regulate process control, monitoring, labeling, and inspection procedures, reducing the risk of cross-contamination.

Environmental Quality Monitoring

We have established standards such as the Environmental Monitoring Plan Standards, the Water System Monitoring Standards, and the Microbial Identification and Statistics Standards to ensure effective monitoring of environmental microorganisms and reduce the risk of product contamination. According to the 2022 report on monitoring of production environment (air conditioning), water systems, compressed air and biological safety cabinets, all systems complied with design requirements and regulatory standards.

Good Manufacturing Practice (GMP) / Good Distribution Practice (GDP) Quality Education and Training

Through continuous annual education and training, we instill the spirit of quality management into daily operations, including training and updating knowledge of GMP regulations for employees. Panco Healthcare also prioritize GDP training for all employees involved in production, distribution and sales, ensuring quality management throughout the supply chain.

2022 GMP/GDP Training Statistics

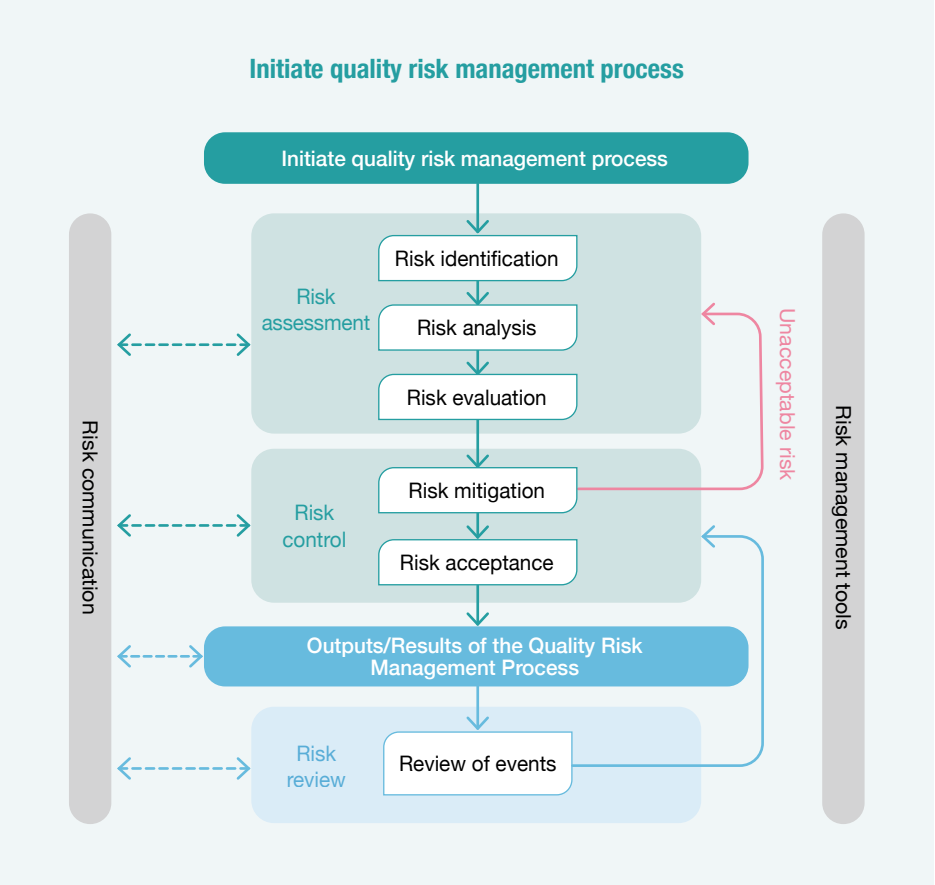
Training Units	Training Topics	Number of Sessions	Total Training (Hours)
PharmaEssentia Taichung Plant	Good Manufacturing Practice (GMP) training	13	12,350.0
	Regulatory, process, or quality-related GMP training for new employees	37	23,828.0
	Corrective and preventive action (CAPA) related training	107	97,851.5
	External training	12	1,008.0
Panco Healthcare Logistics Center	External Training on GMP/GDP Regulations and Processes	6	52.0
	Pre-job Training on GMP/GDP Quality Management System and Related Regulations for New Employees	90	90.0
Total		265	135,179.5

Risk Management for Production Quality

11 meetings

Involving participants from Headquarters and 7 subsidiary companies, with a total of 271 attendees

The Taichung Plant implements risk management to control production processes, environmental control, material supply, and annual quality review. Strict adherence to the Quality Risk Management Procedure Manual, Equipment Risk Assessment Procedure Manual, Change Control Procedure Manual and other regulations reduces hazards to quality to a minimum. In 2022, a total of 11 global cross-departmental risk assessment task force meetings were held with 271 participants to jointly review risk issues within the facilities.



Product Quality Evaluation and Continuous Improvement

Based on the Product Quality Review Procedures, regular internal and external audits are conducted to evaluate product quality and ensure stable production processes and use of materials. Product quality review meetings are held every quarter to address quality issues and implement corrective and preventive actions so as to ensure the stability and uniformity of production processes and product quality.

5.4 Patient Safety Management

GRI 417-1/417-2

To fulfill strict requirements for drug quality, our company adheres to the highest standards for product services and labeling, which comply with international and domestic government regulations (such as the European Medicines Agency and the US Food and Drug Administration). After a product is launched, a series of safety tracking actions are initiated. Since 2021, PharmaEssentia has established a thorough global pharmacovigilance mechanism and continues to conduct safety monitoring and risk control for new drugs after they are launched. In 2022, we did not violate any related regulations on product service labeling, and complied with pharmacovigilance and compliance requirements worldwide. We continue to optimize drug safety policies and internal standard operating procedures to help maintain the health and safety of patients.

Global Drug Safety Monitering Mechanism for Ropeginterferon alfa-2b (P1101)

AOP Orphan GmbH
European authorized partner
Health Regulatory Authority:
European Medicines Agency (EMA)

PharmaEssentia Biosciences (Beijing) Co., Ltd.
Chinese subsidiary
Health Regulatory Authority:
National Medical Products Administration (NMPA)

PharmaEssentia Asia Limited
Hong Kong subsidiary
Health Regulatory Authority: Drug Office of the Department of Health (DOH)

PharmaEssentia Korea Corporation
Korean subsidiary
Regulatory authority: Ministry of Food and Drug Safety (MFDS) in South Korea.

PharmaEssentia Japan KK
Japanese subsidiary
Health authority: Pharmaceuticals and Medical Devices Agency (PMDA)

PharmaEssentia USA Corporation
US subsidiary
Health authority:
US Food and Drug Administration (FDA)

Taiwan
PharmaEssentia
PharmaEssentia Corporation Headquarter
Commissioned agency by Taiwan Food and Drug Administration (TFDA)
National Adverse Drug Reaction Reporting System (ADR center)

Global Pharmacovigilance and Reporting Procedure

SASB HC-BP-250a.1 / a.2 / a.3 / a.4 / a.5

The company's pharmacovigilance department is under the jurisdiction of the Medical Research Department, and works in conjunction with relevant departments according to the Pharmacovigilance Policy, the Drug Safety Training Standard Operating Procedures, and the Post-Marketing Safety Data Collection Standard Operating Procedures. In addition to PharmaEssentia Headquarters, each subsidiary or region also has personnel dedicated to pharmacovigilance. Since 2022, a Global Vice President of Pharmacovigilance and an Global Executive Director of Pharmacovigilance have been appointed to be responsible for global pharmacovigilance. At the same time, an external pharmacovigilance CRO company has been commissioned to form a project task force to manage and maintain the BESREMi® drug safety data database, assist in drug safety information collection/processing/exchange, and handle notifications to regulatory authorities in various countries.

The personnel dedicated to pharmacovigilance at PharmaEssentia Headquarters and each subsidiary or region hold regular meetings every other week with commissioned research institutions to ensure the proper implementation of the drug safety information collected from around the world and the reporting system. In 2022, a total of 22 meetings were held to track and manage the pharmacovigilance mechanism. In March 2022, we submitted the third periodic safety update report (PSUR) for BESREMi® after its launch to Taiwan's FDA, and there were no adverse drug events reported for the marketed drug. In addition, Tirbanibulin, authorized by Athenex, was granted a drug license by PharmaEssentia in 2022, and we will submit PSURs annually until 2028 in accordance with regulations.

Taiwan's Adverse Drug Reaction Reporting Mechanism

In the event of a serious adverse reaction to a marketed drug under normal use, the following channels can be used to report it:

- Healthcare professionals and the public can fill out the "Marketed Drug Adverse Reaction Reporting Form" and report it online after applying for an account or report it via email (adr@tdrf.org.tw)
- Pharmaceutical companies can report it online through the system by selecting the "Marketed Drug Adverse Reaction Reporting Form" and submitting it when completed
- Upon receiving relevant reports, PharmaEssentia will follow the "Guidelines for Completing Marketed Drug Adverse Reaction Reporting Forms" and report it through the online reporting system (https://adr.fda.gov.tw) or by sending the completed reporting form to the ADR center's email (adr@tdrf.org.tw)

BESREMi® Safety Monitoring in the United States

The US subsidiary uses a third-party logistics provider that meets quality requirements to submit transaction history records (TH), transaction information (TI), and transaction statements (TS) in accordance with the Drug Supply Chain Security Act (DSCSA) and related regulations for drug tracing. It also has a dedicated reporting management center, the PEC U.S. Call Center, which is managed by the US subsidiary's medical affairs team and is responsible for handling drug quality and safety-related demands and reporting messages from all sectors. In terms of product traceability, drug serialization was completed in 2020, and there were no drug recalls due to adverse events in 2022

Pharmacovigilance Training

100%

Completion rate of pharmacovigilance training for new employees

In accordance with pharmacovigilance regulations, PharmaEssentia's commissions external research organizations to develop and implement pharmacovigilance management and regulatory reporting plans. The company also regularly conducts pharmacovigilance training for all employees and keeps records of all training. In 2022, 11 company-wide annual pharmacovigilance training sessions were held, and new employees received pharmacovigilance training within one month of their start date, with a completion rate of 100%.

Training Types		Description
Outsourced	Domestic Training	Employees can choose to participate in drug safety training courses/seminars organized by domestic training institutions or regulatory agencies, with the education and training budget prepared by the department
	Overseas Training	To learn about the latest developments in our field and skills concerning drug safety as well as cultivate talents, the company sends personnel to participate in education and training courses organized by overseas institutions according to the company's needs
Internal	Pre-job Training	When new employees start their jobs, training related to drug safety reporting is conducted, and the training hours and course information are recorded
	Other Internal Training	To enhance employees' professional knowledge and skills in drug safety, drug safety reporting related training is conducted every year

Drug Safety Risk Management

In order to assess the safety risks of drugs after they are marketed, PharmaEssentia has adopted a standard operating procedure for drug safety risk assessment developed by an outsourced research institution, and commissioned the development of a risk management plan. Depending on the requirements of each country's regulations on pharmacovigilance management, a Drug Risk Management Plan is developed to comply with the country's regulations. After the product is launched, clinical data is collected to assess whether long-term use of the drug by patients will result in chronic side effects, which serves as the basis for the drug risk-benefit assessment. The results of the 2022 periodic safety report showed that no new safety information would affect the safety of BESREMi®. In 2023, PharmaEssentia will continue to collect safety information from all countries where BESREMi® is marketed to update the periodic safety report and evaluate the risk-benefit of BESREMi®.

Product Traceability Mechanism

SASB HC-BP-260a.1

PharmaEssentia has established a product traceability mechanism for its global supply chain, in which the batch number, lot number and factory activity records of each batch of drugs are kept to keep track of batch flow and ensure traceability. Currently, drug serialization has been implemented to regulate the packaging and serialization at processing plants to which we have outsourced work, achieving our purpose of having fully traceable individual product flows and usage records. BESREMi® sold in the United States has also been fully serialized, and qualified US filling contractors follow relevant regulations of the FDA's Drug Supply Chain Security Act (DSCSA) to carry out drug packaging and serialization, ensuring drug quality and safety.

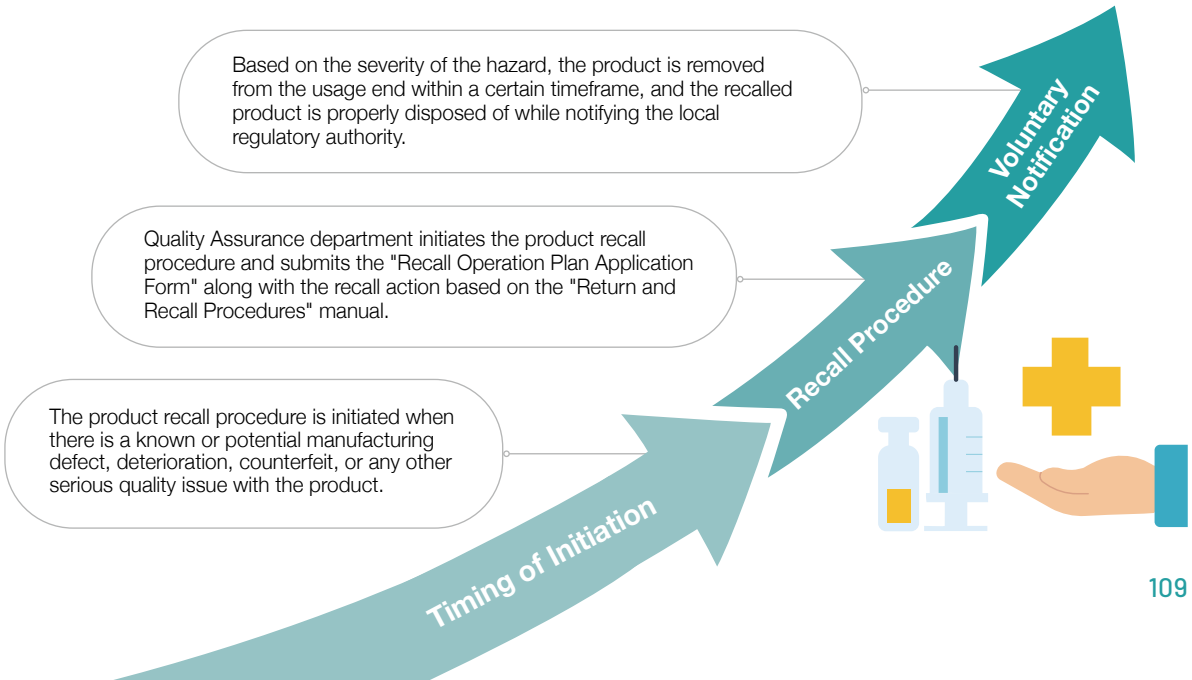
Drug Recall Mechanism

SASB HC-BP-260a.2

0 Case

No incidents of adverse drug recall in 2022

PharmaEssentia has established a Return and Recall Procedure Manual to clearly define the product traceability system and improve the drug recall mechanism. In the event of product quality concerns, the drug recall can be completed quickly and effectively, providing an added level of safety for patients. The company also conducts annual recall simulation training to ensure accuracy and proficiency in the recall process. There were no incidents of drug recalls due to adverse drug events in 2022.



6

Corporate Operations and Governance

Summary of 2022

The stable operation and governance are the key to PharmaEssentia's continuous improvement in the biopharmaceutical industry and sustainable development. We have been actively establishing a solid corporate governance framework and strengthening the functions of the board of directors to drive overall development, and we particularly emphasize legal compliance, integrity in business, and information security. In the face of various risks and uncertainties in recent years, PharmaEssentia has relied on its solid operational capabilities to create new peaks in operational performance.

Material Topic

→ Legal Compliance and Business Ethics

Highlights Performance

2
Female directors

0
No violation of business ethics and Ethical code of conduct

97.2%
Attendance rate of Audit Committee

100%
Coverage rate of compliance education and training for US employees and vendors

100%
Attendance rate of Remuneration Committee

100%
Completion rate of improvement for audit deficiencies

185 participants
Set up Cyber Security promotion team to conduct 2 social engineering education & trainings

6.1 Corporate Operational Performance

Diverse Board Structure

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

2 Female directors

3 Executive directors

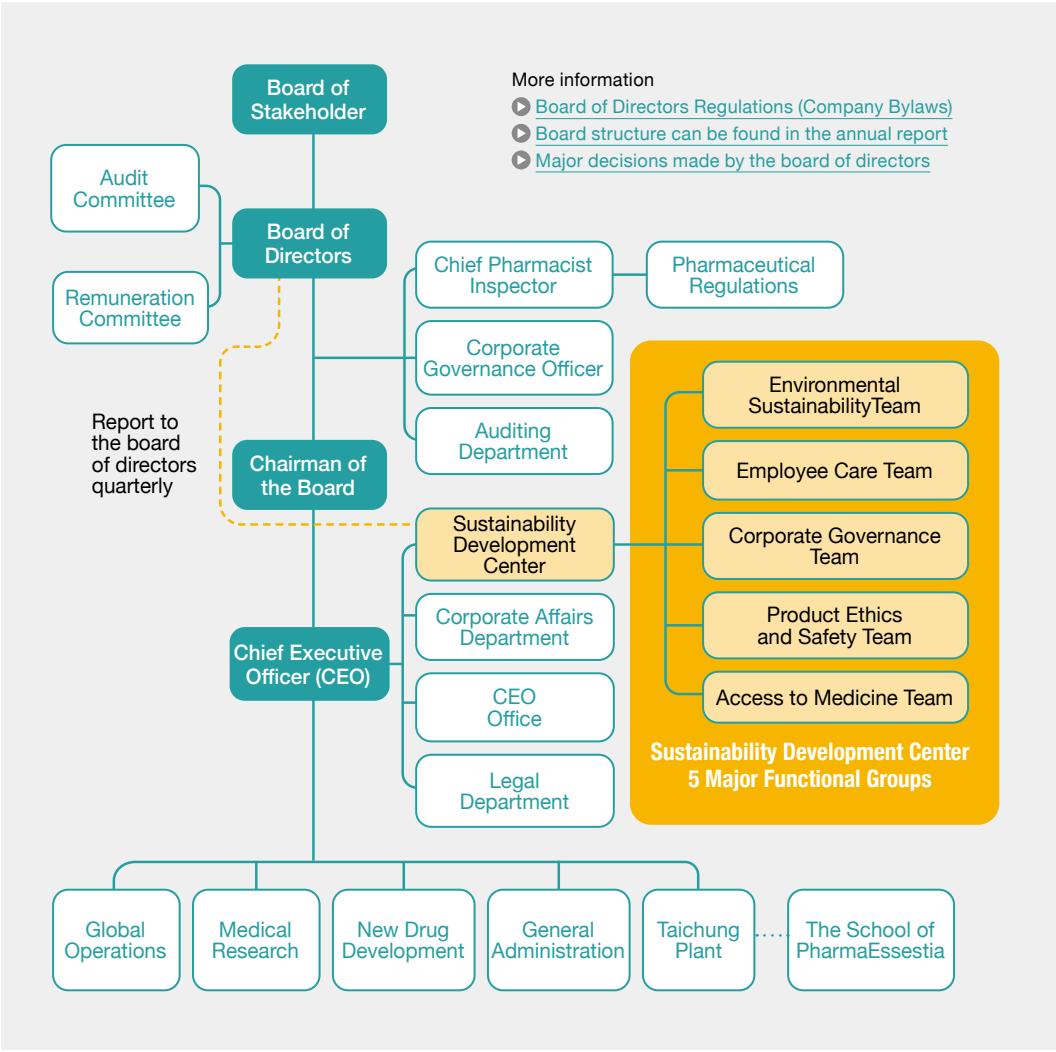
3 Independent directors

The board of directors of PharmaEssentia, which includes all subsidiary boards, operates under a unitary system of governance with a term of three years. The board consists of 11 members, with their term beginning on August 5, 2021 and ending on August 4, 2024, have an average tenure of 8.3 years. The board chairman leads the meetings and has established rules for board proceedings, as well as codes of conduct and operational procedures and Operational Procedures, Guidelines for Business Ethics and Behavioral Guidelines for Business Ethics for Integrity Management to prevent and manage conflicts of interest among directors and staff. Currently, there are no significant conflicts of interest among board members, and there is no single shareholder with absolute control. Any dual roles or relationships between the company and related parties have been disclosed in the annual report. The board of directors is diverse in their professional backgrounds.

Based on the company's Shareholder Meeting Rules, as of the end of 2022, the total voting shares of PharmaEssentia with voting rights amounted to 302,455,641 shares, and in accordance with the provisions of the Company Act, a director will be automatically dismissed if they transfer more than half of the company's shares they held at the time of their appointment during their term. In addition, in accordance with the Regulations Governing the Shareholding Ratios of Directors and Supervisors of Public Companies and the Audit Implementation, the total shareholding of all directors' registered shares also complies with legal requirements. Information on senior management shareholding can be found in the annual report, and neither the company's founder nor the founder's family members hold individual stakes greater than 5%. Government agencies' shareholding is mainly sourced from the National Development Fund, with a shareholding ratio of 7.3%, and there are no special shares involved.

PharmaEssentia's board of directors meets at least once per quarter, and the management task forces as well as financial supervisors are required to attend and answer questions. The audit supervisor reports on the audit to the board of directors. In 2022, a total of 13 board meetings were held, with an average attendance rate of 97.2% for the directors. As for Panco Healthcare, it has three directors and one supervisor. In 2022, it held five board meetings, with a 100% attendance rate. The US subsidiary has three directors and held four board meetings in 2022, with a 100% attendance rate. Information on subsidiary directors can be found in the annual report.

The board of directors plays an important role in formulating the company's sustainable strategy, overseeing management, and being accountable to the company and shareholders. The selection of board members is carried out by the shareholders' meeting in accordance with the director election procedures. In addition to considering the company's business development scale and major shareholder ownership, practical operational needs are considered, and a diversity



of board members policy has been established. The goal is to have board members from different professional and industry backgrounds, providing professional advice on operations, accounting and analysis, business management, industry affairs, and the international market. The diversity policy is continuously implemented, and multiple diversified training courses are arranged for board members to enhance their functions. Of the 11 directors in our company, three are independent directors, accounting for 27.2% of the entire board of directors. In the future, the number of independent director seats will be increased to more than one-third according to the company's operational needs. In 2022, all directors and independent directors met the required training hours, which can be found on the website.

Functional Committees

GRI2-20

97.2%
Attendance rate of Audit Committee

100%
Attendance rate of Remuneration Committee

PharmaEssentia has two functional committees under its board of directors, namely the Audit Committee and the Remuneration Committee. The members of these committees are all independent directors, effectively exerting the supervision and checks and balances mechanism of independent directors. The Remuneration Committee includes an external expert (Professor Ming-Chuan Hsieh) as a member, to strengthen the functionality of the board of directors and enhance the management mechanism.

Committee	Audit Committee	Remuneration Committee
Responsibilities	Assist the Board of Directors in fulfilling its oversight responsibilities regarding the quality and integrity of the accounting, auditing, financial reporting processes, and financial controls	Assist the Board of Directors in establishing and reviewing policies, systems, standards, and structures for the evaluation of the performance and remuneration of directors, supervisors, and managers
Composition	Independent Director JinnDer Chang, Independent Director Patrick Y. Yang, and Independent Director JienHeh Tien	JinnDer Chang (Independent Director), Patrick Y. Yang (Independent Director), JienHeh Tien (Independent Director) and Ming-Chuan Hsieh (Professor)
Number of meetings	13	2
Attandence	97.2%	100%

Board Effectiveness

GRI2-18

The company has established Board Performance Evaluation Guidelines and the Board Self-Evaluation or Peer Evaluation to implement corporate governance and enhance the functions of the board of directors. The guidelines aim to establish performance goals and evaluation systems. At least one internal board performance evaluation is conducted annually, and every three years, an external and independent professional organization is commissioned to conduct an annual board performance evaluation. Regular evaluations are also conducted for functional committees, and evaluation reports and specific improvement proposals are submitted to the board of directors. Items for evaluation include at least five aspects: participation in company operations, improvement in board decision-making quality, board composition and structure, selection and continuing education of directors, and internal control. The results of the internal board and director performance evaluation for 2022 were reported to the board of directors on February 24, 2023, in accordance with the law. The evaluation results were unanimously approved, and there were no other suggested improvements. Please refer to the company's website for more information.

The directors of PharmaEssentia commissioned the Taiwan Corporate Governance Association, a third-party organization, to conduct a board performance evaluation for the period from November 1, 2020, to October 31, 2021. The evaluation report (please refer to the website for details) made four recommendations for improvement: strengthening the director nomination mechanism, developing a plan to cultivate important management talent, establishing a sound whistleblowing mechanism and communication channel, and setting up a corporate governance section on the company's website. The company has already set up a corporate governance section and a grievance channel on its website, and the other recommendations will be implemented gradually as needed in the future.

Linking Director Remuneration Policy with Sustainable Performance

GRI2-19

The director remuneration policy of our company is governed by the internal bylaws and is based on allocating up to 5% of the net profit after offsetting the accumulated losses for the year as director compensation. We also consider the level of participation, performance contributions and results of the director's board performance evaluation in determining the reasonable salary compensation for each director. Information on director and senior executive compensation can be found in the annual report. Currently, our HR department is actively developing related operational procedures for linking director remuneration policy with sustainable performance in line with our company's sustainable development process with the aim to reflect the directors' efforts in supervising and executing sustainable development goals and strategies.

Participation in Industry Associations

GRI2-28

Participation in industry associations is based on the selection of the biotech and pharmaceutical associations, and membership is obtained by paying membership fees to each association. By working together with these associations, we aim to increase our influence and promote industry development.

External Association Participation

- Taiwan R&D-based Biopharmaceutical Association
- Pharmaceutical Agents Association, Republic of China
- Pharmaceuticals Development Association, Republic of China
- Science Park Industries Association, Taiwan
- Taiwan Association of Clinical Trials and Research
- Pharmaceutical Agents Association, Republic of China
- Taiwan Society of Hematology
- National Biotechnology and Medical Care Industry
- Taiwan Myelodysplastic Syndrome Care Association

Tax Strategy and Governance

GRI207-1/207-2/207-3/207-4

Our company's tax management unit is coordinated and managed by the accounting departments of PharmaEssentia Headquarters and subsidiaries. If there are any important decisions, professional tax consultants may be consulted or appointed according to the situation. We strictly comply with the commercial laws and tax regulations of Taiwan and the local jurisdictions where we operate, and is transparent in disclosing information in accordance with regulations to strengthen the group's compliance with tax laws and commitment to fulfill its corporate social responsibility. We are committed to the following tax management policy to reduce tax risks, optimize post-tax operating results, and protect shareholder interests.

- All operations are carried out in accordance with relevant tax laws and regulations.
- Transactions between related parties are conducted in accordance with normal market terms and follow the internationally recognized transfer pricing guidelines published by the Organization for Economic Cooperation and Development (OECD).
- Financial reporting information is transparent, and tax disclosures are handled in accordance with relevant regulations and standards.
- No transactions are conducted for the sole purpose of tax avoidance.
- Based on mutual trust and information transparency, a respectful relationship is established with tax authorities.
- The company's important decisions take into account the impact of taxes.
- Tax risks are evaluated through management mechanisms that analyze the operating environment.
- Ongoing talent development is used to strengthen tax expertise.

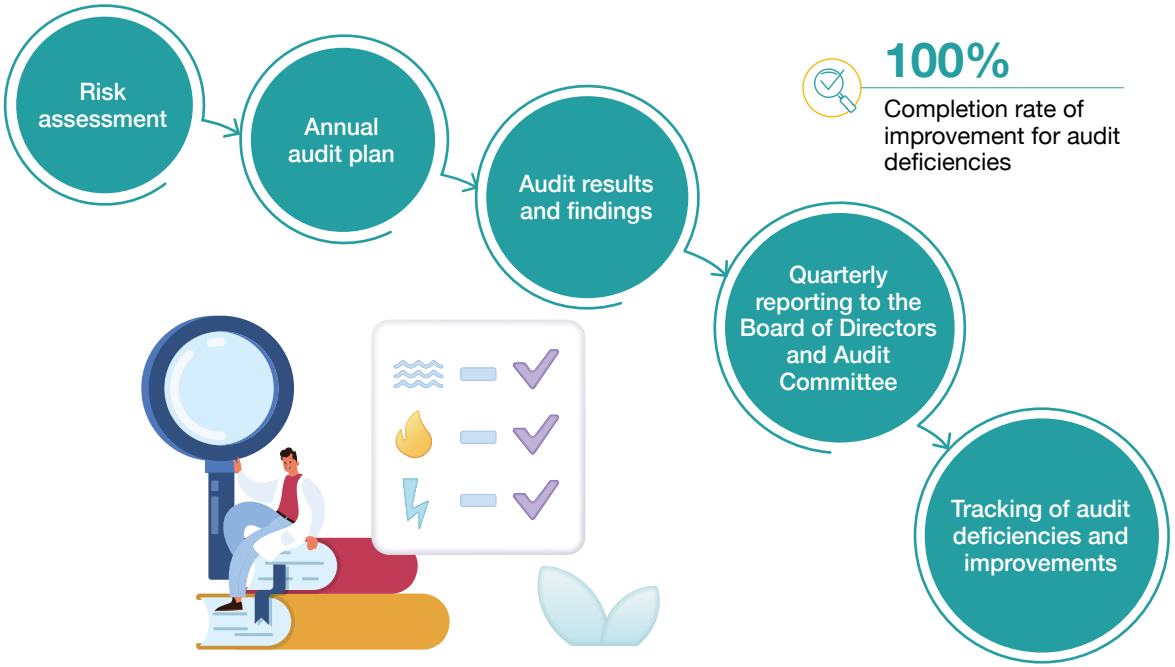
Income Tax Expense and Adjustments for Accounting Profit Multiplied by the Applicable Income Tax Rate

(Unit: NTD Thousand)

	2020	2021	2022
Accounting loss before tax from continuing operations	$(1,948,016)	$(2,810,988)	$(1,841,871)
Income tax expense at the statutory income tax rate	$(389,603)	$(562,198)	$(368,374)
Tax effect of deferred tax assets/liabilities	389,629	562,198	(72,399)
Others	100	-	(26,288)
Total income tax expense	$126	$0	$(467,061)

Internal Control and Internal Audit

The company has established an Internal Auditing Office that reports to the Board of Directors, and it is staffed with two full-time auditors and a deputy. When internal control deficiencies and abnormal matters are discovered during audits, the auditors are required to record them truthfully and report them to the Audit Committee and the Board of Directors. The head of the audit department reports on the execution of audit activities to the Audit Committee and the Board of Directors on a quarterly basis, strengthening the Board's supervision of the company's audit system and arranging regular communication between the internal auditors and the independent directors. In addition, for deficiencies discovered in the internal control inspection during the annual audit plan, the company continues to track and review them to ensure that relevant units have taken appropriate improvement measures in a timely manner. Through routine and project-based audits as well as subsidiary supervision operations, the company gains an understanding of its operating status and the potential risks in its internal controls, assists the Board of Directors and management in fulfilling their responsibilities, and implements corporate governance systems. In 2022, the audit department completed 55 audit reports, discovered one deficiency, and achieved 100% improvement.



Annual Operating Performance

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

Operating Results of the Group in the Past 3 Years

(Unit: NTD$ Thousands)

		2020	2021	2022
Direct Economic Value	Generated Revenue	557,257	656,506	2,882,042
Economic Value Distributed	Operating Costs	373,323	378,856	812,288
	Employees' Compensation and Benefits	670,560	1,489,430	1,600,415
	Payment of Government Taxes	664	957	4,772
	Payment to Capital Providers	1,269	1,720	1,704
	Community Investments	4	3	250
	Total	1,045,820	1,870,965	2,442,086
Retained Economic Value		-488,563	-1,214,459	439,955

Note 1: The data in this table is from consolidated financial statements
Note 2: In 2022, NT$16,263,000 in government subsidies and NT$22,154 in maternity leave subsidies from the Ministry of Labor are included
Note 3: In 2022, no direct or indirect political contributions were made to any country or individual
Note 4: Community investments mainly refer to donations to charitable projects
Note 5: For more information on the performance and operating results of the board of directors, including CEO compensation structure, government shareholding status, family shareholding status and disclosure of voting rights, please refer to PharmaEssentia's annual report

6.2 Legal Compliance and Business Ethics

Material Topic

PharmaEssentia sells its products across Europe, the United States, and Asia. We closely monitor policies and regulations in both Taiwan and abroad, and have developed a global compliance strategy framework for PharmaEssentia's operations. To reduce operational risks caused by non-compliance, the framework is based on four pillars: Structure and Governance, Policy and Action, Operation and Accountability, and Culture and Education.

GRI 3-3

Management Policy

Internal Policies

- Various operation management measures, including Practical Guidelines for Corporate Governance, Guidelines for Business Ethics, Code of Ethics, Operational Procedures and Behavioral Guidelines for Business Ethics, Practical Guidelines for Sustainable Development of Corporate, and Management Procedures for Internal Material Information and Preventing Insider Trading.
- Intellectual Property Management and Utilization Measures
- Lawsuit/Material Dispute Management Measures

External Guidelines

- All business activities and products must comply with the laws and regulations of the relevant regulatory authorities in each country
- The corporate governance evaluation system indicators of the Financial Supervisory Commission

Management Commitment

- Structure and Governance: Establish a global legal compliance plan before and after the launch of products
- Policy and Action: Formulate core legal compliance areas and reasonable policies
- Operations and Accountability: Establish legal compliance operating procedures, fully implement monitoring and accountability management
- Culture and Education: Continuously conduct employee education and promotion to solidify corporate spirit

Accountable Units

- Board of Directors of PharmaEssentia, regulatory affairs unit, legal compliance unit, personnel unit, functional departments, and business and Legal Compliance Functional Teams of each subsidiary
- Various functional departments
- Head of Corporate Governance
- ECCS - Corporate Governance Taskforce

Input Resource

- Implement the ability to prepare financial reports independently and disclose financial information in a timely manner
- Optimize internal controls for litigation-related procedures to track the progress of significant lawsuits through more precise steps and effectively manage content control for formal legal documents
- Each functional department of PharmaEssentia and its subsidiaries shall allocate a budget for the annual legal compliance plan and submit it for approval by the board of directors
- Each functional department shall hire external professional consultants to assist with legal compliance policy projects according to the development needs of the Group

Targets

Short-term Targets for 2023

- Depending on the operational needs, establish a nomination committee to continuously better the mechanism for selecting directors
- Improve the company website to provide direct or synchronized channels for communication or for filing complaints and reports with independent directors (Audit Committee)
- Establish the Guidelines for Practices by Listed Companies for Risk Management in compliance with the law to improve the risk management system
- Strengthen legal compliance management education and training
- Formulate the highest management principle, which is the Code of Business Conduct and Ethical Standards, and related operating policy documents with details for the group
- Include compliance with laws and regulations as an item in the annual audit plan and conduct internal audits regularly
- Actively implement the evaluation indicators of the Financial Supervisory Commission's Corporate Governance 3.0 Sustainable Development Blueprint
- Establish mechanisms and training for due diligence investigation of the adoption of technology of interest
- Strengthen the intensity of contract reviews, and optimize the management process for cases and documents in the legal department

Medium-term Targets for 2024-2026

- Establish a cross-subsidiary legal compliance committee within the group to promote the inclusion of opinions from legal compliance representatives of various functional units in the senior strategic decision-making process, and ensure that operational activities comply with laws and company policies
- Promote the establishment of a global legal compliance committee to oversee the effective implementation of legal compliance plans, and establish a reporting management mechanism for Headquarters and subsidiaries
- Establish an integrity operation supervision unit under the PharmaEssentia's legal compliance committee

Long-term Targets (2026 and beyond)

- Establish a global legal compliance committee
  - Provide a global view of legal compliance risks for each subsidiary
  - Promote cross-regional identification of operational efficiency, and prevent duplicate work
  - Provide a global view of legal compliance risks for each subsidiary
  - Promote cross-regional identification of operational efficiency, and prevent duplicate work

Handled unexpected incidents properly

Improvement measures were planned, ensuring stable operations within the company

Evaluation of Management Policy

Management Evaluation Mechanism

- Develop relevant measures in accordance with regulatory requirements
- Provide internal audit feedback within the year and report on implementation results to the board of directors on a quarterly basis
- Employee education and training
- Performance evaluation mechanism for directors and managers
- Financial Supervisory Commission's Corporate Governance 3.0 Evaluation System
- Board of directors' performance evaluation by external professional organizations
- Whistleblowing hotline and email

2022 Evaluation Results

- PharmaEssentia has established over 40 operational management measures
- No material violations of ethical and moral standards or any corruption or privacy breaches were found in 2022
- The Internal Auditing Office held four courses on major internal regulations and sustainable governance related to the board of directors
- The legal compliance and HR departments jointly held three courses to further the understanding of code of ethical conduct
- No violations of the operational procedures of the Taiwan Stock Exchange were found in 2022, and there were no cases of Anti-Competitive Behavior and Anti-Trust and Monopoly Practice
- The Articles of Incorporation were amended on May 27, 2022, and the registration of changes was not processed within the legal deadline, resulting in a penalty of NT$30,000 in accordance with Article 387 of the Company Act

Legal Compliance and Stable Operation

GRI 2-27/205-1/205-2/205-3/206-1

The biotech and medical industries are highly regulated due to the significant impact of pharmaceuticals on human life and health. Therefore, we ensure that all business operations and products, from research and development to clinical trials, pharmaceutical manufacturing, drug licenses registration and post-market safety monitoring comply with the regulations of each country we operate in. Our company has been conducting clinical trials in various countries and actively investing in research and development, and we have established a regulatory affairs department and a marketing unit that strictly comply with local pharmaceutical and market regulations. We have also formulated the Intellectual Property Management and Utilization Measures to regulate the acquisition, protection, maintenance and use of our intellectual property. In terms of international arbitration and litigation disputes, we have established the Lawsuit/Material Dispute Management Measures to actively strengthen our control over legal cases and major disputes, and to monitor their progress. In 2022, there were two unexpected incidents, both of which were handled properly, and improvement measures were planned, ensuring stable operations within the company.

Event 1

In 2021, the company was fined NT$1.5 million for violating the regulations on the verification and public handling procedures for important information and the operation procedures for information declaration. Additionally, on April 28, 2022, the Securities and Futures Institute announced that the company was not evaluated for its change in trading company governance evaluation in 2021.

Response and improvement measures>>

The company convened professional legal advisors and accountants to jointly develop specific improvement measures and optimize the system. The existing internal standards and control procedures were made explicit and relevant operational procedures were added. An internal control system improvement plan was also developed and reviewed and confirmed by external lawyers and signing accountants. The company resumed normal trading operations on May 4, 2022, and the company's governance evaluation system for 2022 has also been restored to normal evaluation operations.

Event 2

On May 27, 2022, the company amended its articles of association and was fined NT$30,000 for failing to provide the required documentation for registration within the specified period under Article 387 of the Company Law.

Response and improvement measures>>

The company strengthened personnel education and training to comply with relevant regulatory requirements and meet the processing deadlines.

Standard	Action Plan	Execution in 2022
Anti-Corruption	Focus on prohibiting any form of bribery or improper financial transactions, as well as insider trading, money laundering or illegal political donations, and implementing the company's anti-corruption plan. PharmaEssentia's Headquarters and the US subsidiaries conducted multiple education and training sessions on IRPMA (market marketing regulations) as well as related laws and codes of conduct for clinical and marketing personnel	PharmaEssentia had zero corruption and no illegal political donations
Corporate Social Responsibility	Focus on sponsoring corporate social responsibility activities, including financial activities related to drug donations, research sponsorship programs, and sponsorship or charity activities related to the company	PharmaEssentia had no cases of improper behavior in violating ethical drug marketing standards
Trade Secrets	Trade secrets are important assets of research-based companies and should be actively protected and managed to a degree no less than the protection of intellectual property and patents	PharmaEssentia had no events that harmed customer privacy
Conflicts of Interest	Includes the activities of the company's business operations, which should comply with relevant regulations such as fair-trade law, company law, and securities law, and companies should not engage in unfair competition or monopolies that harm the rights and interests of consumers or other stakeholders. Strengthen the concept of legal compliance among employees to avoid committing violations against Anti-Competitive Behavior and Anti-Trust and Monopoly Practice	PharmaEssentia had zero violations against fair trade, anti-competition, anti-trust, or monopoly regulations

Global Legal Compliance Strategy - US Legal Compliance Column

Establishment of the Legal Compliance Committee and the Legal Compliance Department

No reported complaints / No incidents of violation of Corporate Code of conduct

Conduct multiple legal compliance education and training sessions

100% of employees trained, and 99% signed commitment agreement
100% of relevant vendors trained, and 100% signed commitment agreement

Signed compliance guidelines

Business ethics and legal compliance are regulated

Establishment of multiple complaint channels

Real-time monitoring of regulatory compliance through multiple channels

- The US subsidiary is committed to following the highest ethical standards and all applicable laws, regulations, industry standards, company policies, and procedures. The company has established a Legal Compliance Committee and Legal Compliance Department to assist in implementing and strengthening compliance programs related to the US market.
- The Compliance Policy Book-A guide is used to guide and manage business conduct for the US subsidiary. It explicitly specifies regulations related to anti-corruption and bribery, interactions with patients or their representatives, fee-for-service, privacy, and the unique ethical standards of the biopharmaceutical industry. The management policy related to the corporate code of conduct include anti-corruption and bribery, non-discrimination, protection of privacy, conflict of interest prevention, and environmental health and safety.
- Legal compliance education and training are provided, and all employees are required to comply with the rules stipulated in the Policy on Legal Compliance Handbook, with legal compliance evaluated as part of employee performance reviews.
- A whistleblower system and diverse complaint channels have been established, including a website platform (dedicated to employees, anonymous, and handled through a third-party referral process), email, and a hotline number to receive real-time legal compliance-related information. In 2022, there were no violations of ethical business practices and corporate of codes of conduct, and no complaints were received.

Strengthening Ethics and Integrity Policies

GRI2-23/2-24

In addition to compliance with laws and regulations, adherence to ethical business practices is even more important. We have established multiple policy commitments to provide employees with a comprehensive framework to follow, and clearly define the responsibilities of each department to ensure the healthy development of organizational operations as well as the implementation of integrity management and supervision. The Board of Directors Meeting Rules further stipulate rules on the board of directors and other relevant conflict of interest. We plan to establish a supervision unit for integrity management under the Legal Compliance Committee in the future to strengthen our management of legal compliance and integrity.

All employees must abide by the 7 business and ethical regulations set by our company. The Human Resources Department will educate new employees on ethical considerations in their work. We have also established a specific reporting system for illegal behaviors (including corruption) for both internal and external personnel. The regulations specify that employees should uphold the principles of fairness and impartiality in their work, and should not use their position for personal gain or manipulate or abuse information obtained through their work. All corporate governance-related procedures and methods can be found in the download section on our company website.

In 2022, we actively solidified our commitment to ethical behavior by:

- We adopted online training courses to enhance knowledge and awareness of ethical concepts and legal risks associated with workplace dishonesty for all employees of PharmEssentia and Panco Healthcare, with a total of 216 participants and a 70.82% attendance rate, as part of our commitment to ethical business practices as an OTC-listed company.
- We conducted two educational training sessions on the IRPMA (Industry Recommended Practices for Market Activities) for clinical and marketing staff, providing clear guidelines to support and execute activities related to product launch, with a total of 20 participants and a 71.43% attendance rate.
- We organized four training sessions for the Internal Auditing Office to prevent the company's directors, managers, or employees from using insider information to buy or sell securities, which included verification and public handling procedures for major announcements, and regulatory education for internal personnel. We also invited external professional institutions to provide courses on the trends and challenges of sustainable corporate governance for all members of the board of directors, executive officers and the Head of Corporate Governance to obtain relevant knowledge.
- In addition, to ensure the comprehensive implementation of ethical business practices, a whistleblowing system to protect whistleblowers and provide a confidential reporting hotline in the local language for suppliers, customers, and other third parties to use is being prepared at our Headquarters. The system will disclose the number and types of reports received and the measures taken, which will help to detect risks, demonstrate our commitment, and protect our reputation.

Compliance with Regulations and Specific Actions Throughout the Product Life Cycle

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

In every stage of the biopharmaceutical industry chain, there are regulations that must be strictly followed. Experimentation, manufacturing, sales and advertising cannot be conducted arbitrarily. Ethical issues unique to the biopharmaceutical industry are particularly important, with a special emphasis on the implementation of regulations related to the ethics of preclinical animal experimentation, human clinical trials and drug marketing throughout the three stages of the product life cycle.

Concrete Actions for Legal Compliance		Pharmaceutical Product Lifecycle	International Local and Internal Ethical Standards
• Establishing a legal compliance department • Setting up an anonymous hotline for reporting violations • Establishing a dedicated section for legal compliance-related measures • Ensuring all functional departments adhere to legal compliance-related measures • 100% coverage of employee training on legal compliance • Monitoring system for meals provided to healthcare professionals • Business rules and operations for speaking events • Ethical guidelines for pre-clinical animal testing • Ethical guidelines for clinical human trials	Before market launch	**New drug development and preclinical research**	✓ Good laboratory practice (GLP) ✓ Non-clinical safety standards for drug testing established by regulatory agencies in each country
		Clinical trials	✓ Good clinical practice (GCP) ✓ Good manufacturing practice (GMP) ✓ Ethical principles of the Helsinki Declaration ✓ Local regulations established by regulatory agencies, such as Taiwan's "Regulations for Human Clinical Trials" and "Pharmaceutical Affairs Act"
		Production and manufacturing	✓ Good distribution practice (GDP) ✓ Good manufacturing practice (GMP) ✓ Local regulations established by regulatory agencies, such as the European Pharmacopoeia, United States Pharmacopeia, Taiwan's "Medical Care Act", "Pharmaceutical Affairs Act", and "Standard for the Establishment of Pharmaceutical Manufacturing Plants"
		Drug registration	✓ Local regulations established by regulatory agencies, such as Taiwan's "Guidelines for Inspection, Registration, and Review of Pharmaceutical Products"
• Implementing a transparent reporting system • Implementing a review process and control measures for speaking events, advisory committees, and the monitoring and auditing system for meals provided to healthcare professionals • Implementing a compliance review process and control measures for advisory committees • Other legal compliance policies and standard operating procedures, such as investigations, monitoring, and employee discipline • Pharmaceutical marketing ethics guidelines	After market launch	**Marketing and sales**	✓ Good distribution practice (GDP) ✓ Relevant ethical regulations established by the World Health Organization (WHO) and regulatory agencies in various countries
		Pharmacovigilance	✓ Good pharmacovigilance practice (GVP) ✓ Local regulations established by regulatory agencies, such as Taiwan's Pharmacovigilance Management Measures

	Applicable ethical guidelines	Our approach	Our goal
Ethical guidelines for preclinical animal experiments	• ICH guideline "Non-Clinical Safety Studies for the Conduct of Human Clinical Trials and Marketing Authorization for Pharmaceuticals", as well as country-specific regulations such as "Non-Clinical Safety Guidelines for Drugs" • GLP	• Establishment of an Institutional Animal Care and Use Committee (IACUC) to review and oversee animal experiments and animal care in our institution • Outsourcing of animal experiments to Contract Research Organizations (CROs) that have obtained GLP certification, both domestically and internationally • Use of healthy, infection-free experimental animals of Specific Pathogen Free (SPF) level to prevent interference from specific diseases in the test results • Actively implementing the 3R principles for experimental animals: "Replacement", "Reduction", and "Refinement"	To ensure that researchers in animal experiments comply with relevant legal requirements and minimize the use of experimental animals as much as possible.
Clinical Trial Ethics for Human Subjects	• Internal policies on clinical trials • The Helsinki Declaration • GCP (Good Clinical Practice) • Trial protocol and local regulations	• Standard operating procedures for the development and approval of trial protocols and informed consent forms for participants • All trial protocols and informed consent forms must be reviewed and approved by the health authorities and the Institutional Review Board (IRB) before the trial begins • Participants in clinical trials led by PharmaEssentia will be insured with clinical trial insurance to protect their personal rights and interests • During the trial, the personal information and privacy of participants will be protected • Regular monitoring and auditing will be conducted during the trial	Ensuring the safety, privacy, and rights of clinical trial participants demonstrates that PharmaEssentia is a trustworthy Biopharmaceutical company that patients can rely on.
Ethics in pharmaceutical marketing	• World Health Organization (WHO) • Pharmaceutical Research and Manufacturers of America (PhRMA) • International Research-Based Pharmaceutical Manufacturers Association (IRPMA) • National Council for Prescription Drug Programs (NCPDP) • Ethics guidelines set forth by the Foreign Corrupt Practices Act (FCPA) • Internal policies such as "HCP & HCO Interaction Policy" and "Promotional Material Policy"	• All employees must follow the ethical standards set forth by the aforementioned organizations when interacting with healthcare-related individuals or organizations • Marketing activities must be transparent, ethical, accurate, and balanced, with no misleading information • Marketing materials must contain correct assessments of product risks and benefits, as well as appropriate usage information • Products may not be marketed under the guise of human research studies	We ensure that healthcare professionals receive necessary information and that patient care and welfare are protected in an ethical manner, in line with our mission and responsibilities. In 2022, there were no incidents of quota errors related to marketing.

6.3 IT Security/ Cybersecurity Management

In order to strengthen information security protection and management mechanisms as well as comply with the Guidelines for Public Companies to Establish Internal Control Systems, our company passed the new Information Security Control Measures in a board meeting in 2022 and established an information security promotion organization to enhance risk control for information security. This organization is responsible for promoting, coordinating, supervising and reviewing matters concerning the management of information security, and the information security manager reports on the status of affairs to the board of directors annually. The annual information security policy and goals are approved by executives at or above the general manager level, and the policies and goals are reviewed regularly and effectively communicated to employees.

Our company has formed an information task force and recruited relevant professionals to join. In 2022, in addition to completing the SAP server drill and implementing the anti-hacking measures listed below, we invested in at least five IT personnel and spent Tens of millions of NT dollars on upgrading ERP software and hardware equipment. We also commissioned a professional vendor that complies with ISO 27001: Information Security Management System to plan, implement, maintain, manage and support our company's information system operations. Regarding education and training, the IT security task force conducted two Social Engineering Information Security Education and Training sessions for 185 employees, with an attendance rate of 71.71%; professional lecturers with abundant experience in information security service from a Taiwanese company were invited for the first time. We aim to strengthen employee awareness of information security and ensure that our company's information security management is recognized by employees through their feedback.

IT Secueraty

- Added "Information Security Control Measures" and established the Information
- The information security management system ISO 27001 will be implemented in 2024

Privacy Protection

- Strictly follow the EU General Data Protection Regulation (GDPR)
- Regarding the privacy and personal data security of patients and employees, we adhere to relevant policies and legal regulations to ensure their rights and interests are protected

Information Security Action Plan

Our company's information task force and hardware equipment have been gradually established and improved. In the future, we will continue to implement our Information Security Control Measures to ensure the appropriateness and effectiveness of our information security operations, regularly track and improve them, and establish a positive PDCA cycle.

We also plan to introduce ISO 27001: Information Security Management System in 2024, establishing an effective information security management mechanism to enhance everyone's awareness of information security.

Cybersecurity Measures of PharmaEssentia

- ✓ Strengthening of important core information system backups
- ✓ Drafting of information security policies (compliance with the GreTai Securities Market Information Security Management Control Guidelines)
- ✓ Planning and execution of information security checkups (annual execution)
- ✓ Planning and execution of employee social engineering training (annual execution)
- ✓ Information system and network vulnerability scanning (annual execution within the company)
- ✓ Information system and network penetration testing (annual execution from outside the company)
- ✓ Planning and implementation of file encryption systems
- ✓ Data loss prevention (DLP) endpoint device security protection
- ✓ O365 multi-factor authentication (MFA) for enhanced information security

Ensuring the Protection of Personal Privacy GRI418-1

The privacy policy of PharmaEssentia focuses on protecting personal information, including that of patients, healthcare professionals and other individuals involved in business transactions. Privacy protection is divided into two stages: clinical trial and drug launch. All of our partner research institution and hospitals for clinical trials are required to strictly follow our internal policy and national regulations, such as the General Data Protection Regulation (GDPR) in the European Union, Good Clinical Practice (GCP), the Helsinki Declaration and Taiwan's guidelines on ethical human research to ensure the protection of personal data. In 2022, there were no complaints of privacy violations or loss of customer data.

Global Cybersecurity Strategy – US Cybersecurity Column

Governance Responsibility

- Hired an IT Director with over 20 years of IT management experience as the highest information and network security executive, reporting directly to the VP of Business Operations
- Senior Operations Manager applied for the Certified Information Security Manager (CISM) certification
- Planning to establish relevant management processes and operating procedures before March 2023

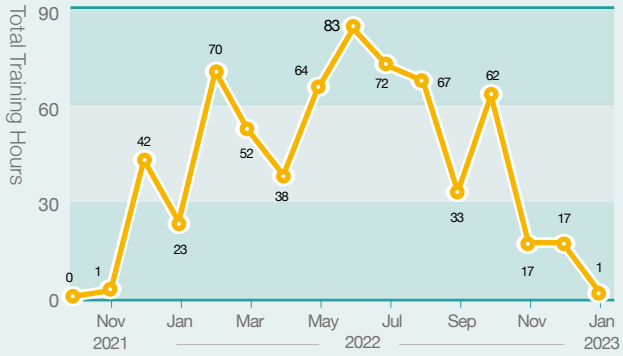
Risk Prevention

- The KnowBe4 system has an alert function. If an employee detects any abnormality, they can report it through the system and block potential phishing emails. If an employee feels that their account is at risk of information security, they can immediately seek IT support.
- Entrusted a third-party information security monitoring company to conduct IT audit management to prevent hackers or phishing attacks and collaborate to gradually improve management, including the establishment of more comprehensive policy and management processes, such as Bring Your Own Device (BYOD) Policy, Acceptable Use Policy, Asset Management, Security and Privacy Management Policy, IT Change Management Workflow, etc.
- No information security or network attacks have occurred to date.

Management Measures

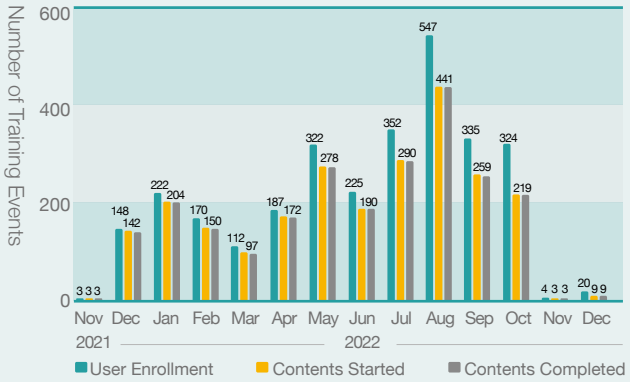
- Management Procedures: There is currently an internal operating procedure (SOP-IT-001) that not only manages information security risks but also provides management instructions for other events that may pose risks to the company's continuous operation.
- Education and Training: All employees receive policy and management procedure instructions to promote the importance of information security. Regarding the use of the KnowBe4 system, all employees are required to complete relevant training courses regularly. A total of 599 training hours were conducted in 2022.

Training Hours



This Report displays the number of hours selected users have spent training. Training hours includes any time spent on an assignment, regardless of completion status.

All Training Activities



This report displays a count of training events, grouped by month.

Appendix 1 GRI Standards Index

Usage Statement: PharmaEssentia Co., Ltd. has reported on its activities during the 2022 reporting period in accordance with the GRI Standards
GRI Standard Used: GRI 1: Foundation 2021 (no applicable GRI industry-specific standard)

GRI 2: General Disclosures 2021				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Organizational and Reporting Practices	2-1	Organizational details	Preamble 4 PharmaEssentia's Company Introduction	9
	2-2	Entities included in the organization's sustainability reporting	Preamble 1 About This Report	3
	2-3	Reporting period, frequency and contact point	Preamble 1 About This Report	3
	2-4	Restatements of information	Preamble 1 About This Report	3
	2-5	External assurance	Preamble 1 About This Report	3
			Appendix 5 Statement of Independent Assurance Opinion	131
Events and Workers	2-6	Activities, value chain and other business relationships	Preamble 4 PharmaEssentia's Company Introduction	9
			5.2 Sustainable Supply Chain Management	93
	2-7	Employees	3.1 Diversity, Equity, and Inclusion	48
	2-8	Workers who are not employees	3.1 Diversity Equity and Inclusion	48
Governance	2-9	Governance structure and composition	6.1 Corporate Operational Performance	112
	2-10	Nomination and selection of the highest governance body	6.1 Corporate Operational Performance	112
	2-11	Chair of the highest governance body	6.1 Corporate Operational Performance	112
	2-12	Role of the highest governance body in overseeing the management of impacts	1.1 Sustainable Governance and Performance	18
	2-13	Delegation of responsibility for managing impacts	1.1 Sustainable Governance and Performance	19
	2-14	Role of the highest governance body in sustainability reporting	Preamble 1 About This Report	3
	2-15	Conflicts of interest	6.1 Corporate Operational Performance	112
	2-16	Communication of critical concerns	1.2 Stakeholder Engagement	22
			1.3 Management of Material Topics	26
	2-17	Collective knowledge of the highest governance body	1.1 Sustainable Governance and Performance	20
	2-18	Evaluation of the performance of the highest governance body	6.1 Corporate Operational Performance	113

GRI 2: General Disclosures 2021				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Governance	2-19	Remuneration policies	6.1 Corporate Operational Performance	113
	2-20	Process to determine remuneration	3.4 Talent Attraction and Retention	56
			6.1 Corporate Operational Performance	113
	2-21	Annual total compensation ratio	3.1 Diversity, Equity, and Inclusion	50
Strategies, Policies, and Practices	2-22	Statement on sustainable development strategy	Preamble 2 Messages from the Management Team	5
	2-23	Policy commitments	6.2 Legal Compliance and Business Ethics	116
	2-24	Embedding policy commitments	1.1 Sustainable Governance and Performance	18
			6.2 Legal Compliance and Business Ethics	116
	2-25	Processes to remediate negative impacts	1.1Sustainable Governance and Performance	20
			1.2 Stakeholder Engagement	22
	2-26	Mechanisms for seeking advice and raising concerns	1.1Sustainable Governance and Performance	20
	2-27	Compliance with laws and regulations	6.2 Legal Compliance and Business Ethics	117
	2-28	Membership associations	6.1 Corporate Operational Performance	114
	2-29	Approach to stakeholder engagement	1.2 Stakeholder Engagement	22
	2-30	Collective bargaining agreements	Our company has not established a labor union, so there is no collective agreement in place. However, we regularly hold labor-management meetings as one of the channels for communication with employees.	-

GRI 3: Material Topics 2021				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Material Topics	3-1	Process to determine material topics	1.3 Management of Material Topics	26
	3-2	List of material topics	1.3 Management of Material Topics	27

GRI 3: Material Topics 2021				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Material Topics	3-3	Management of material topics	2.1 Climate Action	33
			2.3 Waste Management	41
			2.4 Hazardous Waste Management	44
			3.2 Commitment to Human Rights	51
			3.3 People Training & Development Inputs	55
			4.1 Governance on Access to Medicine	72
			4.2 Globalizing Local Capacity Building and Access to Healthcare	77
			5.1 New Drug Development and Innovation	88
			5.2 Sustainable Supply Chain Management	93
			5.3 Good Manufacturing and Product Safety	101
			6.2 Legal Compliance and Business Ethics	116

GRI 200: Topic-Specific Standards Economic Topics 2016				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Economic Performance	201-1	Direct economic value generated and distributed	6.1 Corporate Operational Performance	115
	201-2	Financial implications and other risks and opportunities due to climate change	2.1 Climate Action	34
	201-3	Defined benefit plan obligations and other retirement plans	3.4 Talent Attraction and Retention	58
	201-4	Financial assistance received from government	6.1 Corporate Operational Performance	115
Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	3.1 Diversity, Equity, and Inclusion	50
	202-2	Proportion of senior management hired from the local community	3.1 Diversity, Equity, and Inclusion	48
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	4.1 Governance on Access to Medicine	75
	203-2	Significant indirect economic impacts	1.3 Management of Material Topics	27
Procurement Practices	204-1	Proportion of spending on local suppliers	5.2 Sustainable Supply Chain Management	97

GRI 200: Topic-Specific Standards Economic Topics 2016				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Anti-corruption	205-1	Operations assessed for risks related to corruption	6.2 Legal Compliance and Business Ethics	118
	205-2	Communication and training about anti-corruption policies and procedures	6.2 Legal Compliance and Business Ethics	118
	205-3	Confirmed incidents of corruption and actions taken	6.2 Legal Compliance and Business Ethics (No such information is available in 2022)	118
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	6.2 Legal Compliance and Business Ethics (No such information is available in 2022)	118
Tax (2019)	207-1	Approach to tax	6.1 Corporate Operational Performance	114
	207-2	Tax governance, control, and risk management	6.1 Corporate Operational Performance	114
	207-3	Stakeholder engagement and management of concerns related to tax	6.1 Corporate Operational Performance	114
	207-4	Country-by-country reporting	6.1 Corporate Operational Performance	114

GRI 300: Topic-Specific Standards Environmental Topics 2016				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Energy	302-1	Energy consumption within the organization	2.1 Climate Action	36
	302-3	Energy intensity	2.1 Climate Action	37
	302-4	Reduction of energy consumption	2.1 Climate Action	38
Water and Effluents (2018)	303-3	Water withdrawal	2.2 Water Stewardship and Biodiversity	39
	303-4	Water discharge	2.2 Water Stewardship and Biodiversity	39
	303-5	Water consumption	2.2 Water Stewardship and Biodiversity	39
Emissions	305-1	Direct (Scope 1) GHG emissions	2.1 Climate Action	37
	305-2	Energy indirect (Scope 2) GHG emissions	2.1 Climate Action	37
	305-3	Other indirect (Scope 3) GHG emissions	2.1 Climate Action	37
	305-4	GHG emissions intensity	2.1 Climate Action	37
	305-5	Reduction of GHG emissions	2.1 Climate Action	37
	305-6	Emissions of ozone-depleting substances (ODS)	2.1 Climate Action	38

GRI 300: Topic-Specific Standards Environmental Topics 2016				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Emissions	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	2.1 Climate Action	38
Waste (2020)	306-1	Waste generation and significant waste-related impacts	2.3 Waste Management	40
	306-2	Management of significant waste-related impacts	2.3 Waste Management	40
	306-3	Waste generated	2.3 Waste Management	41
	306-4	Waste diverted from disposal	2.3 Waste Management	41
	306-5	Waste directed to disposal	2.3 Waste Management	41
Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	5.2 Sustainable Supply Chain Management	99
	308-2	Negative environmental impacts in the supply chain and actions taken	5.2 Sustainable Supply Chain Management	99

GRI 400: : Topic-Specific Standards Social Topics 2016				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Employment	401-1	New employee hires and employee turnover	3.4 Talent Attraction and Retention	59
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	3.4 Talent Attraction and Retention	58
	401-3	Parental leave	3.4 Talent Attraction and Retention	59
Labor/ Management Relations	402-1	Minimum notice periods regarding operational changes	3.2 Commitment to Human Rights (All matters are handled in accordance with the relevant provisions of the Labor Standards Act.)	52
Occupational Health and Safety (2018)	403-1	Occupational health and safety management system	3.6 Occupational Health & Safety	64
	403-2	Hazard identification, risk assessment, and incident investigation	3.6 Occupational Health & Safety	65
	403-3	Occupational health services	3.6 Occupational Health & Safety	64

GRI 400: : Topic-Specific Standards Social Topics 2016				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Occupational Health and Safety (2018)	403-4	Worker participation, consultation, and communication on occupational health and safety	3.6 Occupational Health & Safety	64
	403-5	Worker training on occupational health and safety	3.6 Occupational Health & Safety	67
	403-6	Promotion of worker health	3.6 Occupational Health & Safety	66
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	3.6 Occupational Health & Safety	67
	403-8	Workers covered by an occupational health and safety management system	3.6 Occupational Health & Safety	64
	403-9	Work-related injuries	3.6 Occupational Health & Safety	68
	403-10	Work-related ill health	3.6 Occupational Health & Safety	67
Training and Education	404-1	Average hours of training per year per employee	3.3 Employee Development	55
	404-2	Programs for upgrading employee skills and transition assistance programs	3.4 Talent Attraction and Retention	58
	404-3	Percentage of employees receiving regular performance and career development reviews	3.4 Talent Attraction and Retention	57
Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	3.1 Diversity, Equity, and Inclusion	48
			6.1 Corporate Operational Performance	112
	405-2	Diversity of governance bodies and employees	3.1 Diversity, Equity, and Inclusion	50
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	3.2 Commitment to Human Rights (No such information is available in 2022)	52
Freedom of Association and Collective Bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	3.2 Commitment to Human Rights	52
Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	3.2 Commitment to Human Rights	52
Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	3.2 Commitment to Human Rights	52

GRI 400: : Topic-Specific Standards Social Topics 2016				
Disclosure indicator		**Description**	**Reference section**	**Page number**
Security Practices	410-1	Security personnel trained in human rights policies or procedures	3.2 Commitment to Human Rights	52
Rights of Indigenous Peoples	411-1	Incidents of violations involving rights of indigenous peoples	3.2 Commitment to Human Rights (No such information is available in 2022)	52
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	4.2 Globalizing Local Capacity Building and Access to Healthcare	78
	413-2	Operations with significant actual and potential negative impacts on local communities	4.2 Globalizing Local Capacity Building and Access to Healthcare	78
Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	5.2 Sustainable Supply Chain Management	96
	414-2	Negative social impacts in the supply chain and actions taken	5.2 Sustainable Supply Chain Management	96
Public Policy	415-1	Political contributions	6.1Corporate Operational Performance (No such information is available in 2022)	115
Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	4.3 Tackling Healthcare Costs	83
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	5.3 Good Manufacturing and Product Safety (No such information is available in 2022)	102
Marketing and Labeling	417-1	Requirements for product and service information and labeling	5.4 Patient Safety Management	108
	417-2	Incidents of non-compliance concerning product and service information and labeling	5.4 Patient Safety Management (No such information is available in 2022)	109
	417-3	Incidents of non-compliance concerning marketing communications	4.5 Ethical Pharmaceutical Marketing (No such information is available in 2022)	85
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	6.3 IT Security/ Cybersecurity Management (No such information is available in 2022)	123

Appendix 2
United Nation Global Compact Comparison Table

Category	10 Principles	Referenced Chapter / Description
Human Rights	1. Businesses should support and respect the protection of internationally proclaimed human rights	**3.2 Commitment to Human Rights:** The Company abides by the UN Global Compact, Universal Declaration of Human Rights and "International Labour Convention" and other international human rights conventions
	2.Make sure that they are not complicit in human rights abuses	
Labor	3.Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	**3.2 Commitment to Human Rights:** The Company holds regular labor relation meetings.
	4.The elimination of all forms of forced and compulsory labor	**3.2 Commitment to Human Rights:** There were no incidents of forced labor, child labor, or discrimination in any form.
	5.The effective abolition of child labor	
	6.The elimination of discrimination in respect of employment and occupation	
Environment	7.Businesses should support a precautionary approach to environmental challenges	**2.1 Climate Action:** For the aspect, Environment (E), the Company step-by-step introduces an ISO management system and the Task Force on Climate-related Financial Disclosures (TCFD) as the disclosure framework.
	8.Undertake initiatives to promote greater environmental responsibility	**2.3 Waste Management, 2.4 Hazardous Waste Management:** Complying with laws and regulations, the Company manages well the waste control, and requiring suppliers to implement jointly the commitment to environmental friendliness and prevent leakage of chemical substances.
	9. 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	**6.2 Legal Compliance and Business Ethics:** The Company will formulate its Anticorruption Code with reference to the United Nations Convention against Corruption (UNCAC).

Appendix 3 SASB Index

Code	Accounting Metric	Referenced Chapter & Page Number / Disclosure	Corresponding SDGs
Topic: Safety of Clinical Trial Participants			
HC-BP-210a.1	Discussion, by world region, of management process for ensuring quality and patient safety during clinical trials	**5.1 New Drug Development and Innovation** P89 The risk assessment for clinical trials is monitoring by a CRO, and the internal standard operating procedure is the main requirement for performing quality assurance and quality management activities in clinical trials. There are no cases of clinical trials discontinued with CROs due to GCP violations.	
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 such information is available currently	
HC-BP-210a.3	Total amount of monetary losses as a result of legal proceedings associated with clinical trials in developing countries	No such information is available currently	
Topic: Access to Medicines			
HC-BP-240a.1	Description of actions and initiatives to promote access to health care products for priority diseases and in priority countries as defined by the Access to Medicine Index	**4.1 Governance on Access to Medicine** P74 Following the framework of the Access to Medicine Index, the company has developed a "medicines access" strategy, implementation plan, and annual achievements and future goals. It has also implemented concrete measures in drug licenses registration, applications, physician-patient communication, and academic seminars.	
HC-BP-240a.2	List of products on the WHO List of Prequalified Medicinal Products as part of its Prequalification of Medicines Programme (PQP)	After the launch of BESREMi® in the United States, no products from our company have been listed.	
Topic: Affordability & Pricing			
HC-BP-240b.1	Number of settlements of Abbreviated New Drug Application (ANDA) litigation that involved payments and/or provisions to delay bringing an authorized generic product to market for a defined time period	After BESREMi® was launched in the US, there have been no such incidents.	
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	**4.3 Tackling Healthcare Costs** P83 Our pricing strategy is based on the affordability of healthcare costs in each country, and we refer to the "WHO Guideline on Country Pharmaceutical Pricing Policies" to establish reasonable and fair prices. BESREMi® was launched in the United States and officially priced at 7,507 USD by the end of 2022, representing a net price increase of 7.43% compared to the previous year.	
HC-BP-240b.3	Percentage change in: (1) list price and (2) net price of product with largest increase compared to previous year		
Topic: Drug Safety			
HC-BP-250a.1	List of products listed in the Food and Drug Administration's (FDA) MedWatch Safety Alerts for Human Medical Products database	**5.3 Good Manufacturing and Product Safety** P101 **/** **5.4 Patient Safety Management** P108 No such incidents have occurred. Our company has completed the establishment of the drug safety surveillance mechanism at the headquarters and cooperated with subsidiaries and medical safety surveillance personnel in other countries or regions where drug supplies are located to jointly compile the drug safety surveillance operations in that country or region. In 2022, there were no incidents related to product quality that required official, hospital, and patient complaints or safety concerns to be reported.	
HC-BP-250a.2	Number of fatalities associated with products as reported in the FDA Adverse Event Reporting System		
HC-BP-250a.3	Number of recalls issued; total units recalled		
HC-BP-250a.4	Total amount of product accepted for takeback, reuse, or disposal		
HC-BP-250a.5	Number of FDA enforcement actions taken in response to violations of current Good Manufacturing Practalsoices (cGMP), by type		

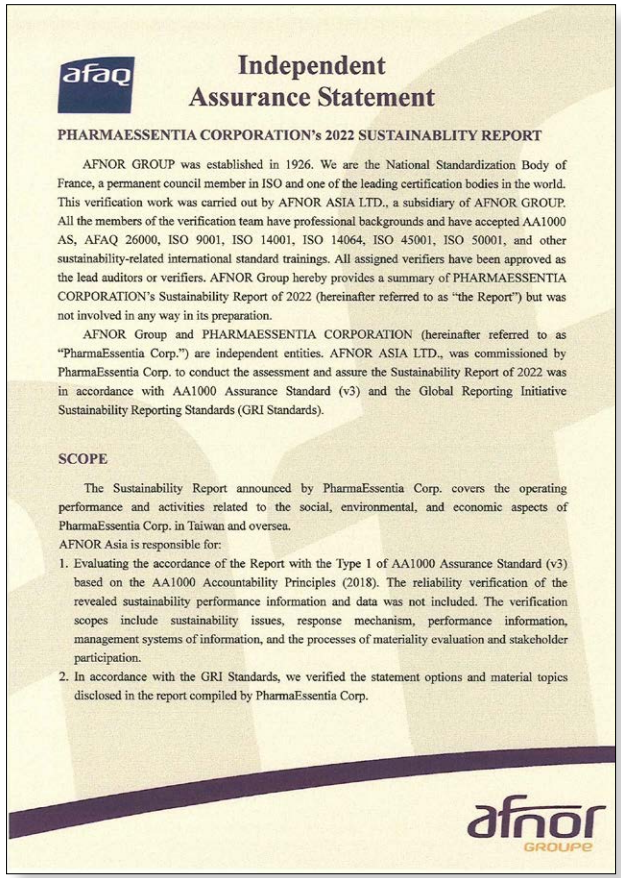
Code	Accounting Metric	Referenced Chapter & Page Number / Disclosure	Corresponding SDGs
Topic: Counterfeit Drugs			
HC-BP-260a.1	Description of methods and technologies used to maintain traceability of products throughout the supply chain and prevent counterfeiting	**5.4 Patient Safety Management** P109 We have established a "Product Code and Batch Number Coding Procedure Manual" and other standard operating procedures for managing and tracking pharmaceuticals. We also have a "Secondary Packaging and Serialization Batch Record" to regulate outsourced processing plants abroad. We have fully implemented drug serialization to enable complete traceability of product flow and ensure medication safety.	
HC-BP-260a.2	Discussion of process for alerting customers and business partners of potential or known risks associated with counterfeit products	**5.4 Patient Safety Management** P109 When a drug adverse event is reported, the Clinical Assurance Department will conduct an investigation and initiate a product recall program and recall action. Depending on the severity of the drug hazard, the product will be removed from the user end within the time limit, and the recalled product will be properly handled. The relevant authorities will also be informed proactively.	
HC-BP-260a.3	Number of actions that led to raids, seizure, arrests, and/or filing of criminal charges related to counterfeit products	After the launch of BESREMi® in the United States, there have been no such incidents.	
Topic: Ethical marketing			
HC-BP-270a.1	Total amount of monetary losses as a result of legal proceedings associated with false marketing claims	There is no such situation currently in PharmaEssentia.	
HC-BP-270a.2	Description of code of ethics governing promotion of off-label use of products	**4.5 Ethical Pharmaceutical Marketing** P85 **/ 6.2 Legal Compliance and Business Ethics** P120 We strictly adhere to the WHO and various countries' pharmaceutical marketing ethics regulations, and ensure that our colleagues interact with healthcare professionals in compliance with reasonable standards and related pharmaceutical and medical regulations through education, training, and legal advocacy.	
Topic: Employee Recruitment, Developing & Retention			
HC-BP-330a.1	Discussion of talent recruitment and retention efforts for scientists and research and development personne	**3.4 Talent Attraction and Retention** P56 We strive to create a stable and attractive work environment for talent retention through compensation and benefits, friendly workplace culture, humane management practices, smooth internal rotation, and training and development opportunities. We actively recruit professionals in the fields of biopharmaceuticals and research and development, and seek to attract talent in clinical medicine and global management.	
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	**3.4 Talent Attraction and Retention** P59 The voluntary turnover rate for the year 2022 was 8%, and the data classified by job levels can be found in the relevant section of the report.	
Topic: Supply Chain Management			
HC-BP-430a.1	Percentage of (1) entity's facilities and (2) Tier I suppliers' facilities participating in the Rx-360 International Pharmaceutical Supply Chain Consortium audit program or equivalent third-party audit programs for integrity of supply chain and ingredients	**5.2 Sustainable Supply Chain Management** P97 Currently, PharmaEssentia is not a member of the Rx-360 International Pharmaceutical Supply Chain Consortium. However, official organizations such as the EMA and TFDA have their own GDP regulations to ensure the operation of drug supply chain management, storage, and transportation. These organizations conduct regular audits and issue certifications and certification updates. Additionally, supplier/contractor assessments are conducted annually, and both internal review and on-site audits are used in the evaluation process.	
Topic: Business Ethics			
HC-BP-510a.1	Total amount of monetary losses as a result of legal proceedings associated with corruption and bribery	PharmaEssentia currently has no such matter or related costs.	
HC-BP-510a.2	Description of code of ethics governing interactions with health care professionals	**4.5 Ethical Pharmaceutical Marketing** P85 The company strictly adheres to all applicable industry regulations and provisions in marketing and sales, ensuring that all relevant personnel receive appropriate training and adhere to the ethical principles.	

Code	Accounting Metric	Referenced Chapter & Page Number / Disclosure	Corresponding SDGs
Activity Metrics			
HC-BP-000.A	Number of patients treated	**4.1 Governance on Access to Medicine** P74 As of the end of 2022, more than 2,100 patients have been treated with long-acting interferon through clinical trials, compassionate use, and sales after market approval.	
HC-BP-000.B	Number of drugs (1) in portfolio and (2) in research and development (Phases 1-3)	**5.1 New Drug Development and Innovation** P90 Please refer to the product line and clinical trial information on our company's official website.	

Appendix 4 TCFD Index

Elements	Code	TCFD Recommended Disclosures	Referenced Chapter / Description	page
Governance	TCFD 1 (a)	Describe the board's oversight of climate-related risks and opportunities.	**2.1 Climate Action-Climate change governance framework** The Board of Directors serves as the highest governing, supervisory, and decision-making body. Climate governance is identified as a material topics, and existing operational models are integrated to manage climate-related risks and opportunities.	33
	TCFD 1 (b)	Describe management's role in assessing and managing climate-related risks and opportunities.	**2.1 Climate Action-Climate change governance framework** The ECCS and 5 Functional Taskforces are responsible for identifying climate-related risks and opportunities, executing and promoting climate-related initiatives. The ECCS will report on business execution to the board of directors quarterly on behalf of the Functional Taskforces.	33
Strategy	TCFD 2 (a)	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	**2.1 Climate Action-Strategic Planning and Execution** Identified 17 significant risks and opportunities based on their likelihood of occurrence and impact. These were then grouped into 5 categories and analyzed for potential timing of occurrence.	33
	TCFD 2 (b)	Describe the impact of climaterelated risks and opportunities on the organization's businesses, strategy, and financial planning.	**2.1 Climate Action-Strategic Planning and Execution** Analyze the potential financial impacts of the 5 risk and opportunity categories on PharmaEssentia, and develop corresponding response/adaptation actions.	33
	TCFD 2 (c)	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Climate Strategy In the future, the identification of significant climate risks will serve as the basis for subsequent scenario analysis to examine the climate governance resilience of PharmaEssentia.	-
Risk Management	TCFD 3 (a)	Describe the organization's processes for identifying and assessing climate-related risks.	**2.1 Climate Action-Risk Management** ECCS and the five Functional Taskforces are responsible for identifying significant climate-related risks and opportunities, assessing their likelihood, impact, and potential occurrence time, and conducting a materiality assessment.	35
	TCFD 3 (b)	Describe the organization's processes for managing climate-related risks.	**2.1 Climate Action- Risk Management** The goal is to integrate climate governance into sustainable management and operational planning, and to prioritize climate governance as a material topic. The responsibility for climate risk management includes the Board of Directors, Internal Auditing Office, Head of Corporate Governance, ECCS - Environmental Friendliness Taskforce, Taichung Plant GHG Inventories Promotional Taskforce, external professional consultants, and other related resources.	35
	TCFD 3 (c)	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.		
Metrics and Targets	TCFD 4 (a)	Disclose the metrics used by the organization to assess climaterelated risks and opportunities in line with its strategy and risk management process.	**2.1 Climate Action- Energy Use and Emission Analysis** Regularly track the energy consumption and greenhouse gas emissions. Both energy intensity and greenhouse gas emission intensity have continuously decreased for three years.	36
	TCFD 4 (b)	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	**2.1 Climate Action- Energy Use and Emission Analysis** The main production base, Taichung Plant, serves as a pilot plant for ISO 14064-1:2018 GHG Inventories, disclosing the greenhouse gas emissions for Scope 1, Scope 2, Scope 3 (raw material transportation, product transportation, waste transportation, employee travel), and Scope 4 (upstream raw material and waste treatment).	36
	TCFD 4 (c)	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	**2.1 Climate Action- Energy Use and Emission Analysis & Energy Saving and Carbon Reduction Measures** The main production base, Taichung Plant, serves as a pilot plant for ISO 14064-1:2018 GHG Inventories, disclosing the greenhouse gas emissions for Scope 1, Scope 2, Scope 3 (raw material transportation, product transportation, waste transportation, employee travel), and Scope 4 (upstream raw material and waste treatment).	36

Appendix 5 Statement of Independent Assurance Opinion GRI 2-5



Independent Assurance Statement

PHARMAESSENTIA CORPORATION's 2022 SUSTAINABLITY REPORT

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 verification 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 Group hereby provides a summary of PHARMAESSENTIA CORPORATION's Sustainability Report of 2022 (hereinafter referred to as "the Report") but was not involved in any way in its preparation.

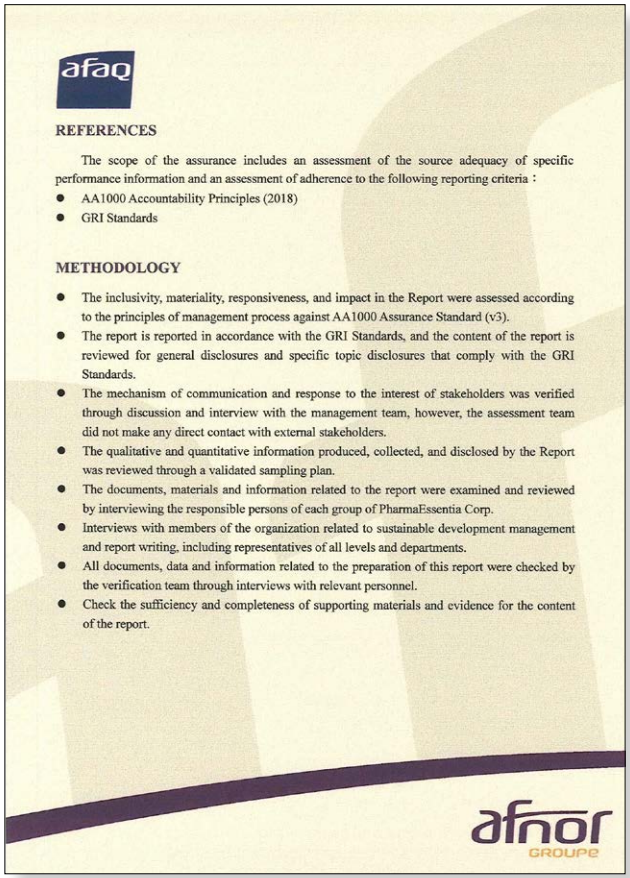
AFNOR Group and PHARMAESSENTIA CORPORATION (hereinafter referred to as "PharmaEssentia Corp.") are independent entities. AFNOR ASIA LTD., was commissioned by PharmaEssentia Corp. to conduct the assessment and assure the Sustainability Report of 2022 was in accordance with AA1000 Assurance Standard (v3) and the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards).

SCOPE

The Sustainability Report announced by PharmaEssentia Corp. covers the operating performance and activities related to the social, environmental, and economic aspects of PharmaEssentia Corp. in Taiwan and oversea.

AFNOR Asia is responsible for:

1. Evaluating the accordance of the Report with the Type 1 of AA1000 Assurance Standard (v3) based on the AA1000 Accountability Principles (2018). The reliability verification of the revealed sustainability performance information and data was not included. The verification scopes include sustainability issues, response mechanism, performance information, management systems of information, and the processes of materiality evaluation and stakeholder participation.
2. In accordance with the GRI Standards, we verified the statement options and material topics disclosed in the report compiled by PharmaEssentia Corp.



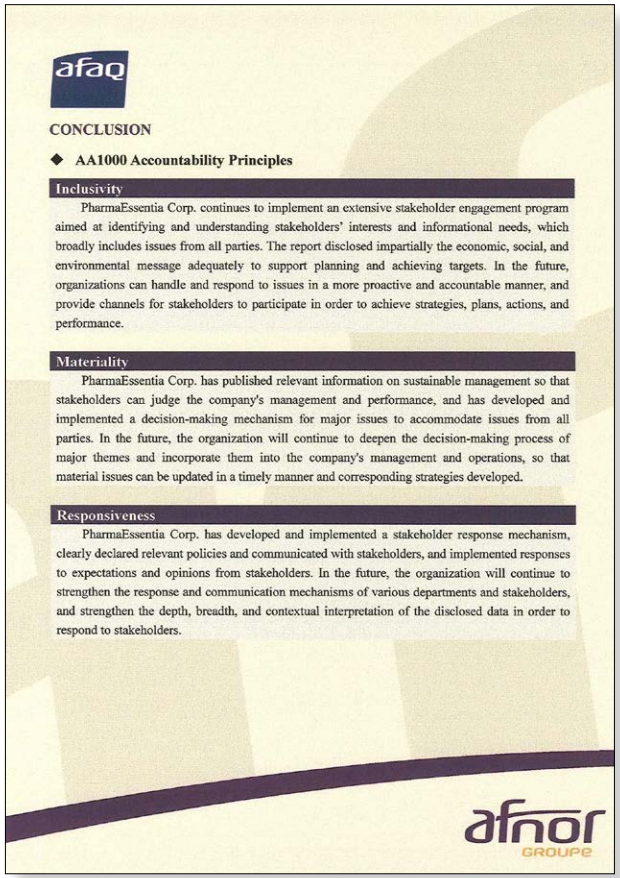
REFERENCES

The scope of the assurance includes an assessment of the source adequacy of specific performance information and an assessment of adherence to the following reporting criteria：

- AA1000 Accountability Principles (2018)
- GRI Standards

METHODOLOGY

- The inclusivity, materiality, responsiveness, and impact in the Report were assessed according to the principles of management process against AA1000 Assurance Standard (v3).
- The report is reported in accordance with the GRI Standards, and the content of the report is reviewed for general disclosures and specific topic disclosures that comply with the GRI Standards.
- The mechanism of communication and response to the interest of stakeholders was verified through discussion and interview with the management team, however, the assessment team did not make any direct contact with external stakeholders.
- The qualitative and quantitative information produced, collected, and disclosed by the Report was reviewed through a validated sampling plan.
- The documents, materials and information related to the report were examined and reviewed by interviewing the responsible persons of each group of PharmaEssentia Corp.
- Interviews with members of the organization related to sustainable development management and report writing, including representatives of all levels and departments.
- All documents, data and information related to the preparation of this report were checked by the verification team through interviews with relevant personnel.
- Check the sufficiency and completeness of supporting materials and evidence for the content of the report.



CONCLUSION

◆ **AA1000 Accountability Principles**

Inclusivity

PharmaEssentia Corp. continues to implement an extensive stakeholder engagement program aimed at identifying and understanding stakeholders' interests and informational needs, which broadly includes issues from all parties. The report disclosed impartially the economic, social, and environmental message adequately to support planning and achieving targets. In the future, organizations can handle and respond to issues in a more proactive and accountable manner, and provide channels for stakeholders to participate in order to achieve strategies, plans, actions, and performance.

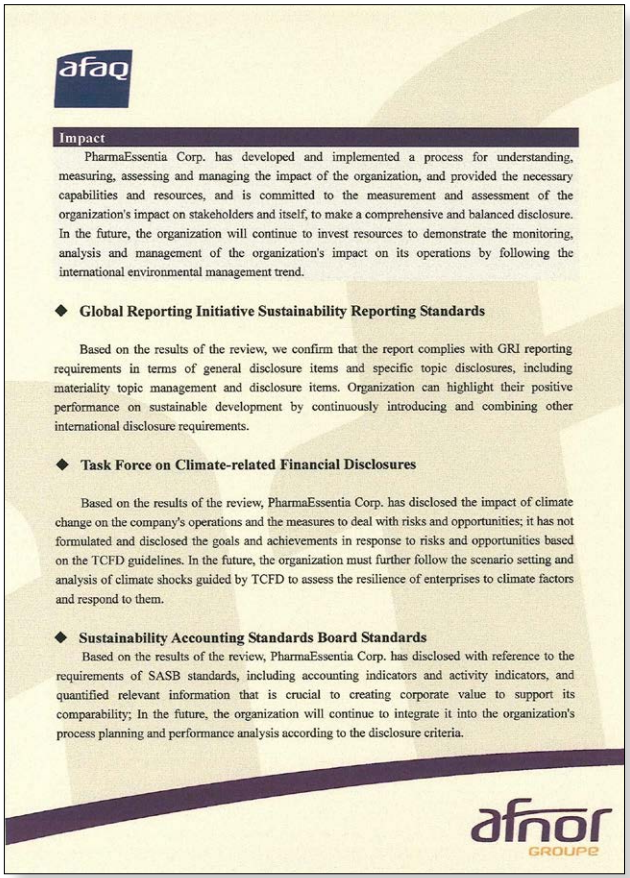
Materiality

PharmaEssentia Corp. has published relevant information on sustainable management so that stakeholders can judge the company's management and performance, and has developed and implemented a decision-making mechanism for major issues to accommodate issues from all parties. In the future, the organization will continue to deepen the decision-making process of major themes and incorporate them into the company's management and operations, so that material issues can be updated in a timely manner and corresponding strategies developed.

Responsiveness

PharmaEssentia Corp. has developed and implemented a stakeholder response mechanism, clearly declared relevant policies and communicated with stakeholders, and implemented responses to expectations and opinions from stakeholders. In the future, the organization will continue to strengthen the response and communication mechanisms of various departments and stakeholders, and strengthen the depth, breadth, and contextual interpretation of the disclosed data in order to respond to stakeholders.

Appendix 5 Statement of Independent Assurance Opinion GRI 2-5



Impact

PharmaEssentia Corp. has developed and implemented a process for understanding, measuring, assessing and managing the impact of the organization, and provided the necessary capabilities and resources, and is committed to the measurement and assessment of the organization's impact on stakeholders and itself, to make a comprehensive and balanced disclosure. In the future, the organization will continue to invest resources to demonstrate the monitoring, analysis and management of the organization's impact on its operations by following the international environmental management trend.

◆ **Global Reporting Initiative Sustainability Reporting Standards**

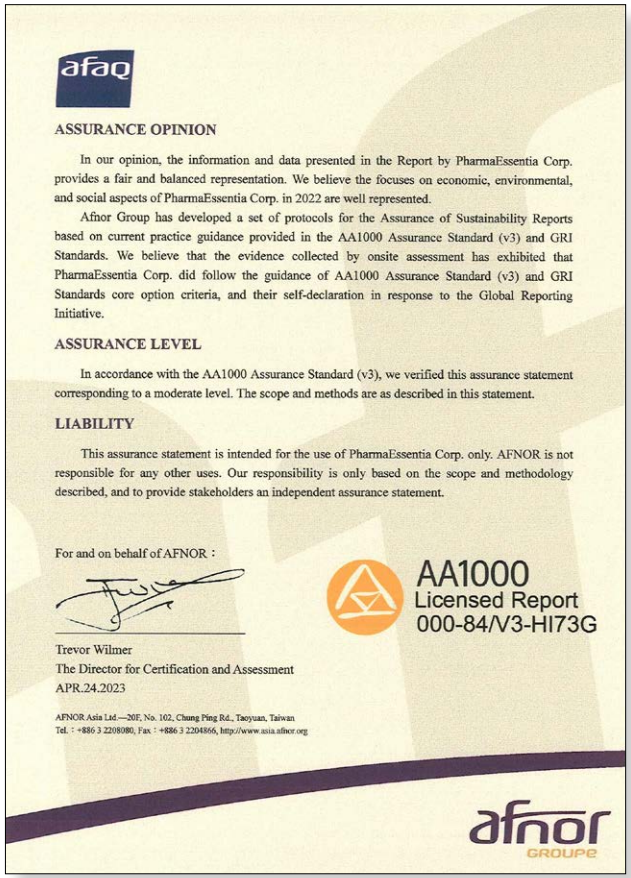
Based on the results of the review, we confirm that the report complies with GRI reporting requirements in terms of general disclosure items and specific topic disclosures, including materiality topic management and disclosure items. Organization can highlight their positive performance on sustainable development by continuously introducing and combining other international disclosure requirements.

◆ **Task Force on Climate-related Financial Disclosures**

Based on the results of the review, PharmaEssentia Corp. has disclosed the impact of climate change on the company's operations and the measures to deal with risks and opportunities; it has not formulated and disclosed the goals and achievements in response to risks and opportunities based on the TCFD guidelines. In the future, the organization must further follow the scenario setting and analysis of climate shocks guided by TCFD to assess the resilience of enterprises to climate factors and respond to them.

◆ **Sustainability Accounting Standards Board Standards**

Based on the results of the review, PharmaEssentia Corp. has disclosed with reference to the requirements of SASB standards, including accounting indicators and activity indicators, and quantified relevant information that is crucial to creating corporate value to support its comparability; In the future, the organization will continue to integrate it into the organization's process planning and performance analysis according to the disclosure criteria.



ASSURANCE OPINION

In our opinion, the information and data presented in the Report by PharmaEssentia Corp. provides a fair and balanced representation. We believe the focuses on economic, environmental, and social aspects of PharmaEssentia Corp. in 2022 are well represented.

Afnor Group has developed a set of protocols for the Assurance of Sustainability Reports based on current practice guidance provided in the AA1000 Assurance Standard (v3) and GRI Standards. We believe that the evidence collected by onsite assessment has exhibited that PharmaEssentia Corp. did follow the guidance of AA1000 Assurance Standard (v3) and GRI Standards core option criteria, and their self-declaration in response to the Global Reporting Initiative.

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.

LIABILITY

This assurance statement is intended for the use of PharmaEssentia Corp. only. AFNOR is not responsible for any other uses. Our responsibility is only based on the scope and methodology described, and to provide stakeholders an independent assurance statement.

For and on behalf of AFNOR :

AA1000
Licensed Report
000-84/V3-HI73G

Trevor Wilmer
The Director for Certification and Assessment
APR.24.2023

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PharmaEssentia Corporation

2022 Sustainability Report

PharmaEssentia

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