ISU PETASYS

ISU PETASYS
SUSTAINABILITY REPORT 2023

About This Report

Report Overview
ISU PETASYS has published its fifth annual Sustainability Report this year to transparently disclose its non-financial performance and activities based on ESG (Environment·Social·Governance) principles. In particular, 2022 was a pivotal year in which a transition from a CSR framework to an ESG framework was imminent, and sustainable management strategies and challenges were established. This report includes ESG achievements and directions for the year, along with relevant content. ISU PETASYS is committed to actively communicating with various stakeholders through Sustainability Reports in the future.

Reporting Principles
This report adheres to the GRI (Global Reporting Initiative) Standards 2021, which are international guidelines for sustainable management reporting. Additionally, it complies with the disclosure recommendations of the TCFD (Task Force on Climate-Related Financial Disclosure) and the SASB (Sustainability Accounting Standards Board) standards to incorporate issues relevant to the industry's characteristics. Financial information is prepared in accordance with K-IFRS (Korean International Financial Reporting Standards).

Reporting Period and Scope
This report covers sustainable management activities and achievements from January to December 2022 and includes data from the past three years, from 2020 to 2022, to compare trends. Some content for the first half of 2023 is also included for important information that may affect stakeholders. The reporting scope includes ISU PETASYS headquarters and all subsidiary locations, with specific notation for data where the reporting scope differs.

Verification of the Report
External organizations conducted third-party verification to enhance the reliability and quality of the report. The results of this verification are included on page 81.

Additional Information for the Report
This report is published in Korean and English and includes interactive features to enhance information accessibility. Features like navigating to related pages within the report or directly accessing related webpages (QR codes, links) are available.

Report Inquiry
Responsible Department Planning & Cooperation Team
Tel (82) 53-610-4535
E-mail jsj1050@isu.co.kr

Interactive User Guide
The ISU PETASYS Sustainability Report 2023 can be downloaded from the ISU PETASYS website (https://www.petasys.com/eng/csr/report.jsp). It has been created in an interactive PDF format for users' convenience.

Contents

CEO Message

Greeting valued stakeholders,

In the past year, ISU PETASYS achieved significant results by attaining its highest-ever revenue amidst rapidly changing domestic and international circumstances. As remote activities increased and online content expanded, the network market evolved rapidly. Hyperscale data centers and AI technologies emerged as central topics in the market, leading to a significant increase in demand for AI accelerators. ISU PETASYS is committed to enhancing its technological development and production capabilities, focusing on next-generation products to strengthen its sustainable global competitiveness.

As a member of the RBA (Responsible Business Alliance) and a socially responsible company, ISU PETASYS is dedicated to reinforcing its ESG management by considering the opinions of our stakeholders. Furthermore, ISU PETASYS has strengthened its ESG operating system for balanced growth in the environment, society, and governance, with the ultimate goal of becoming a leading ESG leader in global standards.

ISU PETASYS upholds the RBA Code of Conduct in line with RBA's mission to support sustainable values for employees, the environment, and business throughout the global supply chain. Additionally, we extend the application of the RBA Code of Conduct to all stakeholders, integrating it into our ESG management. Through this ESG report, ISU PETASYS aims to share the achievements it has accomplished with you, our valued stakeholders.

We kindly request your continuous interest and encouragement. Thank you.

Chang-Bok Choi, CEO of ISU PETASYS Co., Ltd.

Highlights

Business Highlights

KRW 642.9 billion

Achieved the highest-ever historical revenue (37% increase compared to the same period last year)

Ranked 3rd

Ranked 3rd in global revenue among Ultra-high layer count PCB manufacturers (not less than 18 layers)

ISU PETASYS achieved its highest-ever historical revenue of KRW 642.9 billion and operating profit of KRW 116.6 billion in 2022, due to the strength of global IT trends and market changes. The increased demand for remote content led to a higher demand for more sophisticated and higher cost PCBs that ISU specializes in. Additionally, higher data processing speeds drove the continuous growth in demand for wired network products. In response, ISU PETASYS expanded its competitive range of Ultra-high layer count PCB products to respond to the demand for high-end network equipment, data centers, and 5G wireless network equipment. In May 2023, ISU PETASYS expanded its PCB manufacturing capacity by adding a fourth factory within the Daegu Dalseong 1st Industrial Site, increasing production volume and creating jobs in the local community, showcasing both social and economic impacts.

ESG Highlights

AA

Obtained the highest 'AA' rating for two consecutive years in Sustinvest's ESG assessment (ranking first in the relevant industry[1])

1) Ranked first among 63 hardware and IT equipment companies.

Gold Level

Obtained the 'Gold Level' rating for six consecutive years in EcoVadis's ESG assessment (2017-2022).
Obtained the 'Gold Level' rating in the RBA (Responsible Business Alliance) assessment.

ISU PETASYS is actively advancing ESG management innovation and consistently achieving strong results in major ESG assessments from Sustinvest, EcoVadis, etc. In Sustinvest's ESG assessment, the company obtained the highest 'AA' rating for two consecutive years, and it has maintained the 'Gold Level' in EcoVadis' ESG assessment for six consecutive years. Furthermore, ISU PETASYS proved its stable ESG management capabilities by obtaining the 'Gold Level' in the RBA (Responsible Business Alliance) assessment, which assesses corporate social responsibility within the global supply chain. Additionally, in 2023, ISU PETASYS initiated a significant shift towards an ESG system by restructuring the existing CSR Committee into an ESG Committee. With the foundation of an ESG operating system and committee, ISU PETASYS aims to leap forward as a leader in ESG.

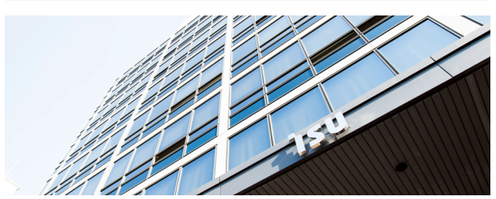
About ISU

Company Introduction

ISU PETASYS is a specialized manufacturer of Ultra-high layer count PCB (Printed Circuit Board), dedicated to developing highly integrated, high-quality products. Leveraging its excellent technical expertise and quality standards, ISU PETASYS maintains continuous collaborative relationships with various global IT companies. The company is progressing towards becoming a leading player in the PCB market by establishing a distinctive position in the global market through its exceptional technology, production capabilities, and business environment.

General Overview (As of December 31, 2022)

Company Name	ISU PETASYS Co., Ltd.
CEO	Chang-Bok Choi
Date of Establishment	February 1972 (commenced PCB business in June 1989)
Main Business	Manufacturing and sales of PCB (Printed Circuit Boards)
Company Location in Korea	Headquarters: 36, Nongong-ro 53-gil, Nongong-eup, Dalseong-gun, Daegu, Republic of Korea Seoul Office: 84, Sapyeong-daero, Seocho-gu, Seoul, Republic of Korea
Number of Employees	967
Capital (consolidated basis)	KRW 63.2 billion
Revenue (consolidated basis)	KRW 642.9 billion
Key Affiliated Companies	ISU PETASYS Corp. (USA), ISU PETASYS Int't Ltd. (China), ISU PETASYS HUNAN Ltd. (China)



Management Philosophy

ISU PETASYS has established 'Sincerity,' 'Seek for World Best,' and 'Customer Satisfaction' as the core values of its business activities to create a beautiful future that enriches and simplifies life. The diligent approach to creating the best products through sincerity towards people and work, the continuous pursuit of innovation and self-improvement through challenges, and the commitment to delivering greater value for customer satisfaction are realized throughout the overall management of ISU PETASYS.

Core Purpose

To Create a Brighter, More Convenient, and Affluent Future

Core Values

01 Sincerity

Diligence Towards People and Work
'Sincerity' is a promise that we will make the finest product with 'sincerity towards people and work' based on respect for humanity, self-improvement, honesty, and responsibility.

02 Seek for World Best

Quality No.1
'Challenge' is a will to aim for the 'World Best' through endless innovation and self-development (improvement).

03 Customer Satisfaction

Creating Customer Value
'Customer Satisfaction' is knowing and respecting the current and future expectations of our customers and striving to provide them with greater value.

Business Areas

PCB for Network Equipment

PCB for essential roles in Internet and wireless communications
ISU PETASYS's Ultra High Layer PCBs are integrated into network equipment where high performance, high integration, and high reliability are required. ISU PETASYS applies world-class PCB manufacturing technology to ensure faster and more secure communication without interruptions in high-traffic network environments.

PCB for Servers/Storage

High-end servers and PCBs for storing and operating large-capacity data
As the IT industry has rapidly advanced, there is an increasing need for efficient storage and management of large-capacity data, and its importance has grown significantly. ISU PETASYS has secured numerous global customers and is leading the market in this field by leveraging its multi-layer network technology

PCB for Supercomputers

PCBs for high-speed computation in supercomputers
Supercomputers, which perform high-speed calculations to process vast amounts of data, are primarily used by research institutions, meteorological agencies, and large corporations. The market size for supercomputers is determined by the investment of government agencies or other groups primarily using supercomputers, leading to significant demand fluctuations and rapid technological advancements. ISU PETASYS has earned recognition for its technical expertise from HPE Cray, a global leader in supercomputers, and has even received the 'Supplier of the Year' award, maintaining a continuous partnership with them.

PCB for Aerospace and Aviation Industries

High-quality, high-reliability PCBs for the aerospace and aviation sectors
Products used in the aerospace and aviation industries can have severe consequences, including critical issues or major accidents if malfunctions occur. Therefore, both management and production processes require a strong emphasis on quality. ISU PETASYS has obtained AS9100 quality certification for the aerospace and defense industries, enabling the company to actively respond to customer requirements with a systematic quality management system.

PCB for IC Tester

PCB for IC Tester for testing the operation of the semiconductor
IC testers are devices used in semiconductor manufacturing processes to verify whether semiconductor chips, both in wafer and package form, can perform their intended functions correctly and determine their quality. Leveraging its experience and technological expertise in the multi-layer market, ISU PETASYS has entered the semiconductor test equipment PCB market, accumulating a wealth of references across the electronics industry.

PCB for Base Stations

RF (Radio Frequency) PCBs for supporting 5G, the core infrastructure of the Fourth Industrial Revolution
The wireless base station industry is gaining prominence due to the introduction of 5G and the trend towards ultra-compact products. RF (Radio Frequency) PCBs play a crucial role in transmitting and receiving radio waves, requiring technical expertise in producing special raw materials and heat dissipation in the product. ISU PETASYS is dedicated to continuous R&D development to prepare for the technological changes brought about by the introduction of 5G.

About ISU

Major History

1900s

February 1972	Establishment of ISU PETASYS
June 1989	Commencement of PCB business
November 1995	Incorporated into the ISU Group
June 1998	Completion of the second factory

2000s

August 2000	Listed on KOSDAQ
September 2000	Establishment of ISU PETASYS America
October 2003	Listed on the Korea Exchange
November 2004	Establishment of ISU EXABOARD Co., Ltd.
November 2007	Obtained AS 9100 certification (PCB for aerospace)
January 2008	Obtained 'Advanced Level Technology Company' certification from CISCO
October 2008	Awarded 'Supplier of the Year' from CISCO
October 2009	Awarded 'Supplier of the Year' from CRAY

2010s

April 2011	Establishment of ISU EXAFLEX Co., Ltd.
November 2013	Establishment of ISU PETASYS HUNAN
October 2014	Merger of ISU EXAFLEX Co., Ltd. into ISU EXABOARD Co., Ltd.
October 2015	Completion of the third factory
November 2015	Obtained TS16949 (automotive quality management system) certification
November 2016	Received the Most Loved Companies Award (CSR) from the government
July 2017	Selected as an employment-friendly leading company
December 2017	Obtained IATF 16949 (automotive quality management system) certification
November 2018	Selected as an outstanding workplace for employee health promotion
	Received the Most Loved Companies Award (Minister Prize)
	Obtained the highest grade, AA, in ESG assessment criteria (Sustinvest)
December 2018	Presidential Commendation for contributions to labor-management culture
April 2019	Awarded 'TOP Direct Component Supplier' from Juniper
	Awarded 'Excellence in Technology' award from Palo Alto

2020s

January 2021	Acquired RBA (CSR third-party audit organization) Gold Level certification
February 2021	Development of RF Radar for vehicles (ETRI)
June 2021	Development of Main Board PCB for HPC (Korea Institute of Science and Technology Information)
June 2022	Groundbreaking for the fourth factory
October 2022	Received the Precision Technology Award from the Korean Society for Precision Engineering
May 2023	Completion ceremony for the fourth factory
June 2023	Groundbreaking for the second welfare facility

Global Network

ISU PETASYS operates four global hubs, including its headquarters, offices, production facilities, and sales subsidiaries.

Republic of Korea

1 ISU PETASYS (Headquarters/Factory)
36, Nongong-ro 53-gil, Nongong-eup, Dalseong-gun, Daegu, Republic of Korea
☎ (82) 53-610-0300

2 Seoul Office
84, Sapyeong-daero, Seocho-gu, Seoul, Republic of Korea
☎ (82) 2-590-5100

Overseas

3 ISU PETASYS Corp. (USA Subsidiary)
12930 Bradley Ave., Sylmar, CA 91342, USA
☎ (1) 818-833-5800

4 ISU PETASYS HUNAN Ltd. (Hunan Subsidiary)
No.1 Quanchuang Road, Jinhua Industrial District, Xiangtan, Hunan, China
☎ (86) 731-5282-1300

About ISU

ESG Management

ESG Strategy

ISU PETASYS is pursuing five key ESG (Environmental, Social, Governance) strategic tasks to lead in ESG practices at a global level. These strategic tasks encompass critical areas for promoting ESG management. Detailed execution plans and performance indicators for each strategic tasks are derived to monitor annual achievements and conduct reviews and improvement activities.

In 2022, significant operational tasks were carried out to strengthen ESG management, including improvements on the RBA (Responsible Business Alliance) field due diligence results, response to mandatory ESG disclosure, etc. In particular, through improvements stemming from the RBA field due diligence results, ISU PETASYS obtained the Gold rating, surpassing its previous Silver rating. In 2023, preparations for the introduction of mandatory ESG disclosure will reinforce the ESG Task Force (TF). Initiating with this Sustainability Report, ISU PETASYS will enhance its ESG disclosure framework.

ESG Operating System

In 2023, ISU PETASYS restructured its CSR Committee into an ESG Committee and declared a transition to an ESG operating system. The ESG Committee is convened under the leadership of the department in charge of ESG and includes members of the Board of Directors, including the CEO, and responsible personnel from various fields. The ESG Committee not only deliberates on ESG-related policies and strategies but also reviews the current ESG status, major achievements, and plans while discussing improvement tasks. To enhance due diligence, the ESG Committee plans to discuss strategic tasks that can enhance compliance with global standards such as RBA, SASB, and TCFD within 2023.

Key Topics Discussed in 2022

1. Establishing a process for deriving, executing, and monitoring annual improvement tasks in line with customer requirements to drive continuous improvement.
2. Identifying and pursuing sector-specific tasks for improving ESG KPIs.
3. Revamping the whistleblowing system through an assessment of internal ethical processes.
   - To ensure stronger anonymity for whistleblowers, outsourcing the operation of the reporting channel to a third party.

Operational Framework of ESG Strategy

Vision

Leading the Way in Global ESG Standards

ESG Strategic Tasks

01. Strengthening Compliance Programs
02. Enhancing Human Rights Policies and Systems
03. Strengthening Environmental, Health, and Safety Processes
04. Expanding Supply Chain ESG Management
05. Reinforcing Product Responsibility

Demand of Society

Global Initiative
ISO 26000 / UNGC(UN Global Compact) / GRI(Global Reporting Initiative) /
UN SDGs(Sustainable Development Goals-the United Nations) / RBA(Responsible Business Alliance) /
TCFD(Task Force on Climate-Related Financial Disclosures) / SASB(Sustainability Accounting Standards Board)

Organizational Chart of ESG Committee

Stakeholder Communication

ISU PETASYS considers the characteristics of various stakeholder groups and operates diverse communication channels to expand open communication with stakeholders. The company recognizes customers, employees, shareholders, government and related partner agencies, and the local community as important stakeholders and works together to address key issues and create sustainable value.

	Customers	Employees	Shareholders	Government and Related Partner Agencies	Local Community
Communication Channels	• Head office and branch offices • Website • Social media • Publications • VOC (Voice of customer) • Customer satisfaction surveys	• Employee meetings • Employee surveys • Groupware and internal messenger • Labor-Management Council • Labor-Management Safety and Health Committee • Labor-Management HR Subcommittee • Education • Complaint handling system • Company magazine	• Shareholders' meetings • IR activities • Press releases	• Information requested by institutions • Seminars • Meetings	• Sharing volunteer group • NGO • Social welfare organizations • Publications
Key Issues	• Providing high-quality and safe products • Promptly addressing customer complaints and requirements	• Creating a pleasant workplace • Motivation • Fostering a corporate culture of mutual growth • Workplace safety management activities	• Enhancing shareholder value • Appropriate dividend levels • Sustainable performance and preparation for the future	• Participation in government policies and regulatory compliance • Honest tax payment • Transparent information disclosure	• Promotion of child and disabled welfare • Support for marginalized groups • Employee participation in social contribution activities

Double Materiality Assessment

ISU PETASYS conducted a double materiality assessment in accordance with the 'Materiality' guideline of the GRI (Global Reporting Initiative) Standards to identify and address sustainability management issues that are important to stakeholders such as customers, investors, and employees. Double materiality assessment refers to the assessment that considers the impact of a company's business activities on the external environment, society, and governance issues, along with the impact of environmental, social, and governance issues on the company's financial value.

Materiality Assessment Process

Step1 Selection and Analysis of Material Topics

Selection of Topics
- Analysis of sustainability management standards and assessment guidelines (GRI Standards, MSCI, SASB, etc.)
- Comprehensive analysis of the business environment, media, industry, and investment group, including peer group benchmarking analysis, to select 14 topics

Analysis of Topic
- Examination of Korean and international regulations and guidelines
- Identification of legal violations and controversial cases within relevant industries
- Assessment of potential impacts

Step2 Assessment of Impact and Financial Materiality

Stakeholder Survey

Impact Materiality Assessment
① Relevance of Impact: The degree to which it is relevant to ISU PETASYS
② Impact Severity: Assessment of the scale and scope of impact of ISU PETASYS's activities on society and the environment
- Scale: The scale of the impact on society and the environment
- Scope: The scope of the impact on society and the environment

Financial Materiality Assessment
① Financial Impact: The potential impact on ISU PETASYS's financial performance (operating profit, management performance, etc.)
② Opportunity: The potential for the topic to serve as an opportunity for ISU PETASYS
③ Crisis: The potential for the topic to pose a crisis for ISU PETASYS

Step3 Prioritization and Identification of Material Topics

- Compilation of the results of impact and financial materiality assessments to derive priorities and identify material topics

Step4 Third-Party Verification

- Third-party verification of the Materiality Assessment Process
- Validity review of material topics

Materiality Assessment Results

Results of the materiality assessment conducted on the selected 14 material topics identified 'Product safety and quality management,' 'Management of a Sustainable Supply Chain,' 'Enhancing competitive advantage through manufacturing innovation,' and 'Response to climate change and carbon neutrality' as high materiality topics. For related content and specific response strategies, please refer to the 'Focus Area' section of this report.

Material Topic		X-axis	Y-axis	Financial Materiality[1]	Impact Materiality[1]	GRI Topic Standard
1	Product safety and quality management	3.75	3.85	●	●	GRI 416
2	Management of a sustainable supply chain	3.83	3.65	●	●	GRI 308, GRI 414
3	Enhancing competitive advantage through manufacturing innovation	3.58	3.74	◑	●	GRI 416
4	Response to climate change and carbon neutrality	3.80	3.36	●	◑	GRI 305
5	Recruitment and labor management	3.42	3.48	◑	◑	GRI 401
6	Strengthening workplace safety and health	3.08	3.72	◑	●	GRI 403
7	Ethical and compliance practices	3.08	3.58	◑	◑	GRI 205
8	Integrated risk management	3.17	3.42	◑	◑	-
9	Strengthening ESG risk management by the Board of Directors	3.25	3.32	◑	◑	GRI 2
10	Reduction of environmental impact throughout the product lifecycle (LCA)	3.08	3.30	◑	◑	-
11	Preventing pollution and circulating resource	2.75	3.53	○	◑	GRI 306
12	Diversity and respect for human rights	2.58	3.54	○	◑	GRI 405
13	Water resource management	2.58	3.49	○	◑	GRI 303
14	Community engagement and impact management	2.58	3.34	○	◑	GRI 413

1) 3.7 or higher ●(High Impact), 3.0~3.6 ◑(Medium Impact), 2.9 or lower ○(Low Impact)

Focus Area

Focus 1
Product Safety and Quality Management

Background

As the IT-based manufacturing environment has rapidly expanded, the ability for swift data transmission and processing has become a crucial factor for a company's competitiveness. Consequently, the quality assessment standards for Ultra High Layer PCB (Printed Circuit Board), a core component of all electrical and electronic products, have been strengthened, and there has been a significant increase in the demand for high-quality products. PCB manufacturing companies must enhance quality control from raw material procurement to the entire production process and ensure safety to maintain a leading position in the global market.

Approach

As ISU PETASYS serves a diverse range of major customers, primarily in the IT industry, the company actively implements quality management to ensure the highest quality products for its customers. For its key product, Ultra High Layer PCB, ISU PETASYS focuses on ultra-densification and multi-layering while conducting safety tests to produce only the finest products. Furthermore, the company continually improves its quality management system to proactively meet the demands of global customers. ISU PETASYS maintains international quality management-related certifications by adhering to standards that comply with international standards.

Performance

0case

Number of findings in external quality system audits

8case

Status of major quality-related certifications obtained

Focus 1 Product Safety and Quality Management

Enhancement of Quality Management System in Overall Process

In accordance with the quality policy, ISU PETASYS ensures that products and services meet the level of quality demanded by customers and are delivered competitively priced when customers require them. To achieve this, a quality management system is applied to the entire production process, from raw material sourcing to product packaging. Only products bearing the UL certification mark, obtained through passing product safety and environmental testing, are purchased for raw material procurement. Prior to each production stage, inspections for hazardous substances in raw materials are conducted, and the presence of hazardous substances is verified through sample testing before product release. Subsequently, automatic optical inspections, electrical performance tests, and other measures are employed to minimize the occurrence of defects in the process. Moreover, a pre-alarm system (Q-Communication) is used to share information about potential risk factors affecting quality with the production process in advance, thus preventing low-quality processes. Furthermore, ISU PETASYS has introduced new inspection equipment, such as digital technology-integrated backdrill inspection, AVI, and AFVI, to enhance the performance of inspection equipment and promote quality stability.

The quality system is managed through biannual regular internal audits, and the number of quality system issues identified in the last three years has remained at zero. Furthermore, through quality improvement initiatives throughout the company, ISU PETASYS has revised the audit process and regularly conducts training on procedures, methods, reporting, and audit techniques required for internal auditors to enhance their competencies in performing internal audits.

Quality Policy

ISU PETASYS's quality policy is for all employees to take responsibility for quality assurance activities that satisfy customers by

1. Providing products and services at the level of quality demanded by customers,
2. At the time customers desire,
3. At competitive prices.

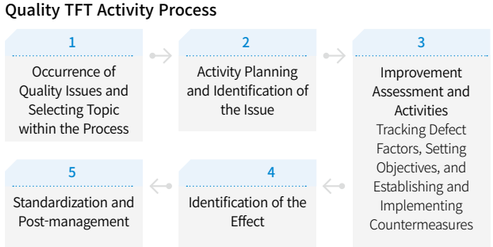
Number of Findings in Quality System Audit (Unit: cases)

Promotion of Quality TFT Activity

Quality TFT Activity Process

ISU PETASYS conducts quality TFT activities throughout the company to improve defect factors and unreasonable processes. Daily regular on-site inspections are conducted to proactively check for defect issues and identify the root causes of defects. Furthermore, identified causes of defects are analyzed, and corrective measures are devised and implemented to resolve the issues. Furthermore, to prevent the recurrence of these issues, ideas are brainstormed during meetings to seek fundamental improvement solutions. Quality TFT activities are actively supported throughout the company. ISU PETASYS conducts problem-solving methodology training for TFT targets to support continuous activity improvement and manages the status of TFT activities weekly to enhance execution. In 2022, four quality TFTs in the first half and three quality TFTs in the second half of the year successfully achieved all their objectives by establishing detailed improvement targets and conducting improvement activities. In 2023, four TFT activities were conducted in the first half of the year, resulting in cost savings of approximately KRW 790 million from a cost perspective. Additionally, quality enhancement continues through the Quality CI (Cost Innovation) Idea Contest.

Quality TFT Activity Process



Quality CI (Cost Innovation) Idea Contest

ISU PETASYS fosters employees' interest in quality through the quality proposal activity throughout the company, known as the Quality CI (Cost Innovation) Idea Contest. Opinions adopted in the idea contest are used to establish improvement plans for unreasonable matters and to implement them to enhance quality. In 2022, ISU PETASYS actively executed quality improvement activities, achieving an execution rate of 110% compared to the quality improvement goals. In the first half of 2023, an execution rate of 135% was achieved against the goals, and the contest will continue in the second half. The Quality CI Idea Contest demonstrates ISU PETASYS's sincerity in quality management, as it goes beyond mere idea proposals and involves the actual implementation of ideas to enhance product quality while fostering employees' awareness of quality.

Recognition of Product Quality and Technological Capability

ISU PETASYS has acquired certified quality certifications and is externally recognized for its efforts in quality management. By obtaining AS 9100 certification, the company has established a foundation for entering the aerospace industry, and in 2017, it acquired IATF 16949 certification, enabling participation in the development of automotive components.

Key Certification History

TL9000(2023)

AS9100(2022)

IATF16949(2023)

ISO9001(2023)

Enhancing Customer Satisfaction

Claim Handling Process

ISU PETASYS operates a claims-handling process to enhance customer satisfaction. In addition to the five stages of receipt, department assignment, root cause analysis, corrective action, and action results reporting, a sixth stage, the Tracking process, has been added to strengthen the post-management framework. Claims are classified by type at the receipt stage, considering severity, urgency, and significance. In the department assignment and root cause analysis stages, computer processes are utilized to respond promptly to customer demands and requests.

Listening to Customer Feedback and Prompt Responses

Due to the diverse requirements of customers and the varying PCB structures for different applications, ISU PETASYS adopts a 100% custom order production. Therefore, listening to customer feedback and responding promptly to their requests is crucial. ISU PETASYS promptly addresses the requests of customers received at its Korean, U.S., Chinese, and Asian facilities through a rapid response framework.

Customer Satisfaction Surveys

ISU PETASYS conducts monthly surveys on customer complaint rates and annual customer satisfaction surveys to understand customer requirements and analyze areas for improvement in detail. The assessment criteria for customer satisfaction include on-time delivery, service, technical support, quality, price, and, in some cases, sustainability (ESG) elements added by certain key customers.

As a result of continuous efforts to enhance customer satisfaction, ISU PETASYS achieved a score of 99.3 points in the key customer quality assessment in 2021 and 99.9 points in 2022. Moreover, the on-time resolution rate for customer complaints has consistently remained 100% for six consecutive years since 2017. ISU PETASYS will continue to make ongoing efforts to maintain a 100% on-time resolution rate for customer complaints in the future.

Focus 2
Management of a Sustainable Supply Chain

Background

As supply chains become increasingly complex and diverse, there is a growing need to systematically manage ESG risks within the supply chain. Advanced economies such as the United States and the European Union are already considering regulations that mandate ESG management within the supply chain. In particular, within the PCB industry, as various raw material suppliers and logistics companies are involved, the management of a company's supply chain ESG is becoming an increasingly important challenge.

Approach

ISU PETASYS ensures that its suppliers commit to adhering to ISU PETASYS's Code of Conduct and the Responsible Business Alliance (RBA) Code of Conduct. ISU PETASYS practices systematic supply chain management through regular supplier assessments and CSR audits. Furthermore, it manages responsible sourcing activities to ensure that suppliers do not use conflict minerals and conducts safety, health, and human rights education for its suppliers to continuously enhance their sustainability capabilities. In the future, ISU PETASYS plans to proactively identify and improve supply chain risks to strengthen its risk management capabilities.

Performance

100%

Percentage of major supplier CSR audits conducted

100%

Percentage of conflict mineral due diligence conducted among suppliers

0

Number of suppliers categorized as 'high risk' in conflict mineral management stage

Focus 2 Management of a Sustainable Supply Chain

Supplier ESG Management

Supplier Agreement of Implementation

ISU PETASYS stipulates that suppliers comply with both ISU PETASYS's Code of Conduct and the RBA Code of Conduct. To ensure this compliance, ISU PETASYS receives the Agreement of Implementation from its suppliers regarding the adherence to ISU PETASYS's Code of Conduct. The Code of Conduct covers various aspects, including human rights and labor, environmental health and safety, fair business operations, product responsibility and customer engagement, community involvement and development, and ESG governance. Since 2019, the commitment letter has included compliance with the RBA Code of Conduct, signifying suppliers' active commitment to ISU PETASYS and the RBA Code of Conduct through suppliers' signature on the commitment letter.

Regular Supplier Assessment

ISU PETASYS conducts regular supplier assessments at least once a year to select and manage competitive suppliers effectively. The assessment results are divided into four grades (A, B, C, D). For key suppliers, ISU PETASYS actively places orders. ISU PETASYS suggests improvement measures for suppliers requiring corrective actions and monitors their implementation. Regular assessments targeting raw material and logistics companies encompass various criteria, including pricing, quality, delivery, safety, financial stability, collaboration, reliability, incident history, and customer satisfaction.

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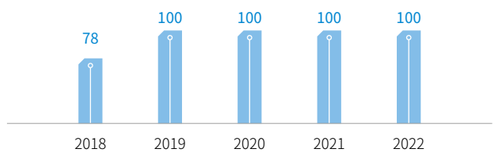
Suppliers Subject to 2022 Regular Assessment

Supplier CSR Audits

ISU PETASYS conducts CSR audits to expand corporate social responsibility throughout the supply chain. Following RBA assessment criteria, ISU PETASYS objectively assesses the CSR capabilities of its suppliers, reducing potential risks in the supply chain and strengthening the foundation for sustainable management.

Percentage of Major Supplier CSR Audits Conducted (Unit: %)



Supporting Enhancement of Supplier Capability

Conducting Education and Mutual Cooperation Programs

ISU PETASYS conducts education and consulting programs to enhance suppliers' capabilities. To ensure that human rights and labor rights are not violated at suppliers' workplaces, basic training on personnel guidelines is conducted, and support is provided for education on personnel and labor-related matters such as employment contracts and employment rules. Furthermore, under the goal of 'Building a Safe and Healthy Workplace for Mutual Growth,' a safety and health cooperation program is jointly implemented with seven suppliers. This program includes various safety and health activities, ranging from monthly Safety and Health Roundtable Operational Committee to Fatal-4 compliance relay campaigns, core safety rules complying campaigns, and emergency response training. In particular, biannual supplier roundtable meetings are held to receive and address suppliers' concerns and improve any unreasonable issues. Additionally, biannual safety and health assessments are conducted for supplier companies. Recommendations and support regarding necessary equipment, training, etc., are provided if improvement is needed.

Exchange for Mutual Growth

ISU PETASYS enhances market and technology information exchange with suppliers through continuous communication. To achieve this, ISU PETASYS focuses on enhancing the technological capabilities of its suppliers through the assessment and analysis of new supplier materials. Simultaneously, the company establishes market strategies that promote mutual growth by exchanging market information with suppliers.

Raw Material Procurement with Responsibility

Conducting Conflict Minerals Due Diligence

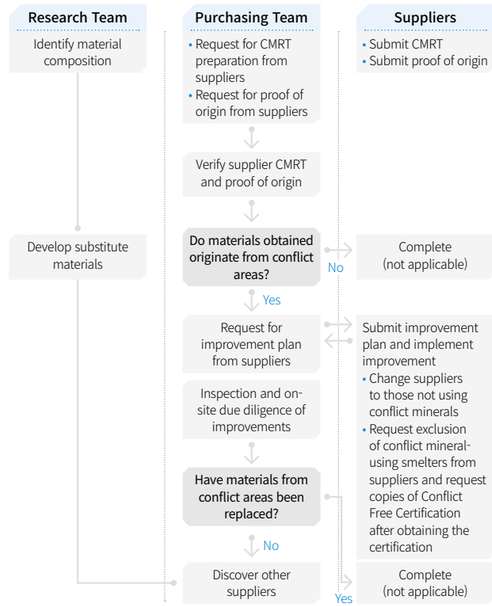
ISU PETASYS rigorously manages its raw material procurement process to ensure that conflict minerals and similar substances are not used in the production process. Conflict minerals are natural resources produced in countries where conflicts may lead to labor exploitation, abuse, human rights violations, and the funding of armed groups during mining. Due to these concerns, the international community regulates the mining of conflict minerals.

In response, ISU PETASYS has established management policies in accordance with the RMI (Responsible Minerals Initiative) to investigate the origins of materials used by its suppliers and is implementing a conflict mineral management process. In particular, ISU PETASYS utilizes the CMRT (Conflict Minerals Reporting Template) provided by RMI to identify the usage status of conflict minerals such as tin, tantalum, tungsten, and gold within its supply chain and reviews and updates all names and locations of smelters. Based on the results of conflict minerals due diligence, ISU PETASYS categorizes its suppliers into three levels: high-risk, low-risk, and no risk, demanding that high-risk suppliers replace conflict minerals. In 2022, assessments were conducted for all suppliers, and all suppliers were found to be using minerals from RMI-certified smelters, indicating that improvement measures were not required.

Conflict Minerals Management for Suppliers

- Suppliers must establish documented conflict minerals management policies and procedures to ensure that the products they supply to ISU PETASYS do not contain conflict minerals benefiting armed groups in the Democratic Republic of the Congo or neighboring countries.
- Suppliers must make good-faith efforts to identify all names and locations of smelters within their supply chain that have purchased conflict minerals.
- Suppliers must promptly respond to ISU PETASYS's requests for CMRT as needed.
- Suppliers must take corrective actions promptly if any risks are identified within their supply chain.

Conflict Minerals Management Process



ISU PETASYS Conflict Mineral Management

- Suppliers are expected to establish conflict mineral business processes in compliance with international standards regulating conflict minerals and actively support initiatives prohibiting using conflict minerals by EICC and the GeSI (Global e-Sustainability Initiative).
- The company will utilize the CMRT provided by EICC-GeSI to identify all names and locations of smelters involved in producing tin, tantalum, tungsten, and gold used in its products.
- Suppliers will be requested to submit the conflict minerals usage reporting questionnaire and a written confirmation of non-use of conflict minerals.
- Support will be provided to suppliers to purchase minerals from smelters certified under the 'Conflict-Free Smelter Program.'
- The company will establish due diligence procedures in accordance with the OECD Due Diligence Guidance and, if necessary, conduct due diligence of the procedures and documentation performed by suppliers for conflict minerals usage reporting.

Focus 3
Enhancing Competitiveness Through Manufacturing Innovation

Background

As the data center market expands and demand for edge computing increases, the specification of network and server equipment is accelerating. In addition to the wired equipment, servers, and storage markets, an expanded demand for PCBs is expected in emerging markets such as 5G base stations. The demand for high-performance PCBs is also increasing in line with this trend. PCB manufacturers need to possess core technological capabilities to meet this demand and maintain a competitive edge in their products.

Approach

ISU PETASYS responds to market changes through manufacturing innovation and expanding new investments. The company diversifies its customer portfolio and focuses on producing high-value-added products. Improvement of product processes for greater efficiency and safety is achieved through digital transformation and production process automation. In the future, there are plans to expand new investments in production facilities by establishing an annual production structure of KRW 700 billion to meet the increasing customer demand.

Performance

KRW **642.9** billion

2022 Revenue
(2021 Revenue: KRW 469.6 billion)

KRW **116.6** billion

2022 Operating Profit
(2021 Operating Profit: KRW 46.9 billion)

36.9%

Revenue Growth Rate
(year on year)

148.8%

Operating Profit Growth Rate
(year on year)

Focus 3 Enhancing Competitiveness Through Manufacturing Innovation

Adapting to Market Trend Changes

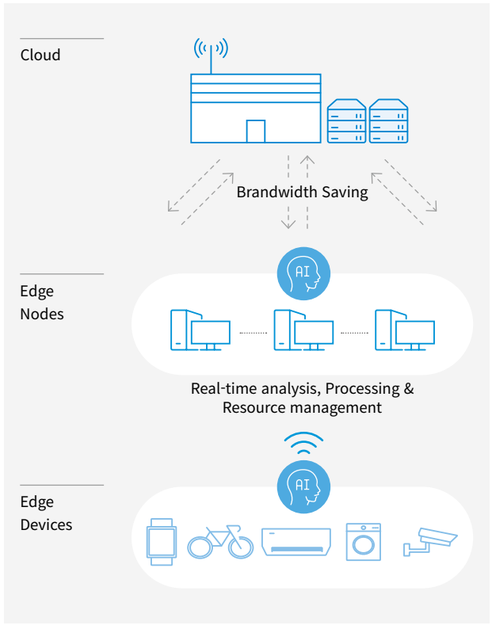
PCB, ISU PETASYS's core business, is showing steady growth trends. Firstly, the demand for high-spec PCBs is increasing due to the expansion of hyperscale data centers[1] and the growth in edge computing[2]. With the recent increase in mega data centers, there is a demand for high-speed and parallel processing capabilities. Additionally, the growing demand for edge computing requires the ability to analyze and transmit data quickly and reliably. These changes have led to an acceleration in the high-specification requirements for network and server equipment, including AI accelerators and 800GB switches, which are essential components of data centers. Furthermore, there is an increasing demand for high-performance raw materials to minimize signal loss, especially in producing ultra multi-layer precision PCBs.

Additionally, there is also an increasing demand for specific applications within data centers[3]. High-performance PCBs are required for storage devices and networking equipment, including routers/switches.

ISU PETASYS has responded to these market trend changes by formulating a business strategy through external environmental and corporate capability analysis. This strategy has yielded positive results, leading to record-breaking annual revenue in 2022. In addition to concentrating on producing high-value-added products and pursuing a customer diversification strategy, the goal is to focus on expanding revenue focusing on key customers in various fields, such as networks, data centers, and servers, leveraging the current stable customer base, and entering new markets. ISU PETASYS aims to maintain its maximum production capacity through increased sales in the emerging markets of high-performance servers and accelerator modules. Regarding production technology and quality, we seek to secure core PCB technology capabilities.

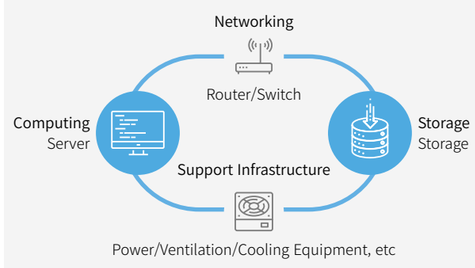
1) Hyper-scale data centers with the capability to process vast amounts of information due to the presence of ultra-high-speed networks and large-scale servers.
2) A process that brings information storage and computing capabilities closer to the devices generating the information and the users consuming it.
3) Connecting computing equipment, which serves as the brain, and storage devices with networking equipment to process data.

Edge Computing



(Source: Telecommunications Technology Association)

Data Center



Digital Transformation (DT) and Production Process Automation

Digital transformation of production processes for manufacturing innovation is no longer a choice but a necessity. ISU PETASYS has developed a digital transformation master plan and is actively addressing key challenges. In 2023, a portion of the capital budget was invested in automation equipment and programs. Automation technology will be introduced from design to production to enhance productivity, and new inspection equipment integrating digital technology will be introduced to improve output quality.

ISU PETASYS has particularly digitized its facilities to build a smart factory infrastructure and has established a system for integrated monitoring of power, utilities, multi-joint robots, etc. Additionally, the company aims to realize a smart office by implementing a management information monitoring system using Robotic Process Automation (RPA).

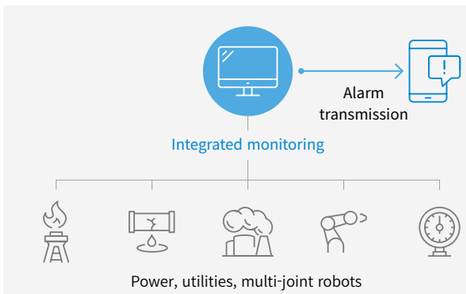
Establishment of Smart Factory Infrastructure

- Equipment operating information
- SPC factors (temperature, humidity, concentration, etc.)
- Operating conditions
- Production information

→

- Quality improvement
- Increased productivity
- Enhanced traceability

Development of Integrated Monitoring System



Expansion of New Investment in Manufacturing Plants

ISU PETASYS plans to expand new investments in manufacturing plants to increase efficiency and productivity, thereby establishing a foundation of growth. In May 2023, the company completed the construction of its fourth multi-layer PCB manufacturing plant within the Daegu Dalseong 1st Industrial Complex. Starting with this, ISU PETASYS aims to enhance production capacity by 2024 by constructing and rearranging factories. Through new investments, the company is expanding production facilities focusing on multi-layer PCBs, replacing outdated equipment in existing first to third factories, and deploying multi-joint robots to promote automation processes and rational logistics movements. By doing so, ISU PETASYS expects to become a specialized PCB manufacturing company with proactive responsiveness to the increasing demand from global data center customers.

Automation Process

Focus 4
Response to Climate Change

Background

Climate change, resource scarcity, and other climate-related factors affect the processes of PCB, which are the core product of ISU PETASYS. Due to the nature of PCB manufacturing processes, there is a risk of mechanical damage and chemical leaks, which can significantly impact the business operations through reduced product productivity. Furthermore, global market customers increasingly prioritize their trading partners' environmental capabilities. Failure to manage climate risks can directly or indirectly impact transactions with global customers.

Approach

ISU PETASYS is pursuing various strategies to minimize the environmental impact arising from the business processes. To address greenhouse gas emission regulations, we not only monitor regulatory trends and conduct risk assessments but also establish a greenhouse gas inventory system and collect carbon emissions data from suppliers, systematically monitoring greenhouse gas data across the entire value chain. In the future, ISU PETASYS plans to expand its environmentally friendly corporate activities, including reducing carbon emissions, increasing the use of renewable energy, and producing high-efficiency products.

Performance

85%	**0** case
2022 Waste Recycling Rate	Number of Incidents of Hazardous Chemicals Leakage
Reduced by about **2** times	**5**% improvement
2022 Scope 1 Emissions (year on year)	2023 Annual Energy Saving Target (year on year)

Focus 4 Response to Climate Change

Greenhouse Gas and Energy Management Framework to Respond to Climate Change

Establishment of Greenhouse Gas Inventory System

ISU PETASYS is subject to regulations under the Greenhouse Gas Emission Trading Scheme. In response, greenhouse gas emissions are calculated and managed based on the NGMS (National GHGs Management System) standards. Particularly, greenhouse gas emissions are effectively measured annually through establishing a greenhouse gas inventory system. When improvement measures related to emissions reduction are identified, action plans to reduce emissions are created to implement these efforts. Thanks to these initiatives, since 2020, ISU PETASYS has consistently reduced its total greenhouse gas emissions (Scope 1+2), with a significant 2-fold reduction in Scope 1 emissions in 2022 compared to the previous year.

Enhancing Energy Efficiency in Processes and Products

ISU PETASYS recognizes that reducing greenhouse gas emissions and energy usage are core activities for mitigating climate change. As a result, the company is implementing energy-saving activities across its production processes and making various efforts, including replacing old equipment with high-efficiency machinery. In addition, to enhance its business competitiveness, ISU PETASYS focuses on selling energy-efficient products in response to the increasing demand from key customers. Currently, the company is actively engaged in ongoing R&D research to improve the energy efficiency of its products. In 2022, power-saving activities were carried out, including minimizing facility operations, turning off unnecessary lights, and complying with temperature settings for heating and cooling systems.

Contributing to Resource Circularity through Recycling Waste and Reusing Valuable Metal

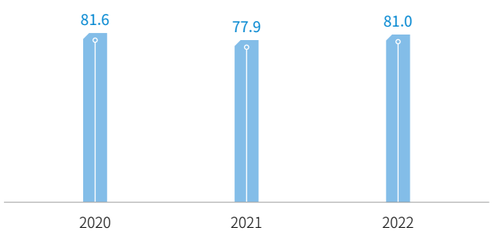
Establishing Waste and Raw Material Recycling Systems

Resource circularity not only helps reduce indiscriminate waste disposal, thus aiding in preventing environmental pollution, but also addresses the issue of resource scarcity. ISU PETASYS contributes to resource circularity by establishing systems for recycling waste and raw materials. The entire waste, including defective products, is segregated into 40 categories. After careful sorting, 34 of these categories are entrusted to waste management companies for recycling in producing new products. This process recovers waste previously disposed of without being recycled, contributing to resource recycling.

Operation of Valuable Metal Recovery Facilities

ISU PETASYS operates valuable metal recovery facilities to recycle valuable metals such as gold (Au), silver (Ag), and copper (Cu) that are included in raw materials. This not only allows for the cost-effective reuse of materials needed for metal refining but also has a positive impact on environmental protection. In recognition of the outstanding environmentally friendly business practices and efforts to reduce waste at the facilities, ISU PETASYS received commendations from the Minister of Environment in 2017 for contributing to the formation of a resource-circulating society.

Waste Recycling Rate (Unit: %)



Reduction in Environmental Impact through Managing Hazardous Pollutants

Enhanced Management in Handling Hazardous Chemicals

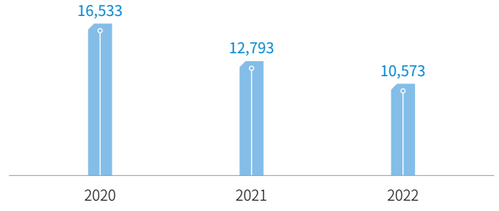
ISU PETASYS identifies and rigorously manages the chemicals present in all production processes. Regular daily, weekly, and monthly inspections are conducted for facilities handling hazardous chemicals. MSDS (Material Safety Data Sheets) are provided at relevant sites to ensure the availability of necessary safety protective equipment and disaster prevention equipment for handling hazardous substances and preparing for leakage accidents. In 2023, it is expected that the usage of hazardous chemicals, including chemicals, will increase due to the establishment of a new factory. Therefore, efforts are being made to strengthen the education and training of personnel handling hazardous chemicals.

Number of Incidents of Hazardous Chemicals Leakage (Unit: cases)

Improvement in Managing Air and Water Pollutants

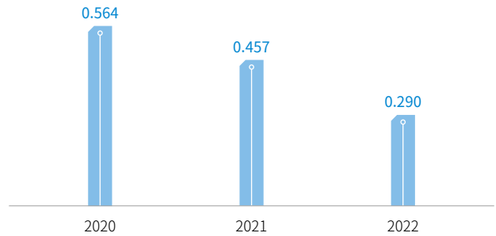
ISU PETASYS recognizes that air and water pollutants significantly impact the environment and is committed to thorough management and process improvement. Air and water pollutants are managed in accordance with internal regulations that are stricter than legally permissible limits. For air pollutants, emissions are minimized by regularly replacing absorbents, among other measures. In addition, a systematic monitoring and treatment system is being operated for managing wastewater and water pollutants. Wastewater is categorized based on process-specific characteristics and is treated using physical and chemical methods within the facilities. Treated wastewater is discharged after the secondary treatment at the wastewater treatment facility. High-concentration wastewater that cannot be treated in-house is collected separately and outsourced for treatment.

Air Pollutant Emissions[1] (Unit: kg)



1) Total emissions of major pollutants (nitrogen oxides, sulfur oxides, ammonia, and dust).

Water Pollutant Discharge[2] (Unit: kg/KRW million)



2) Data: Korea, Revenue: Consolidated basis

Minimizing Waste Generation in Production Processes

ISU PETASYS has established reduction targets for each process to minimize waste generation during production activities and manages all waste from generation to storage and disposal. In addition, to minimize the environmental impact of outsourced waste disposal, regular assessments of waste disposal companies are conducted based on criteria such as equipment, technology, waste treating capabilities, legal requirements, etc. Waste is only entrusted to companies that have received a tradable grade.

ESG Fact Book

Environment

Enhanced Environmental Management System

Policies and Strategies

ISU PETASYS has established an integrated ESH (Environmental, Safety, and Health) management system to systematically manage the environmental impact arising from the overall management activities. ISU PETASYS has been designated as a company subject to allocation of greenhouse gas emission permit in accordance with the 'Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis.' Consequently, it has implemented a greenhouse gas inventory system to systematically manage emissions and targets. Furthermore, ISU PETASYS transparently discloses key environmental indicators such as greenhouse gas emission changes and the percentage of green product purchases through the Environmental Information Disclosure System each year.

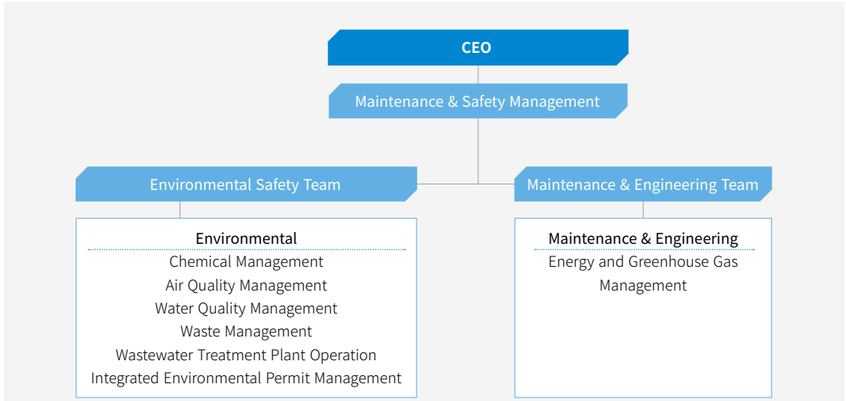
Major Tasks and KPI

Selection of Key ESH Tasks		Establishment of Major Policies	KPI
Environment	Zero Environmental Pollution	Execute an environmental impact assessment	Execution rate
		Improve severe environmental impacts	Achievement rate
		Conduct compulsory education on hazardous chemicals substances	Completion rate
	Use of Sustainable Resources	Reduce greenhouse gas emissions / Reduce energy consumption	Emissions
Common	Raise Employees' Awareness of Environmental Safety	Conduct emergency drill (four times/year)	Number of drills
		Launch campaigns to abide by major safety regulations (12 times/year)	Number of campaigns held
		Organize an ERT and hold expertise training course	Execution status
	Improve effectiveness of ESH management system	Maintenance of ISO 14001	Status of maintenance

Governance

ISU PETASYS outlines the responsibilities and authorities of the CEO and dedicated teams in environmental management through environmental management manuals. The Board of Directors deliberates and approves key climate change-related issues. The Board is responsible for reviewing and managing key climate change strategies, implementation plans, budgets, KPIs, and the final review and management of climate change risks and opportunities. The CEO reviews and approves matters related to major climate change risks and opportunities, such as carbon reduction and environmental facility investments. One of the environmental dedicated teams, the Environmental Safety Team, selects and promotes key climate change tasks and reports the results of implementation reviews related to waste, chemicals, and water conservation plans to the CEO once a year. In addition, the Maintenance & Engineering Team manages energy and greenhouse gases. Furthermore, there is an Energy Rationalization Activity Committee, and it is operated monthly to continuously observe and address energy issues and improvements.

Environmental Management Organization



Goals

ISU PETASYS aims to reduce its direct emissions (Scope 1) and indirect emissions (Scope 2) generated by the company by 40% compared to the base year of 2020 by 2030. To achieve this goal, ISU PETASYS has initiated measures such as introducing and operating CF_4 gas emission reduction facilities, reducing energy usage, such as LNG and electricity, replacing electric lights, replacing high-efficiency equipment, etc.

	Base Year (2020)	Target Year (2030)	Reduction Rate
Emissions (tCO_2)	52,566	31,500	40% reduction

Certification and Due Diligence

ISU PETASYS conducts environmental impact assessments[1] throughout the entire process, from procuring raw materials for products and services to product disposal. Environmental impact assessments are conducted when issues arise, such as the construction or expansion of facilities, new product development, stakeholder demands, significant environmental impacts, and changes in the chemicals used in production processes. The assessment results are ranked from A to F, with items rated D or higher categorized as having a significant environmental impact and managed as priority areas. Additionally, ISU PETASYS maintains ISO 14001 certification to effectively implement environmental management.

1) Result of the environmental impact assessment: A Grade (No impact on the environment), B Grade (Very minimal environmental impact) C Grade (Minimal environmental impact), D Grade (Some significant potential environmental impact), E Grade (Significant environmental impact), F Grade (Very significant environmental impact)

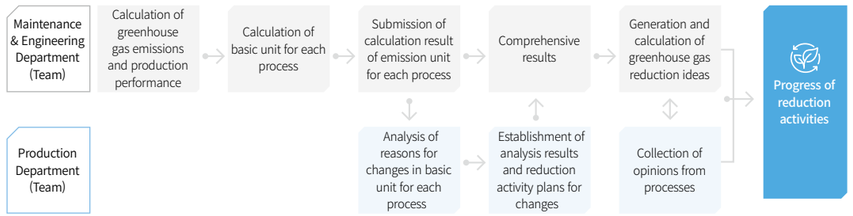
Environment

Enhanced Environmental Management System

Major Activities

Improvement of the Greenhouse Gas Emission ISU PETASYS establishes an inventory and calculates emissions based on the standards of NGMS (National GHGs Management System). In 2022, various reduction measures were implemented to reduce greenhouse gas emissions and energy consumption significantly. This included upgrading outdated equipment to high-efficiency facilities and minimizing idle operations. In particular, the operation of the CF4 gas emission reducer in 2022 significantly reduced direct greenhouse gas emissions. ISU PETASYS plans to continue its annual energy reduction activities throughout the company, aiming to reduce greenhouse gas emissions by more than 5% compared to the previous year.

Greenhouse Gas Management Flow Chart



Greenhouse Gas Emissions

		Unit	2020	2021	2022
Emissions	Total emissions (Scope 1+2)	tCO_2eq	52,566	51,187	41,275
	- Direct emissions (Scope 1)	tCO_2eq	23,778	23,083	11,590
	- Indirect emissions (Scope 2)	tCO_2eq	28,788	28,104	29,685
	Greenhouse gas intensity[1] (Scope 1+2)	tCO_2eq/KRW million	0.134	0.109	0.064

1) Data: Korea, Revenue: Consolidated basis

Energy Usage

		Unit	2020	2021	2022
General energy	Total energy consumption (direct + indirect)	TJ	712	697	740
	Total consumption of direct energy	TJ	120	110	120
	- LNG	TJ	119.4	109.2	119.3
	- Gasoline	TJ	0.6	0.8	0.7
	Total consumption of indirect energy	TJ	592	587	620
	- Electricity	TJ	592	587	620
	Energy intensity[2]	TJ/KRW billion	1.811	1.484	1.151

2) Data: Korea, Revenue: Consolidated basis

Environmental Investment ISU PETASYS is continuously strengthening its environmental investments. In 2022, ISU PETASYS replaced numerous outdated facilities, such as cooling tower fillers, with high-efficiency equipment to establish an eco-friendly workplace. Additionally, ISU PETASYS recognizes environmental education as an essential component of the investments and conducts training sessions on hazardous substances and water/air pollutants for relevant employees. Additionally, training for new employees on inappropriate waste disposal practices and other related matters is conducted.

		Unit	2020	2021	2022
Environmental investment	Amount of environmental investment	KRW 100 million	2.54	3.72	1.53

Compliance with Environmental Regulations ISU PETASYS prioritizes strict compliance with environmental regulations by identifying key environmental regulations and establishing response strategies. Despite these efforts, in 2022, one environmental regulation violation occurred due to the neglect of damage to machinery and equipment attached to the preventive facility, resulting in a penalty of KRW 2 million. Subsequently, a root cause analysis was conducted to prevent the recurrence of similar violations, and inspections of facilities preventing air and water pollution were intensified. ISU PETASYS plans to further enhance facility inspections and improve the workflow of relevant departments to prevent future violations.

		Unit	2020	2021	2022
Environmental regulations	Number of violations	Cases	0	0	1
	Fines and penalties	KRW million	0	0	2

Environmental Initiatives ISU PETASYS has been participating in the Carbon Disclosure Project (CDP) since 2014, continuously disclosing climate-related information. In the future, transparent disclosure of environmental policies and response status will follow the initiative's standards.

Environment

Usage in Resource and Reduction in Pollution

Policies and Strategies

Systematically managing resource use and pollutants minimizes potential health and environmental hazards at every stage, from purchasing raw materials to disposal. Efforts are being made to establish air quality, water quality, and waste management regulations to suppress the generation of pollutants and reduce environmental pollution. In particular, ISU PETASYS is making comprehensive efforts to reuse raw materials and recover waste generated during the production process for recycling throughout the company.

Governance

The Environmental Safety Department handles waste management. The Environmental Safety Department manages and supervises the waste disposal process, addresses and prevents non-compliance issues related to waste, and reviews opportunities for waste recycling and reuse. Other relevant departments, such as Production, Maintenance & Engineering, and Management Support, cooperate to manage waste throughout the company.

Goals

ISU PETASYS has set a medium to long-term goal of 'recycling more than 83% of the waste generated annually by 2025.'

Certification and Due Diligence

Due to the strengthening of chemical regulations in Korea and overseas, rigorous management of chemicals by companies is increasingly demanded. ISU PETASYS conducts an annual chemical hazard assessment to minimize the potential harm of chemical products used in all production processes. Additionally, regular inspections, including daily, weekly, and monthly checks of facilities handling hazardous chemicals, are carried out to strengthen systematic management.

Major Activities

Water Usage ISU PETASYS strives to minimize water usage in the production of products. Every year, specific water reduction targets are established for each production process, and efforts are continuously made to improve water usage. In 2022, water usage increased due to an increase in production volume. However, there are plans to install wastewater recycling facilities to reduce water consumption.

		Unit	2020	2021	2022
Water withdrawal	Total water withdrawal	ton	1,312,745	1,321,183	1,326,252
	- Tap water	ton	20,074	19,265	21,026
	- Industrial water	ton	1,292,671	1,301,918	1,305,226
Consumption	Total consumption	ton	1,312,745	1,321,183	1,326,252
Wastewater treatment	Intensity of the wastewater treatment[1)]	ton/KRW million	2.898	2.465	1.899

1) Data: Korea, Revenue: Consolidated basis

Raw Materials

		Unit	2020	2021	2022
Raw materials	Total purchase of raw materials	KRW million	110,837	132,726	164,414
	- TC	KRW million	68,720	79,765	97,852
	- PP	KRW million	41,176	51,887	65,125
	- Copper foil	KRW million	941	1,074	1,437

Pollutant Emissions

		Unit	2020	2021	2022
Air pollutant emissions	Total emissions[1)]	kg	12,792.1	9,022.3	6,052.9
	- Nitrogen oxides (NOx) emissions	kg	5,745.4	6,324.3	4,429.6
	- Sulfur oxide (SOx) emissions	kg	1,278.3	732.3	206.6
	- Ammonia (NH3) emissions	kg	5,054.4	1,361.8	554.4
	- Dust emissions	kg	714.0	603.9	862.3
	- Intensity of nitrogen oxide (NOx) emissions[2)]	kg/KRW million	0.015	0.013	0.007
	- Intensity of sulfur oxide (SOx) emissions[2)]	kg/KRW million	0.003	0.002	0.000
	- Intensity of ammonia (NH3) emissions[2)]	kg/KRW million	0.013	0.003	0.001
	- Intensity of dust emissions[2)]	kg/KRW million	0.002	0.001	0.001
Water pollutant discharge[3)]	Intensity of BOD emissions	kg/KRW million	0.200	0.136	0.076
	Intensity of SS emissions	kg/KRW million	0.039	0.024	0.032
	Intensity of T-N emissions	kg/KRW million	0.116	0.127	0.086
	Intensity of Cu emissions	kg/KRW million	0.002	0.001	0.001

1) Other substances are not included in the report due to concentration variations, etc.
2) Data: Korea, Revenue: Consolidated basis
3) Since April 2023, measurements of TOC emissions have been conducted instead of the previous COD emissions.

Environment

Usage in Resource and Reduction in Pollution

Hazardous Chemicals In 2023, it is expected that the usage of hazardous chemicals will increase due to the establishment of a new factory. Accordingly, regular training for handlers of hazardous chemicals is being conducted, and every effort is being made to prevent related incidents.

		Unit	2020	2021	2022
Chemical management	Usage of chemicals	ton	9,056	9,883	11,371
Leakage	Leakage of major hazardous substances	Cases	0	0	0

Waste At ISU PETASYS, waste is categorized into 40 types, including products discarded due to defects, and 34 types of waste are recycled. Additionally, facilities for recovering valuable metals like gold (Au), silver (Ag), and copper (Cu) contained in raw materials are operated.

		Unit	2020	2021	2022
Emissions	Total waste discharge	ton	10,304.1	10,898.7	12,035.3
	- General waste	ton	5,157.6	5,252.7	6,071.9
	- Designated waste	ton	5,146.5	5,646.0	5,963.4
Treatment	Total waste treatment	ton	10,304.1	10,898.8	12,035.4
	General waste	ton	5,157.6	5,252.7	6,071.9
	- Recycling	ton	5,157.6	5,252.7	6,071.9
	Designated waste	ton	5,146.5	5,646.0	5,963.4
	- Incineration	ton	472.4	476.5	516.6
	- Neutralization	ton	1,428.9	1,928.0	1,776.5
	- Recycling	ton	3,425.1	3,241.6	3,670.4
Recycling	Waste Recycling Rate	%	81.6	77.9	81.0

Social

Labor and Talent Development

Policies and Strategies

ISU PETASYS has established employment rules and personnel regulations in accordance with Korean laws, including the Labor Standards Act, to operate a fair and transparent HR system. In particular, to respect diversity and create a discrimination-free workplace, ISU PETASYS has defined non-discrimination items in its human rights labor policy and specified in its Code of Ethics and Guidelines for Respecting Human Rights that it will not discriminate based on gender, age, position, political or religious preferences. In 2019, ISU PETASYS institutionalized non-discrimination by establishing a non-discrimination procedure manual and child welfare process. In 2022, the company conducted due diligence based on a non-discrimination checklist to ensure that there is no unreasonable discrimination.

Furthermore, ISU PETASYS recognizes that securing excellent talents is an essential element for sustainable growth and achieving business goals. It spares no effort in investing in talent development. ISU PETASYS implements a customized education and training system, divided into categories such as organizational strengthening, global competence enhancement, and job specialization, providing tailored education and training for each position and job function to support continuous competency development of its members and motivate them.

Goals

ISU PETASYS has set a goal to achieve a disability employment rate of 4.1% by 2025 to ensure diversity among its workforce. The company plans to continuously expand this ratio. To achieve this, the company has set KPIs for the employment rate of disabled individuals and hours of training per person, which are being actively managed.

Key Activities

Employee Status

		Unit	2020	2021	2022
By type of employment	Total number of employees	Persons	883	910	967
	Permanent employees	Persons (%)	883(100)	892(98.0)	882(91.2)
	Temporary employees	Persons (%)	0(0)	18(2.0)	85(8.8)
By age	Less than 30 years old	Persons (%)	88(10.0)	84(9.2)	138(14.3)
	Not less than 30 years old and less than 50 years old	Persons (%)	749(84.8)	758(83.3)	738(76.3)
	Not less than 50 years old	Persons (%)	46(5.2)	68(7.5)	91(9.4)

Social

Labor and Talent Development

Diversity of Workforce

		Unit	2020	2021	2022
Female	Total females	Persons	78	73	78
	- Management position	Persons	55	51	55
	- New hires	Persons	3	2	12
Minorities	Disabled	Persons (%)	31(4.1)	32(4.3)	31(3.9)
	Veterans	Persons (%)	16(1.8)	15(1.6)	15(1.6)

Hiring

		Unit	2020	2021	2022
New hires	Total	Persons	7	37	110
	- Entry-level	Persons (%)	4(57.1)	17(45.9)	96(87.3)
	- Experienced	Persons (%)	3(42.9)	20(54.1)	14(12.7)

Turnover and Tenure of Employee

		Unit	2020	2021	2022
Turnover	Total turnovers	Persons	26	23	44
	- Voluntary turnover	Persons	14	22	41
	Turnover rate	%	2.9	2.5	4.6
	- Voluntary turnover rate	%	1.6	2.4	4.2
Tenure	Average tenure	Years	15.2	15.4	14.8
	- Male	Years	15.4	15.8	15.3
	- Female	Years	9.6	10.2	9.1

Compensation

		Unit	2020	2021	2022
Salary	Average salary for all employees	KRW 1,000	73,165	74,989	86,624
	- Male	KRW 1,000	75,082	76,583	88,608
	- Female	KRW 1,000	53,379	57,493	64,017
Equal pay	Total employees	%	70.9	75.1	66.7
	- Management position	%	60.7	65.2	58.9
	- Non-management position	%	78.6	77.8	65.9

Talent Development and Assessment

		Unit	2020	2021	2022
Education	Training hours per employee	Hours	53.5	53.1	64.8
	Training cost per employee	KRW 1,000	172	168	442
	Total participants	Persons	882	889	967
Employee satisfaction	All employees	Points	80.7	85.7	86.8

Labor Union ISU PETASYS fosters a corporate culture of mutual growth through labor and management cooperation. The freedom of association for employees is ensured, and communication between labor and management is promoted. Labor and management exchange opinions through the Labor-Management Council (quarterly) and the Occupational Safety and Health Committee (biannually), reflecting the results in workplace environments and labor conditions. In 2022, the collective agreement was renewed (July 20, 2022, to July 19, 2024).

		Unit	2020	2021	2022
Labor union	Percentage of employees in labor union	%	99.5	99.4	99.4
Collective bargaining	Convening of Labor-Management Council	Cases	4	4	4

Social

Labor and Talent Development

Work-Life Balance ISU PETASYS recognizes the improvement of employees' quality of life as a vital factor in enhancing productivity. To achieve this, flexible working hours have been implemented since 2016. Additionally, a concentrated working hours system has been in operation since 2018, prohibiting meetings, calls, task assignments, and reporting during specified times, creating conditions for shorter working hours. Furthermore, various programs are in operation to ensure a balance between work and family life. These include an automatic parental leave system to alleviate the burden of childcare, workplace childcare facilities, financial aid for education, and the operation of lactation rooms. These initiatives aim to provide employees with a stable and fulfilling life.

		Unit	2020	2021	2022
Employee benefits	Employee benefits as a percentage of revenue	%	2.0	1.9	1.8
Work-Life balance	Participation rate in flexible working hours	%	53.0	26.0	33.0
Parental leaves	Male	Persons	4	1	3
	Female	Persons	9	3	6
Return from parental leave	Total expected returnees	Persons	4	13	4
	- Male	Persons	1	4	1
	- Female	Persons	3	9	3
	Returnees	Persons	5	6	2
	- Male	Persons	3	1	1
	- Female	Persons	2	5	1

Human Rights

Policies and Strategies

ISU PETASYS establishes and practices the values of human rights at both institutional and cultural levels. The company has developed a Code of Conduct based on international standards and guidelines such as the Universal Declaration of Human Rights, UNGPs (UN Guiding Principles on Business and Human Rights), ILO (International Labour Organization) Constitution, OECD Due Diligence Guidance, and RBA Code of Conduct. This serves as the foundation for implementing progressive human rights management. In particular, explicit non-discrimination clauses for vulnerable groups, such as children, people with disabilities, and pregnant women, are included in the company's policies. ISU PETASYS has established and publicly disclosed the Code of Ethics and Guidelines for Respecting Human Rights to cultivate a culture of human rights awareness and respect among all employees.

Additionally, the company has regulations for handling grievances that outline procedures for counseling employees and processing grievances. Based on these regulations, employee complaints are listened to and addressed, fostering a healthy working atmosphere where employees respect mutual personality and values. Moreover, ISU PETASYS conducts human rights education, including harassment prevention training, and operates a pledging program related to respecting human rights to enhance its employees' awareness of human rights.

I, as an employee of ISU PETASYS, shall observe the following guidelines.

1. I shall maintain a healthy private life and not engage in any act that defames the company.
2. I shall not misuse my authority, personally use company property, or execute expenses in a non-transparent manner.
3. I shall not receive money, treatment, or accommodations from stakeholders, including colleagues, customers, partners, or accounts.
4. I shall not disclose trade secrets learned through business and comply with the security guidelines.
5. I shall not discriminate against colleagues on gender, age, position, employment status, political position, or religion.
6. I shall respect my colleagues and not exercise any physical, sexual, or verbal violence.
7. Upon witnessing any acts mentioned above, I shall immediately stop the person or the act and notify the relevant department.

Governance

ISU PETASYS, through its dedicated Human Resources Labor Team responsible for human rights, formulates and drives plans for human rights management and regularly checks performance. The Human Resources and Labor Team conducts overall management activities to identify human rights violations and risks and investigates reports of human rights violations through annual internal audits. In cases where human rights violations are confirmed, immediate disciplinary actions against the perpetrators and protective measures for the victims are reported to the Ethics Management Committee for prompt implementation.

Goals

ISU PETASYS maintains zero violations of human rights-related regulations and aims to continue this record in the future. Furthermore, annual human rights education is conducted for employees and suppliers to achieve a 100% education rate each year.

Social

Human Rights

Key Activities

Reporting Human Rights

		Unit	2020	2021	2022
Reporting and handling human rights	Number of human rights-related reports	Cases	0	0	0
	Number of human rights-related cases processed	Cases	0	0	0

Violation of Human Rights

		Unit	2020	2021	2022
Violation of human rights-related regulations	Total number of violations	Cases	0	0	0
	- Penalties	KRW 1,000	0	0	0
	- Fines	KRW 1,000	0	0	0

Education of Human Rights

		Unit	2020	2021	2022
Education hours	Education hours per employee	Hours	3	3	3
	- Education for preventing sexual harassment	Hours	1	1	1
	- Education for preventing workplace bullying	Hours	1	1	1
	- Education for improving disability awareness	Hours	1	1	1

Occupational Safety and Health

Policies and Strategies

ISU PETASYS establishes safety and health management regulations based on the Occupational Safety and Health Act to enhance the safety and health of employees and create a pleasant working environment in accordance with these regulations. These regulations apply not only to all ISU PETASYS employees but also to workers from suppliers, temporary visitors, and all activities related to ISU PETASYS.

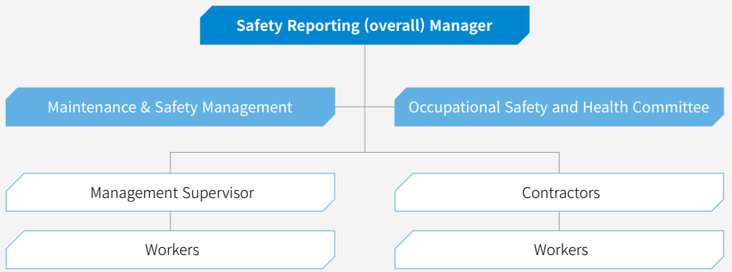
Additionally, ISU PETASYS prepares emergency scenarios for accidents such as the leakage of hazardous chemicals, fires, explosions, and natural disasters to minimize damage in emergencies. Regular emergency drills (fire, chemical leakage, confined space rescue, etc.) are conducted four times a year, including nighttime voluntary training. In addition, monthly inspections of emergency supplies and firefighting facilities are carried out to verify the effectiveness of the emergency response framework.

Governance

ISU PETASYS has established a governance framework for safety management, with the Safety and Health Officer at its center. The company operates a Safety and Health Operational Committee, consisting of management supervisors and representatives of partner companies (suppliers), taking the lead in creating a safe and healthy workplace.

In addition, the CEO reports annually to the Board of Directors regarding the company's safety and health-related plans. In 2023, a safety and health plan was formulated that includes safety and health management policies and activity plans, which received approval from the Board of Directors. In line with this, continuous improvement activities are being implemented, strengthening the management responsibility of the top executives and the Board of Directors. Additionally, an Occupational Safety and Health Committee is operated with participation from both labor and management, where amendments to Safety and Health Administrative Regulations are reviewed and approved every quarter, and key safety and health-related matters are discussed and resolved.

Safety and Health Organization



Social

Occupational Safety and Health

Goals

ISU PETASYS has set the goal of achieving zero serious accidents and is diligently working towards this objective. Through a comprehensive risk assessment in the overall process, the company identifies key risk factors and strives for a 100% improvement rate. Furthermore, ISU PETASYS aims to uncover one near-miss incident at the production site every year and actively shares lessons learned to prevent similar incidents. The company aims to ensure all workers complete 100% of their safety and health education. Additionally, ISU PETASYS conducts biannual assessments to review the establishment and implementation status of its safety and health management framework.

Certification and Due Diligence

ISU PETASYS operates a safety and health management system that complies with international standards by obtaining ISO 45001 certification. The company also obtained the KOSHA-MS certification, the autonomous safety and health framework, further enhancing its systematic management of employee safety and health, including accident prevention.

Key Activities

Occupational Safety and Health Management ISU PETASYS plans and operates various safety and health programs to ensure that all employees can work in a physically and mentally safe and healthy environment. Workers' exposure levels to hazardous factors such as metals, gases, dust, and noise are monitored biannually. In the past five years, no results have exceeded the 'high' exposure standard. Also, annual health check-ups are conducted for workers exposed to hazardous factors to ensure continuous monitoring. Various health promotion programs are also conducted, including smoking cessation clinics, moderation programs, consultations with specialized counselors, job stress assessments, and a safety and health counseling channel on KakaoTalk. As a result, the worker illness rate is decreasing year by year.

Additionally, a musculoskeletal disease prevention system has been established to educate employees about related illnesses and prevent work-related diseases caused by simple repetitive tasks. In addition to regular health check-ups, special health assessments are conducted for employees exposed to hazardous factors, such as night shift workers. Moreover, a health management room is operational to provide primary responses in emergencies and routine illnesses. Emergency medical equipment is always available in work processes with a high risk of emergencies.

		Unit	2020	2021	2022
Health support	Physical health management support	Y/N	Y	Y	Y
	Mental health management support	Y/N	Y	Y	Y

Safety and Health Education ISU PETASYS conducts safety and health education to raise awareness and establish an accident-free workplace for its employees. Safety and health education includes periodic monthly training and regular training conducted during recruitment, job role changes, and other occasions.
In addition, various training programs such as MSDS (Material Safety Data Sheet) education, process safety job training, special safety and health education, management supervisor education, accident process education, and risk assessment education are being conducted. Training and assessment are carried out to ensure that all employees are aware of the importance of safety and health. In 2023, the organization plans to improve the effectiveness analysis methods for training and education.

		Unit	2020	2021	2022
General employees	Participants	Persons	883	910	967
	Completions	Persons	883	910	967
	Education participation rate	%	100	100	100
	Education hours	Hours	25,953	26,350	30,188
	Education hours per employee	Hours	29.4	29.0	31.2

Industrial Accidents To create a working environment where all employees can work without worries, ISU PETASYS conducts activities to identify near-miss accidents. A near-miss accident refers to a situation in which there was a possibility of an accident occurring due to worker carelessness or equipment defects in the workplace but did not actually result in an accident. ISU PETASYS takes near-miss accidents seriously and conducts activities to identify them at the production process stage to prevent any potential progression into industrial accidents.

	Vacuum Fill-in	Printing	Plating
Risk	Risk of burn accidents or trapping the operator's foot due to unbalanced or broken rails leading to unstable operation of handcars	Risk of head injuries caused by equipment edge due to narrow pathways after setting up ink marking machines	Risk of head injuries caused by upper acrylic protection boards during machine setup
Improvement	Evened out the rails for handcars for a more stable and seamless operation and prevented the risks	Expanded the workspace to prevent head injuries	Replaced the acrylic protection boards with transparent (vinyl) mats to reduce head injuries

Social

Occupational Safety and Health

		Unit	2020	2021	2022
Employees	LTIFR (Lost Time Injuries Frequency Rate)	Cases per million working hours	0.316	0	0.291
	Industrial accident rate	%	0.113	0	0.103
	Rate of absenteeism	%	0.033	0	0.012
	Work-related fatalities	Persons	0	0	0
	Number of safety incidents (accidents)	Cases	1	0	1
Suppliers	LTIFR (Lost Time Injuries Frequency Rate)	Cases per million working hours	0	0	7.8
	Industrial accident rate	%	0	0	1.5
Near-miss incidents	Number of near-miss incidents	Cases	12	10	10

Sustainable Supply Chain

Policies and Strategies

As global supply chain management becomes a major issue of sustainable business practices, ISU PETASYS is also strengthening its supplier risk management efforts. ISU PETASYS embraces the mission of being a collaborative entity with its suppliers, emphasizing values such as shared destiny, righteousness management, pursuit of performance, and co-innovation, as outlined in the 'Code of Conduct for Achieving Shared Growth Values.' In addition to this, ISU PETASYS has established CSR management standards, which are systematically incorporated into the procurement procedures and supplier management processes to effectively address supply chain management issues. In particular, ISU PETASYS systematically manages its supply chain, including aspects like supplier registration, assessment, performance management, supplier audits, and conflict minerals management, as outlined in the supplier management procedures. Furthermore, ISU PETASYS requires its suppliers to adhere to and implement a code of conduct that encompasses human rights, labor, environment, occupational health and safety, fair operations, product responsibility, customer relations, and community engagement and development, as stated in the Supplier Agreement of Implementation.

Joint-interest Group

- Under the sense of duty as a joint-interest that aims to become no. 1 in the industry, we fulfill the value of shared growth based on trust.

Integrity Management

- We respect the fair and free-market economic order that complies with the principle of free competition among suppliers and contribute to increasing suppliers' growth value for fair competition with competitors
- We pursue mutual development based on trust and cooperative relationships through fair trade with supplies

Goal Accomplishment

- We set and accomplish goals to become the top global PCB group

Mutual Innovation

- We select competitive suppliers and focus on fundamental improvements
- We pursue self-innovation and support the growth of suppliers for them to advance as global leaders
- We nurture suppliers' long-term independence and pursue the value of innovation that enables coexistence

Governance

ISU PETASYS conducts supplier management through the ESG TF (Task Force) to gain collaboration from various departments, including purchasing and safety management. The ESG TF establishes supply chain management standards based on global initiative guidelines and systematically manages key issues. Additionally, supplier due diligence and assessment results are reported to the CEO annually.

Goals

ISU PETASYS has set a goal to achieve a 100% CSR Audit implementation rate for key suppliers for five consecutive years from 2023 to 2027.

Social

Sustainable Supply Chain

Certification and Due Diligence

ISU PETASYS conducts regular assessments of suppliers at least once a year to identify key suppliers and those needing corrective actions. For suppliers requiring improvement, ISU PETASYS plans and monitors improvement activities. In addition to these assessments, CSR Audits are conducted to assess the actual conditions of the labor, safety and health, environmental, ethical, and management systems of suppliers. In 2023, ISU PETASYS plans to conduct concurrent investigations of conflict minerals alongside CSR Audits.

Key Activities

ESG Assessment for Supply Chain

		Unit	2020	2021	2022
Supply Chain ESG	Number of assessed companies	Subjects	32	32	32
	Assessment rate	%	100	100	100
	Due diligence rate of conflict minerals	%	100	100	100

Information Security

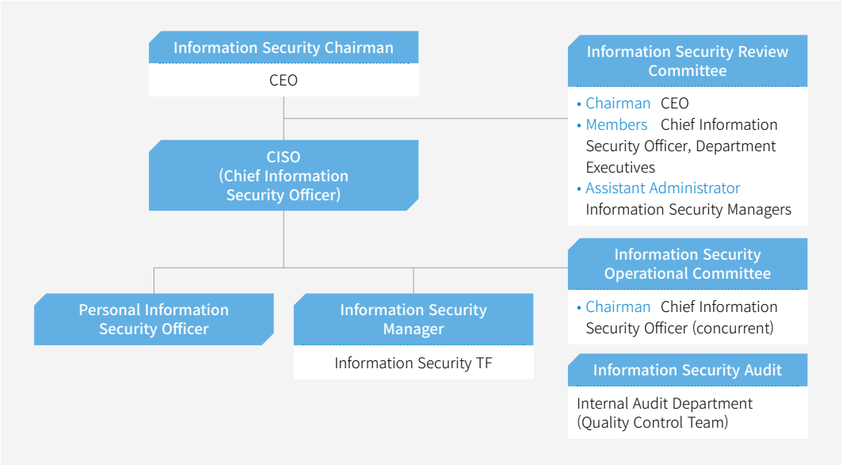
Policies and Strategies

ISU PETASYS has established an information security policy that complies with relevant laws and regulations to protect intellectual and technical assets from risks such as damage, alteration, theft, and leakage. This policy applies to all employees and third parties with contractual relationships accessing assets of ISU PETASYS. To achieve this, all employees must adhere to the information security policy, which is publicly available on the company's electronic bulletin board.
Furthermore, ISU PETASYS has established computer management procedures to prepare for system failures and information security incidents. Key information systems are located within physically secure control areas, and routine monitoring of the abnormalities of information systems is conducted weekly. Status checks also include assessing the performance and capacity of critical information systems.

Governance

In order to effectively drive information security management activities within the organization, ISU PETASYS has appointed a CISO (Chief Information Security Officer) at the executive level. The CISO is responsible for determining measures to address key information security issues, reviewing and approving information security regulations, etc. However, in the case of policies regarding personal information security, the CISO reports to the CEO, and the CEO gives final approval.

Information Security Organization



Goals

In 2022, ISU PETASYS achieved zero information leaks, and we are committed to maintaining this record of zero information leaks in the future.

Social

Information Security

Key Activities

Information Security Education ISU PETASYS conducts information security education for its employees and employees of suppliers. This is done to minimize information security incidents caused by user negligence or intentional actions. The education includes annual periodic training and irregular training sessions, such as practical training for work automation, IT specialization training, and PC user training, as needed. For new employees who may not be familiar with internal regulations and information security issues, information security education is conducted within the first 3 months of their employment to minimize the risk of information leakages. Additionally, ISU PETASYS conducts an annual renewal of the information security pledge along with diverse education.

		Unit	2020	2021	2022
Education program	Education for personal information security	Y/N	Y	Y	Y
	Information Security Education	Y/N	Y	Y	Y

Information Security Investment

		Unit	2020	2021	2022
Investment in the field of information security	Information security investment budget	KRW million	0	171.7	339.8
	Investment proportion in the field of information security	%	0	7.4	13.8

Information Leakage

		Unit	2020	2021	2022
Leakage	Total information leakage	Case(s)	0	0	0
Violation of regulations	Amount of fines for information security violations	KRW 1,000	0	0	0

Engagement in Community

Policies and Strategies

ISU PETASYS recognizes the importance of creating social value as much as economic performance and actively promotes various social contribution activities. It goes beyond simple donation activities and continues to expand 'participation volunteer activities' in which employees directly participate. Through this, it realizes beneficial social contribution values for volunteers and beneficiaries.

Our Commitment to Social Contribution

Orientation	Create a Beautiful, Affluent, and Invaluable Future		
Objective	Striving Mutual Growth with the Local Community and Fulfilling Social Responsibility Through Sharing		
Development Direction	Know the Community Needs	Interact and Share with the Community	Improve the Corporate Image
	Implement social contribution activities that meet the community needs and focus on areas in need to increase the effectiveness	Contribute to mutual growth with the community and actively interact with residents through volunteering	Raise the corporate brand value and likeability through social contribution activities and improve the corporate image

Governance

A dedicated department for social contributions in ISU PETASYS, the Management Support Team, formulates operational plans for related activities according to the company's social contribution activity promotion framework and monitors the outcomes of these activities. In particular, it evaluates and analyzes the benefits resulting from social contribution activities to substantially contribute to the development of the local community.

Framework of Social Contribution Activity Promotion

Planning Stage	Design Stage	Execution Stage	Result
Planning/Preparation • Recruiting volunteer groups • Establishing social contribution activity operation standards	**Status Analysis and Direction Establishment** • Issue and status analysis • Collecting employee opinions • Interim report and check • Composition of volunteer groups	**Completed Programs** • Volunteer meetings **Incomplete Programs** • New volunteer programs • Fundraising by employees	**Analysis of Effectiveness** • Performance report • Examining social contribution programs • Managing social contribution performance (social contribution activities costs, participation rate, and community issue resolution rate)

Social

Engagement in Community

Goals

ISU PETASYS aims to increase the 'satisfaction' of participants in its social contribution programs from 3 points to 4 points out of 5 points by 2024, thus enhancing the effectiveness of the social contribution programs. Additionally, the company plans to develop mid- to long-term community participation programs that reflect the needs of stakeholders to activate community engagement.

Key Activities

Fundraising for Neighbors in Need ISU PETASYS conducts annual year-end fundraising campaigns among its employees to support underprivileged neighbors. Until 2020, donations were made to the Dalseong Comprehensive Welfare Center, and since 2021, contributions have been directed to the Dalseong Welfare Foundation. Due to the challenges posed by the COVID-19 pandemic, direct participation in social contribution activities became difficult. However, through the welfare foundation, ISU PETASYS has contributed to various welfare projects, including Getting Through Warm Winter, Getting Through Cool Summer, Community Social Security Association, holiday support programs, support for future generations, sharing kimjang (traditional kimchi-making) kimchi, and Finding Hope and Family Love Trough Travel. ISU PETASYS remains committed to being a responsible corporate citizen and will continue its efforts to fulfill social responsibilities in the local community.

Donating Computer Equipment ISU PETASYS collaborates with the Korea IT Welfare Promotion Agency twice a year to donate computer equipment (PCs, monitors, printers, copiers, etc.) to developing countries free of charge. The process involves collecting and refurbishing obsolete and outdated devices, which are then distributed free of charge to vulnerable populations. In 2022, 73 units were donated. ISU PETASYS plans to continue its responsible support activities, including annual free donations, in the coming years.

Paper Cup Reduction Campaign ISU PETASYS has provided reusable cups to all company employees to discourage using paper cups. To encourage environmental consciousness, using reusable cups has been recommended. Furthermore, ongoing activities are planned within the company to preserve the environment and consistently practice eco-friendliness..

Achievements for Volunteer Activity

		Unit	2020	2021	2022
Volunteer activity[1)]	Volunteer hours per employee	Hours	3.5	0	0
	Employee participation rate	%	20	0	0

1) No volunteer activity was recorded from 2021 to 2022 due to COVID-19.

Governance

Board of Directors

Policies and Strategies

ISU PETASYS is committed to establishing a sound governance structure to create a sustainable business. The Board of Directors at ISU PETASYS represents stakeholders' interests, supervises the management, and strives to make decisions from a long-term perspective. As the highest decision-making organization, it deliberates on matters stipulated by the Commercial Law or Articles of Incorporation, matters delegated from the shareholders' meeting, and key issues related to the company's fundamental policies and business execution. Furthermore, it supports responsible management by the executive team based on rational business judgments. To achieve this, the Board of Directors comprises experts in relevant fields such as economics, mechanical engineering, production, or individuals with practical experience. Efforts are made to facilitate effective communication among its members.

Members of the Board of Directors

Name	Position	Responsibilities	Expertise	Key background	Initial appointment date	Term expiration date
Chang-Bok Choi	CEO	CEO	Management	Current vice president of ISU PETASYS Co., Ltd. Former Planning/HR executive of ISU Co., Ltd. Former Planning executive of ISU Co., Ltd. Former Planning executive of ISU PETASYS Co., Ltd. Master's degree in Business Administration, Sogang University Graduate School	March 31, 2023	March 31, 2026
Wook-Hyun Oh	Internal director (Full-time)	Production HQ	Production	Current Production Manager of ISU PETASYS Co., Ltd. Bachelor's degree in Industrial Chemistry, Yeungnam University	March 31, 2023	March 31, 2026
Byung-Ho So	Internal director (Full-time)	Maintenance & Safety Management	Production	Current Maintenance & Safety Management executive of ISU PETASYS Co., Ltd. Bachelor's degree in Industrial Chemistry, Yeungnam University	March 31, 2022	March 31, 2025
Seung-Han Yang	External director (Non-full-time)	External director	Mechanical Engineering	Professor, Department of Mechanical Engineering, Kyungpook National University Ph.D. in Mechanical Engineering, University of Michigan, Ann Arbor	March 31, 2022	March 31, 2025
Kwan-Sik Ko	Auditor (Full-time)	Auditor	Economics	Director of IT Division of Korea Industrial Bank Bachelor's degree in Computer Statistics, Chungbuk University	March 31, 2021	March 31, 2024

Governance

Board of Directors

Key Activities

Members of the Board of Directors The ISU PETASYS board consists of three inside directors and one external director, meeting the legal minimum requirements for board composition, with each director serving a three-year term. To efficiently and professionally operate the board, the CEO is designated as the board chairman, and directors with expertise in various fields are appointed.

		Unit	2020	2021	2022
Independence	Ratio of external directors	%	25.0	25.0	25.0
Expertise	Number of directors with industry experience	Persons	4	4	4
	Number of financial experts	Persons	1	1	1
	Average tenure of external directors	Year(s)	3	3	3

Operation of the Board of Directors The Board of Directors meets in accordance with the regulations governing its operations, and agendas are provided in advance to ensure thorough pre-meeting reviews. In 2022, key agendas included convening the shareholders' meeting, dissolving ISU Exaboard Co., Ltd., and changing the CEO. 28 board meetings were held, with 31 resolutions presented.
Furthermore, a support organization for external directors is provided to assist them in performing their specialized duties within the board. To ensure that the contents of the agenda can be thoroughly reviewed before the board meeting, materials are provided in advance, along with additional detailed explanations when necessary. Regular updates are also provided on other major internal issues.

		Unit	2020	2021	2022
Opening and attendance of meetings	Number of meetings held	Times	35	43	28
	Attendance rate	%	100	100	100
Opinions by agenda	Reporting and resolutions	Cases	42	58	31

Reducing Liability for Board of Directors ISU PETASYS has taken measures to support confident decision-making and prevent excessive legal liability for all board members, including external directors, by providing executive liability insurance. Furthermore, the company's Articles of Incorporation include provisions that allow shareholders' meetings to reduce the responsibility of directors for actions related to the company.

		Unit	2020	2021	2022
Reducing liability	Providing liability insurance	Y/N	Y	Y	Y

Assessment and Compensation for Board of Directors Compensation for board members is paid within the approved compensation limits set by the shareholders' meeting, following the criteria for board performance compensation. Board member compensation includes a base salary and bonuses, considering not only quantitative indicators such as company revenue, operating profit, and net profit but also qualitative indicators such as leadership, expertise, and ethical management performance when bonuses are paid.

		Unit	2020	2021	2022
Assessment for Board of Directors	Self-assessment conducted	Y/N	Y	Y	Y

Transparency of the Board of Directors To ensure transparency of the Board of Directors, ISU PETASYS employs a full-time auditor who has received specialized training in audit-related matters from a professional institution. This auditor conducts audits of the company's financial and operational activities. Additionally, arrangements are made for the auditor to attend board meetings and provide insights and opinions. Furthermore, it is stipulated that shareholders holding shares exceeding 3% of the total issued shares with voting rights when appointing the auditor shall not exercise their voting rights related to the excess shares.

Enhancing Shareholder Rights ISU PETASYS holds its annual regular shareholders' meeting and announces details such as the venue and agenda through a notice issued 15 days before the meeting. During these shareholder meetings, the company actively considers shareholders' opinions concerning major corporate decisions and management. Shareholders are also provided the opportunity to participate in the director appointment process. For transparency, ISU PETASYS discloses all information related to directors before the shareholders' meeting, where director appointments are discussed. This includes details of any relationships between directors and nominators, significant shareholders, and transactions with the company. The approval of financial statements and decisions regarding profit distribution are made in accordance with the provisions of the Articles of Incorporation and are resolved by the Board of Directors. In addition, ISU PETASYS actively communicates with its shareholders by making key management information available through its website and the DART (Data Analysis, Retrieval and Transfer System) operated by the Financial Supervisory Service.

Major Shareholders

21.19% ISU Co., Ltd

8.92% National Pension Service

		Unit	2020	2021	2022
Shareholder engagement	Encouraging proxy voting rights for all shareholders	Y/N	Y	Y	Y
	Providing prior notice of agendas	Y/N	Y	Y	Y

Governance

Ethics and Compliance

Policies and Strategies

Ethical Management System ISU PETASYS, as a member of the RBA, has established a Code of Ethics based on the RBA Code of Conduct to foster a healthy corporate culture and ethical management environment. The company adheres to these ethical regulations. All employees are encouraged to practice the Code of Conduct in accordance with the ethical regulations, and suppliers must comply with ISU PETASYS's Code of Conduct through the Agreement of Implementation to ensure compliance with external stakeholders. ISU PETASYS's Code of Ethics covers a wide range of areas, including the approach to shareholders and investors, customers, competitors, and suppliers, employee responsibilities, social responsibilities, and basic employee ethics.

Anti-Corruption Prevention and Management ISU PETASYS has established an internal audit and control system, and they are operated to comply with anti-corruption laws and regulations in Korea and overseas. ISU PETASYS prohibits bribery, corruption, coercion, and embezzlement under any circumstances through its Code of Conduct and Anti-corruption&bribery policy. It also regulates that no bribes or equivalent payments should be provided or received for unjust profit. These rules apply to all employees, and in particular, employees involved in job-related matters may face penalties even if the intention is not proven. As a result of these efforts, there were no cases of anti-corruption violations in 2022.

Governance

ISU PETASYS operates an Ethics Management Committee on an ongoing basis to enhance corporate reliability and effectively address ethical issues. The Ethics Management Committee oversees internal ethical management tasks and functions as a deliberation body to operate a fair whistleblowing system. It reviews and decides on reported ethical management violations and may convene for inquiries, deliberation proposals, or at the request of the committee chairman, among other matters related to ethical regulations. Additionally, ISU PETASYS has designated a separate Anti-Corruption Officer to prevent corruption. The Anti-Corruption Officer is granted independent responsibilities and authority related to anti-corruption and is obligated to provide advice and guidance for addressing issues related to the internal anti-corruption management system and to supervise such matters.
Furthermore, to ensure systematic management of ethical issues, responsibilities and authorities of employees and management are defined. Employees have an obligation to immediately report ethical and conflict of interest issues to the dedicated ethics department. The CEO bears overall responsibility for ethical risk management throughout the company, while the leader of the Human Resources and Labor Team is responsible for overall management as the department in charge of the Ethics Management Committee. The department in charge of ethics conducts annual ethics audits through interviews and internal document reviews to thoroughly verify ethical conduct in various aspects, including intellectual property protection, bribery prevention, corruption, fraud/embezzlement, misappropriation, legal/ethical/fair business and marketing practices, reporting violations, whistleblower protection, fair trade, fair competition, fair advertising, rebates, bribery, privacy, illegal financial payments, etc.

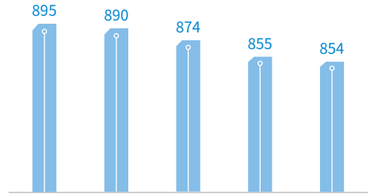
Goals

ISU PETASYS aims to achieve zero violations of ethical regulations and anti-corruption-related violations to establish a fair and sound corporate culture. ISU PETASYS has implemented CSR education to institutionalize our strong sense of fair competition, achieving a 100% completion rate in 2023, and the goal is to maintain a 100% education rate for eligible participants each year.

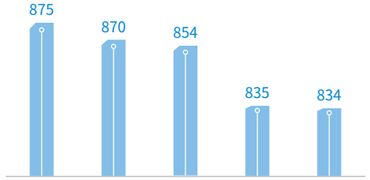
Key Activities

Ethics and Compliance Education ISU PETASYS conducts anti-corruption and CSR education for employees and suppliers to promote an anti-corruption mindset and emphasize the importance of ethical management. Since 2018, a participation rate of 100% has been achieved in education programs.

Anti-Corruption Education Performance (including suppliers)



CSR Education Participants



		Unit	2020	2021	2022
Employees	Participants	Persons	854	835	834
	Education hours per employee	Hours	1	1	1
	Education participation rate	%	100	100	100
Suppliers	Participating companies	Subjects	20	20	20
	Participants	Persons	20	20	20
	Education hours per person	Hours	1	1	1

Whistleblowing System ISU PETASYS has established and operates a whistleblowing system that allows employees and external stakeholders to freely report any actions that violate ethical management. All stakeholders of ISU PETASYS can make anonymous reports through various channels, including the cyber reporting system on the company's website, email, telephone, and intranet applications. To ensure the confidentiality of the whistleblower's personal information and enhance the effectiveness of the reporting system, starting from July 2022, the reporting and investigation procedures have been outsourced to a third party. Upon receiving a report, the process includes internal due diligence, departmental review, and convening the Ethics Management Committee, with the final outcome reported to the CEO. In 2022, there were zero reported cases through the whistleblowing channel.

Governance

Ethics and Compliance

Whistleblowing Process

Whistleblowing and Violation of the Code of Conduct

		Unit	2020	2021	2022
Reports and cases handled	Total reports and cases handled	Cases	0	0	0
	- Employee reports and cases	Cases	0	0	0
	- Customer reports and cases	Cases	0	0	0
	- Others	Cases	0	0	0
Violations of the Code of Conduct	Total violations	Cases	0	0	0

Violation of regulations

		Unit	2020	2021	2022
Violation of regulations	Non-monetary sanctions related to anti-corruption	Cases	0	0	0
	Unfair trade practices such as anti-competitive behavior, monopolistic conduct, etc.	Cases	0	0	0
	Violations related to product/service information and labeling	Cases	0	0	0
	Fines and settlement amounts for anti-trust and anti-competitive behavior	KRW 100 million	0	0	0
	Litigation costs and fines due to price fixing	KRW 100 million	0	0	0

Inspection Process on Compliance

Preventing Anti-Corruption and Bribery ISU PETASYS maintains integrity and prevents corruption and bribery through an inspection process. The Anti-Corruption Officer conducts annual regular reviews of anti-corruption and bribery prevention principles for all stakeholders, including employees and suppliers, and reviews them when issues arise. This process ensures integrity through biennial third-party verification.

Ethical Management System Annually, the company focuses on verifying key ethical issues such as anti-corruption, bribery prevention, fair competition, and non-discrimination to assess the effectiveness, efficiency, and sustainability of our ethical management system. Through this, ISU PETASYS identifies policy and institutional improvement points and seeks proactive measures to address potential issues. In 2022, the ethical management monitoring identified one major improvement point, and all necessary actions were completed.

Corporate Activity-Related Regulations ISU PETASYS reviews ethical and behavioral norms related to corporate activities and relevant regulations every quarter to ensure no conflicts with internal regulations. Each department regularly checks for revisions to relevant regulations, and the Management Support Department, responsible for regulatory management, conducts quarterly reviews to incorporate any revisions into internal regulations. In 2022, four regulatory reviews were conducted, and all revised regulations were incorporated into internal regulations.

		Unit	2020	2021	2022
Inspections on compliance	Regulatory review	Times	4	4	4
	Inspections on ethics and compliance	Times	1	1	1

Appendix

Financial Data

Summary of Consolidated Financial Information

Consolidated Statement of Financial Position

(unit: KRW million)

	2022	2021	2020
Asset			
Current assets	373,857	310,268	224,300
Cash and cash equivalents	45,645	44,365	23,160
Accounts receivable	142,780	112,510	86,484
Other receivables	4,441	6,198	8,891
Financial assets at current amortized cost	6,169	31,831	-
Financial assets at fair value through profit or loss	4,173	44	2,848
Inventory	167,461	111,337	94,206
Other current assets	3,189	2,949	3,109
Current corporate tax assets	-	574	2
Non-current assets held for sale	-	460	5,600
Non-current assets	172,157	139,410	165,085
Investment accounted in the equity method	332	401	431
Fair value through other comprehensive income	3,843	2,724	2,207
Other non-current assets	23,159	13,473	19,957
Tangible assets	131,564	111,322	130,551
Intangible assets	3,039	3,065	3,747
Investments in real estate	8,109	8,177	8,192
Deferred corporate tax assets	2,111	250	-
Total assets	546,014	449,679	389,385

	2022	2021	2020
Liabilities			
Current liabilities	286,001	298,216	295,044
Accounts payable and other current liabilities	99,205	77,901	58,037
Financial liabilities	174,802	204,355	227,870
Accrued corporate taxes	3,039	9,828	2,571
Other current liabilities	8,954	6,132	6,565
Non-current liabilities	37,685	25,971	29,232
Non-current financial liabilities	33,840	20,779	19,306
Net defined benefit liabilities			5,870
Deferred corporate tax liabilities	1,239	3,261	2,314
Other non-current liabilities	2,607	1,932	1,741
Total liabilities	323,686	324,187	324,276
Equity			
Equity attributable to the owner of the parent company	222,328	125,492	65,109
Capital stock	63,246	63,246	41,268
Capital surplus	81,041	63,737	17,523
Other equity	-4,944	-4,944	-4,944
Accumulated other comprehensive income	6,480	8,879	10,514
Retained earnings (accumulated deficit)	76,505	-5,427	748
Total equity	222,328	125,492	65,109
Total equity and liabilities	546,014	449,679	389,385

Financial Data

Consolidated Statement of Comprehensive Income

(unit: KRW million)

	2022	2021	2020
Revenue	642,921	469,621	393,229
Cost of goods sold	479,018	384,121	342,055
Gross profit	163,903	85,500	51,173
Selling and administrative expenses	47,284	38,624	38,387
Operating profit (loss)	116,618	46,876	12,786
Other income	1,335	3,399	6,287
Other expenses	1,022	870	6,265
Financial income	33,080	12,827	10,952
Financial expenses	42,181	19,190	21,133
Gains or losses using the equity method (unit: KRW)	-62,710	-30,112,288	18,602,493
Profit (loss) before corporate tax	107,830	43,011	2,645
Corporate tax expense	7,499	11,358	2,930
Profit (loss) from continuing operations	100,330	31,653	-285
Profit (loss) from discontinued operations	2,143	-35,256	-13,220
Net profit (loss)	102,473	-3,604	-13,505
Other comprehensive income	-8,572	-1,265	-3,454
Items that may be reclassified to profit or loss (other comprehensive income after tax)	989	904	-1,759
Changes in equity using the equity method	0	3,159	0
Profit or loss from foreign business translation	989	-2,255	-1,759
Items that will not be reclassified to profit or loss (other comprehensive income after tax)	-9,561	-2,169	-1,695
Remeasurements of the defined benefit plan (other comprehensive income after tax)	-6,085	-2,788	-954
Revaluation of assets (other comprehensive income after tax)	-3,424	615	-587
Valuation of fair value through other comprehensive income	-52	5	-154
Total comprehensive income	93,901	-4,868	-16,959
Earnings per share			
Basic earnings (losses) per share from continuing operations (unit: KRW)	1,586	708	-7
Basic earnings (losses) per share from discontinued operations (unit: KRW)	34	-789	-329
Basic earnings (losses) per share (unit: KRW)	1,620	-81	-336

Risk Management

Risk Management System

ISU PETASYS operates an integrated risk management system to proactively respond to significant risks that affect its business activities. A risk assessment process has been established to identify key risks, establish response plans, and timely implement countermeasures. The company not only manages financial risks but also focuses on ESG-related risks. In particular, environmental, ethical, and compliance risks that closely impact business operations of ISU PETASYS are managed through a separate risk management system.
Additionally, the company manages issues related to environmental health and safety management systems and risks and opportunities related to employees and stakeholders. In 2023, ISU PETASYS identified and categorized issues related to environmental and safety regulations concerning the construction of the fourth factory and the installation of wastewater recycling facilities as risks and opportunities, and management measures were established and executed accordingly.

Risk Management Organization

Leaders of each department, the leader of the Planning Team , and the executive in charge of the factory are responsible for the risk assessment and detailed operation within their respective organizations. In the case of major risks identified through risk assessment, the Planning Team Leader reports them to the CEO, who is responsible for overall risk management throughout the company, including reviewing and approving them. Furthermore, ESG-related risks are identified and assessed annually by the department in charge of ESG. For significant issues identified through risk assessment, separate improvement plans are developed, and result reports are prepared.

Risk Assessment and Monitoring

ISU PETASYS conducts risk assessments through both regular and irregular assessments, depending on the circumstances. Regular assessments are conducted by each team once every three years, while irregular assessments are carried out when significant operational or environmental changes occur in the organization. During risk assessments, various factors are considered, including identifying risks, assessing their impact on the business, potential of occurrence, severity of risks, risk rating, and strategies for response. Additionally, recognizing the importance of post-assessment management, ISU PETASYS periodically monitors key risks and performs team-specific reevaluations annually.

Key ESG Risks and Measures

Environment

ISU PETASYS follows regulations for risk and opportunity assessment and management to determine and manage risks and opportunities related to the ESH (Environment, Safety, and Health) Management System. Every year, a four-stage risk management process is conducted, which includes identification, estimation, determination, and the establishment and execution of management plans for risks and opportunities.
In the identification stage, evaluation is based on three criteria: ESG performance, compliance obligations, and sustainability criteria. In the estimation stage, the likelihood and severity of risk occurrences and their significance are determined. In the determination stage, risks are categorized into four levels based on their size, with the top two levels considered as risks to be managed. Finally, management plans are established and executed for the risks to be managed. In 2023, the analysis included dust generation within our facilities and increases in industrial water consumption on a unit basis as risks and opportunities. Monitoring and inspection plans were formulated and executed accordingly.

Risk Management

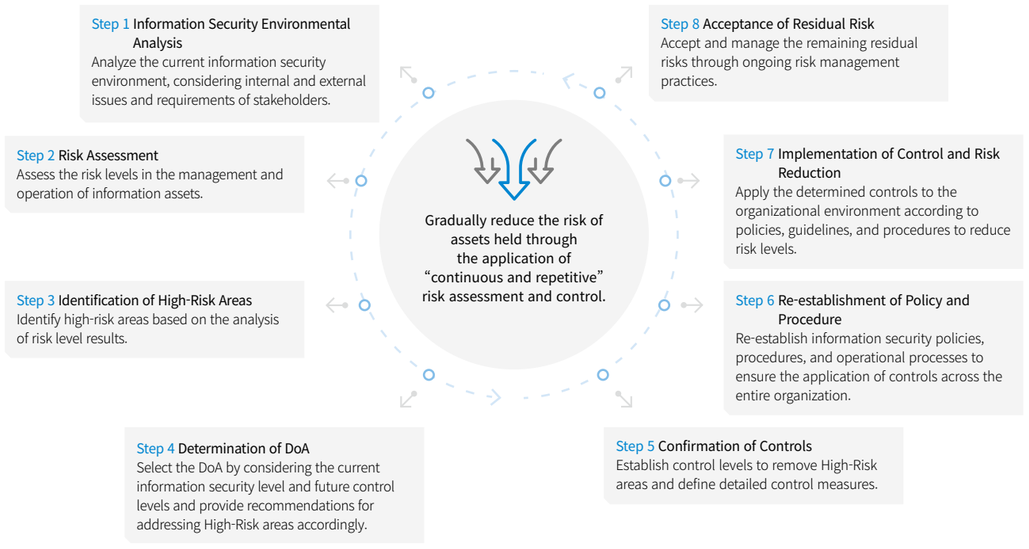
Occupational Safety and Health

ISU PETASYS has established regulations for risk assessment management to effectively operate tasks related to identifying, assessing, managing, and registering safety and health risks. In 2023, 'Risk Assessment for Pregnant Workers' was added as a new assessment category, aiming to closely examine the safety and health of pregnant employees by identifying harmful factors that may affect both pregnant workers and fetuses. The scope of risk assessment covers all workplaces associated with ISU PETASYS, including employees and suppliers. In 2023, the assessment identified 27 significant risks, and improvement measures are being progressively implemented. The effectiveness of these measures is assessed through key indicators management to reduce serious accidents.

Information Security

ISU PETASYS utilizes an 8-step risk management approach to identify and assess risks across all areas of the organization's information security and establish risk management measures. The formulated risk management measures align with the Plan-Do-Check-Act 4-step security framework and involve conducting annual risk assessments and implementing actions and improvements to mitigate risks. In 2022, ISU PETASYS allocated 13.8% of its total IT budget to the information security sector and plans to continue striving to enhance information security in the future.

Information Security Risk Management Process



TCFD

In 2015, the FSB (Financial Stability Board) established the TCFD (Task Force on Climate-related Financial Disclosures) as a global initiative for voluntary and consistent disclosure of climate-related information by businesses. ISU PETASYS complies with TCFD recommendations regarding governance, strategy, risk management, and indicator management, and discloses relevant information accordingly.

TCFD Recommendations	Current Status of ISU PETASYS	Page
Governance		
A) Describe the board's oversight of climate-related risks and opportunities.	ISU PETASYS has delegated the CEO the final decision-making authority and responsibility for climate change-related strategies and activities. The CEO reviews and approves matters related to major climate change risks and opportunities, such as carbon reduction and environmental facility investments. For critical climate change-related issues, the Board of Directors also conducts deliberations. The climate change-related major strategies, implementation plans, budget, KPIs, and other aspects are reviewed and managed through discussions to assess and address climate change risks and opportunities. When ISU PETASYS's dedicated Environmental Safety Team identifies climate change-related risks and opportunities and selects priority tasks, the CEO assesses and manages the annual task performance results.	34
B) Describe management's role in assessing and managing climate-related risks and opportunities.		
Strategy		
A) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	ISU PETASYS considers climate change as a risk and opportunity factor that significantly affects its finances. 1. Transition Risk 1) Current Regulations ISU PETASYS is subject to the South Korean government's GHG and Energy Target Management Scheme and Emission Trading Scheme. Consequently, short-term fluctuations in prices for greenhouse gas emissions will impact the company's finances. Therefore, price fluctuations in emission permits are considered a short-term risk factor. 2) Market and Reputation Reputation is a key business point within the industry. ISU PETASYS's major customers are global IT companies, which tend to prefer energy-efficient products to reduce carbon emissions. If ISU PETASYS fails to manage climate-related risks within its value chain or does not respond adequately to greenhouse gas regulations, it may weaken its reputation and competitiveness in the market. 3) Responses to Transition Risk ISU PETASYS has established a greenhouse gas inventory and monitoring system and formed a dedicated organization to systematically manage emissions to address transition risks, such as regulatory and market risks. ISU PETASYS identifies aging facilities and replaces them with energy-efficient equipment to secure carbon emission reductions after conducting feasibility investigations. In 2022, several aging facilities, including cooling tower fillers, were replaced with high-efficiency equipment. In 2023, there are plans to replace an additional 2 low-power mixers. Additionally, ISU PETASYS is exploring activities to enhance energy efficiency, including building-wide energy efficiency improvements. Approximately KRW 100 million has been invested in the office building to install energy-efficient equipment such as LED lighting and high-efficiency cooling systems. Enhanced cooling temperature control has increased energy consumption efficiency. Furthermore, ISU PETASYS conducts R&D research to produce energy-efficient products. Additionally, carbon reduction campaigns like turning off office lights during lunchtime are being carried out to promote long-term awareness and behavioral changes among its employees.	34
B) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.		

TCFD

TCFD Recommendations	Current Status of ISU PETASYS	Page
B) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	2. Physical Risks 1) Natural Disasters Physical risks due to climate change, such as heatwaves and typhoons, can threaten the health and safety of employees and impact the company's operations, potentially leading to a decrease in productivity. In particular, due to the nature of the PCB process, damage to machinery and chemical leaks caused by natural disasters can have severe consequences for employees and the company. ISU PETASYS conducts risk and impact assessments for 10 types of natural disasters, including earthquakes, fires, infectious diseases, heavy rainfall, etc. Based on the assessment results, risks rated as C Grade or higher are designated for management, and response scenarios are developed. Regular training is also conducted. Currently, natural disasters, such as earthquakes/ground collapses, fires, and infectious diseases, are designated as subjects of management. 2) Responses to Physical Risk ISU PETASYS has established emergency response scenarios to minimize damage in the event of such disasters. Additionally, safety protective equipment is provided to employees, and regular emergency drills (fire, chemical leakages, confined space rescue, etc.) and nighttime voluntary training are conducted four times a year. Monthly inspections of emergency supplies and firefighting facilities are also carried out. After training, educational training evaluations are conducted to ensure that all employees are aware of the importance of safety and health. 3. Opportunity: Creating Eco-Friendly Business As major customers in the market increasingly prefer high-efficiency products, the sale of energy-efficient products can become an opportunity for ISU PETASYS to enhance its competitiveness. Therefore, ISU PETASYS continuously conducts R&D research to capture opportunities compared to competitors and strives to improve the energy efficiency of its products.	34
C) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	The international community adopted the Paris Agreement in 2015 to address climate change, committing to keeping the global average temperature rise not more than 2°C compared to pre-industrial levels. In line with this commitment, ISU PETASYS also plans its corporate activities for carbon reduction, utilizing the IEA 2°C Scenario (2DS). According to the 2°C Scenario, carbon emissions must be reduced in the medium-term (until 2030) and long-term (until 2050). Therefore, ISU PETASYS analyzes annual emission permit prices and greenhouse gas emissions, setting emission reduction targets in accordance with the 2°C Scenario and working to achieve them.	

TCFD Recommendations	Current Status of ISU PETASYS	Page
Risk Management		
A) Describe the organization's processes for identifying and assessing climate-related risks. B) Describe the organization's processes for managing climate-related risks. C) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	ISU PETASYS has established a climate risk management system to manage climate-related risks that significantly impact its business activities. The company identifies climate change-related risks and opportunities by monitoring domestic and international environmental regulations and industry trends. The company collaborates with relevant departments, including the Environmental Safety Team, to determine countermeasures. Finally, the Board of Directors and the ESG Committee periodically review and manage the outcome of the countermeasure. ISU PETASYS conducts environmental impact assessments[1] throughout the entire process, from procuring raw materials for products and services to product disposal to prevent potential climate risks. Evaluations are conducted at stages such as constructing, expanding, and modifying production facilities, developing new products, and changing the chemicals used in production processes. The assessment results are graded from A to F, and items rated D or higher are managed as areas of significant environmental impact. Furthermore, ISU PETASYS integrates climate change risks into its overall risk management system. Risks are categorized into areas such as the environment and occupational safety and health, with each department identifying, assessing, and preventing risks within its scope. In particular, the company analyzes greenhouse gas-related regulations and policy trends in Korea and overseas, monitors carbon and energy emissions data at its facilities, and, when the department in charge of the environment selects key climate change-related tasks, the CEO evaluates and manages the progress of the annual task.	34
Metrics and Targets		
A) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	ISU PETASYS is measuring energy usage and reduced greenhouse gas emissions to assess climate-related risks and opportunities.	36
B) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Greenhouse gas emissions in 2022: 41,275tCO_2eq Scope 1: 11,590 tCO_2eq Scope 2: 29,685 tCO_2eq Intensity of the greenhouse gas: It has been steadily decreasing since 2020 to 0.242 tCO_2eq/m2.	
C) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	ISU PETASYS has set short-term (1-year) and medium to long-term (5-year) goals for Emission Trading Scheme regulations and regularly monitors greenhouse gas emissions data from its headquarters and suppliers to manage risks. The company has established a target to reduce the total greenhouse gas emissions of Scope 1 and Scope 2 by 40% compared to the 2020 emissions by the year 2030.	

1) Result of the environmental impact assessment: A Grade (No impact on the environment), B Grade (Very minimal environmental impact) C Grade (Minimal environmental impact), D Grade (Some significant potential environmental impact), E Grade (Significant environmental impact), F Grade (Very significant environmental impact)

SASB

Topic	Code	Metric	UNIT	Content and page
Energy Management	RT-EE-130a.1	(1) Total energy consumed, (2) percentage grid electricity and (3) percentage renewable	GJ, %	(1) p.36 (2) 0 (3) 0
Hazardous Waste Management	RT-EE-150a.1	Amount of hazardous waste generated, percentage recycled	t, %	p.40
	RT-EE-150a.2	Number and aggregate quantity of reportable spills, quantity recovered	number, kg	0
Product Safety	RT-EE-250a.1	Number of recalls issued, total units recalled	number	0
	RT-EE-250a.2	Total amount of monetary losses as a result of legal proceedings associated with product safety	KRW	N/A
Product Lifecycle Management	RT-EE-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	%	N/A
	RT-EE-410a.2	Percentage of eligible products, by revenue, certified to an energy efficiency certification	%	N/A
	RT-EE-410a.3	Revenue from renewable energy-related and energy efficiency-related products	KRW	N/A
Materials Sourcing	RT-EE-440a.1	Description of the management of risks associated with the use of critical materials	N/A	p.23, 38
Business Ethics	RT-EE-510a.1	Description of policies and practices for prevention of: (1) corruption and bribery and (2) anti-competitive behavior	N/A	p.60
	RT-EE-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	KRW	p.62
	RT-EE-510a.3	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behaviour regulations	KRW	p.62

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Universal Standards

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GRI 2: General Disclosures 2021	2-1	Organizational details	6
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	2-3	Reporting period, frequency and contact point	About This Report
	2-4	Restatements of information	Marked as an annotation
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	2-8	Workers who are not employees	41
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	2-12	Role of the highest governance body in overseeing the management of impacts	58
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	2-14	Role of the highest governance body in sustainability reporting	58
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	2-20	Process to determine remuneration	59
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	2-24	Embedding policy commitments	45
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	2-29	Approach to stakeholder engagement	11
	2-30	Collective bargaining agreements	43
GRI 3 : Material Topics 2021	3-1	Process to determine material topics	12
	3-2	List of material topics	13
	3-3	Management of material topics	13, 17, 21, 25, 29

Topic Standards

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GRI 201: Economic Performance 2016	201-2	Financial implications and other risks and opportunities due to climate change	71-73
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	63
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GRI 302: Energy 2016	302-1	Energy consumption within the organization	36
	302-3	Energy intensity	36
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	303-5	Water consumption	38
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GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	52

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		401-3	Parental leave	44
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		403-4	Worker participation, consultation, and communication on occupational health and safety	47
		403-5	Worker training on occupational health and safety	49
		403-6	Promotion of worker health	48
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UN Sustainable Development Goals

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Membership

Daegu Enterprises Federation	Korea International Trade Association	UN Global Compact
Federation of Korean Trade Unions	Electronics and Telecommunications Research Institute	Daegu-Kyungbuk PSM Safety Management Committee
Daegu Chamber of Commerce & Industry	Korea Exchange	Korea Listed Companies Association
Korea Electric Engineers Association	Korea Printed Circuit Association	Korea Industrial Safety Association
Dalseong Industrial Complex Safety and Health Management Committee	Dalseong Industrial Complex Autonomous Environmental Monitoring Committee	Korea Institute of Science and Technology Information
National Corporation Industrial Health Committee	Korea Environmental Engineers Association	Daewoo Global Management Institute
RBA(Responsible Business Alliance)		

Third Party Assurance

To the stakeholder of ISU PETASYS:

This Third Party Assurance Statement is prepared for ISU PETASYS.
Marcspon Inc. (hereinafter “assurance provider”) has been requested by ISU PETASYS to verify the contents of its Sustainability Report 2023 (hereinafter “the Report”).

Assurance Standard
The assurance provider performed a Type 1, moderate level of assurance using AA1000AS (2008) as an assurance standard, and reviewed suitability according to Principles of Inclusivity, Materiality and Responsiveness. In addition, the assurance provider checked the compliance with the GRI Standards guidelines and ISO 26000.

Assurance Scope
The scope of Third Party Assurance Statement is from January 1 to December 31, 2022, which is same as the reporting period of the Report. The assurance provider reviewed environmental, social, governance performance of ISU PETASYS.

Assurance Process
The assurance provider took the following process of review in order to check the Report’s reliability and internal process used by ISU PETASYS to obtain data in the Report.
- Review of methodology and process used to calculate data
- Review of reporting contents’ reference document and data
- Review of activities and performance
- Review of the material issue selection process and results
- Review of compliance with the GRI Standards guidelines in terms of contents and quality

Conclusion
The assurance provider reviewed reporting contents from draft and provided opinions to ISU PETASYS, and revision was reflected as necessary. The assurance provider verified that the Report contents reflect the ESG activities and performance sincerely and fairly without critical errors or prejudice. Also, it was verified that the Report is prepared in accordance with GRI Standards. The Report properly reflects the organization’s alignment to and implementation of the AA 1000 Assurance Standard (2008) principles of Inclusivity, Materiality and Responsiveness in its operations. Details are provided below;
- Inclusivity: ISU PETASYS is maintaining the process of stakeholder engagement. Information is actively shared through a variety of stakeholder communication channels, and ISU PETASYS collects and reflects the opinions.
- Materiality: The Report contains material issues of ISU PETASYS through conducting materiality assessment on economic, environmental and social issues. The assurance team could not find any critical issues left out in this process.
- Responsiveness: The assurance provider reviewed that the Report reflects the identified material issues and ISU PETASYS responds to stakeholders’ opinions through the stakeholder response process.

Recommendation for improvement
We hope the Report is actively used as a communication tool with stakeholders and we recommend the following for continuous improvements.
- Establish short, medium, and long-term targets for disclosed metrics and manage their achievement annually, while providing employees with more motivation to achieve them. We also recommend you to disclose all GRI Standards metrics associated with material topics in the future.

September, 2023
MARCSPON CEO Jung-Won Han

marcspon

Sustainability Report W/G

Management Support Team	Tae-hyung Kim
Management Support Team	Jeong-hun Lim
Management Support Team	Ja-yoon Choi
Maintenance & Engineering Team	Sung-rim Lee
Purchasing Team	Sang-hwa Byeon
Planning & Cooperation Team	Su-jin Jeong
Production Control Team	Ga-hee Kim
Production Control Team	Hwang-won Park
Production Control Team	Jae-pil Jeong
Human Resources & Labor	Seung-baek Oh
Finance & Economy Team	Won-seok Jung
Quality Assurance Team	Jong-in Park
Quality Control Team	Hye-rim Lee
ESH	Yeon-chung Park
ESH	Hyun-kyu Park
ESH	Jeong-min Lee
International Sales Team	Hye-ji Ahn

ISU PETASYS

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