





2022 南茂科技 永續報告書

Sustainability Report

ChipMOS 南茂科技



Contents

About This Report 2
Message from the Chairman 3
2022 ESG Performance 5
2022 Awards and Honors 6
Thematic Report 1 7
Thematic Report 2 8
Thematic Report 3 9
Sustainable Strategies 10

01 **Operations** 11
1.1 About ChipMOS 13
1.2 Main Products and Services 13
1.3 Operational Performance and Tax Governance 18
1.4 External Initiatives and Organizational Engagement 21

02 **Sustainable ChipMOS** 23
2.1 Sustainability Policies and Actions 24
2.2 Materiality Analysis 28
2.3 Sustainability Objective Management and SDGs 37
2.4 Sustainable Value Management 39

03 **Sound Governance** 41
3.1 Corporate Governance 43
3.2 Ethical Management 49
3.3 Risk Management 50
3.4 Information Security Management 55

04 **Environment Freindly** 61
4.1 Climate Governance 64
4.2 Climate Change and Energy Management 67
4.3 Water Resources Management 78
4.4 Recycling 84
4.5 Green Products 89

05 **Customer Service and Sustainable Supply Chain** 91
5.1 Customer Service 93
5.2 Product Quality 96
5.3 Supply Chain Management 99
5.4 Conflict Mineral Management 106

06 **Inclusive Workplace** 108
6.1 Attraction and Retention of Talents 110
6.2 Employee Incentives and Benefits 118
6.3 Talent Development 127
6.4 Safeguarding Human Rights 134
6.5 Healthy and Safe Workplace 138
6.6 Social Engagement 148

Appendix 1: GRI Standards Content Index 162
Appendix 2: SASB Standards Index_ Semiconductors 165
Appendix 3: Sustainability disclosure indicators for the semiconductor industry 166
Appendix 4: Climate related information for Listed Companies 166
Appendix 5: Sustainable Development Goals (SDGs) Index 167
Appendix 6: Independent Third Party Assurance Statement 168
Appendix 7: ISO-Certified Fabs at ChipMOS 169
Appendix 8: 2020-2022 Awards and Honors 170

About This Report

GRI 2-1~2-5

Thank you for reading the ChipMOS TECHNOLOGIES INC. ("ChipMOS") 2022 Sustainability Report ("the Report"). This Report is the ninth report issued by ChipMOS to explain ChipMOS's economic, environmental and social management practices and performance, and to continue to demonstrate to all stakeholders ChipMOS's commitment and determination to achieve sustainable development.

Reporting Period

This Report covers the corporate sustainability results and performance of ChipMOS from January 1, 2022 to December 31, 2022. ChipMOS publishes ESG reports on an annual basis.

- Current Release: June 2023
- Previous Release: June 2022
- Next Release: Expected June 2024

Report Boundary and Scope

The entities of the consolidated financial statements of ChipMOS include (1) ChipMOS (2) 100% owned subsidiary ChipMOS U.S.A., Inc. (3) 100% owned subsidiary ChipMOS TECHNOLOGIES (BVI) LTD. and (4) 100% indirectly owned subsidiary ChipMOS SEMICONDUCTORS (Shanghai) LTD. The report boundary of this Report is primarily ChipMOS. ChipMOS U.S.A., Inc., ChipMOS TECHNOLOGIES (BVI) LTD. and ChipMOS SEMICONDUCTORS (Shanghai) LTD. are outside the scope of this Report. All fabs mentioned in this report refer specifically to all operating locations under the management of ChipMOS in Taiwan, and Tainan fab. 2 is covered under Tainan fab. Any adjustment in the scope of data reference shall be duly accounted for in this report. In addition, for the information in the previous reports not restated, the sustainable topics in 2022 comply with the AA1000 principle to focus on, from 10 material topics in 2021 to 8 material topics in 2022; for the description of the changes in, material topics and topic boundaries, please refer to Chapter 2.2 Materiality Analysis.

Principles of Compiling the Report

This Report follows the GRI Sustainability Reporting Initiative's (GRI) Sustainability Reporting Standards, the standards for semiconductor industry established by the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-Related Financial Disclosures (TCFD). Relevant contents and references to the applicable standards are provided in Appendix 1~4.

External Guarantee and Assurance

Report Quality

To ensure the quality of information disclosure, this Report has been verified by the British Standards Institute (BSI Taiwan) to be in accordance with the spirit of the GRI Standards, the AA1000 AS v3 Application Type II High Assurance Level, and SABA Type I Application Type Moderate Assurance Level. A Statement of Assurance is provided in Appendix 6.

Financial Data

The financial data disclosed in this Report was obtained from the consolidated financial statements audited and attested by PricewaterhouseCoopers, Taiwan in accordance with the Regulations Governing the Preparations of Financial Reports by Securities Issuers and the International Financial Reporting Standards, International Accounting Standards, IFRIC Interpretations, and SIC Interpretations ("IFRSs") as endorsed by the Financial Supervisory Commission.

International Standards Management System

In order to enhance the credibility of the data quality, relevant data from 2022 in this Report has been verified by a third party and obtained from international standard management systems such as ISO 9001, IATF 16949, ISO 26262 and ISO 50001. The fab. data of each international standard system through third-party verification is provided in Appendix 7. If there is data estimation, it will be indicated in the relevant chapters.

Contact Information and Feedback

We sincerely look forward to your continued guidance and encouragement, and we are committed to sustainable development for all our readers who are interested in ChipMOS To promote paperless environmental protection, this Report is published in PDF format on ChipMOS website for readers and stakeholders to download and peruse. We welcome your valuable comments and suggestions.

ChipMOS TECHNOLOGIES INC. ESG Committee
Liaison: Senior Vice President, Jennifer Chen I Manager, Stacy Yu.
Address: No.1 R&D Rd. 1, Hsinchu Science Park, Hsinchu County
Taiwan, R.O.C.
Tel: 03-5770055 Ext. 6311
Fax: 03-5668995
E-mail: ChipMOS_CSR@chipmos.com

ChipMOS website-ESG section

ChipMOS CSR FB-Fan Page

Message from the Chairman

GRI 2-22



As the world transitioned into the post-pandemic era in 2022, the domestic semiconductor sector in Taiwan once again returned to the business cycle. In the face of numerous challenges, such as the geopolitical tensions, inflation and climate crises, the overall situation leaves little room for optimism. Insisting in our motto of "Safeguarding our legacy, Aiming for stable growth and Striving for constant improvement", ChipMOS remains steadfast in its path to building a strong corporate foundation. In terms of technologies, we continue to focus on our competitive edge in assembly technologies and services by increasing the proportion of our mix of memory IC, driver IC, and high-end mixed signal offerings along with new process development for wafer bumping and acceleration of smart factory promotion. In 2022, the Company has expanded its automation applications to the domain of assembly to effectively bolster production and quality through intelligence assistance. We also redesigned our existing fab space to achieve optimized productivity. With regards to personnel training, we sought to prepare ourselves to adapt to the ever-changing market environment by facilitating inter-departmental communication and strengthening employees' technical expertise through relevant projects.

With sustainability risks steadily growing in significance, our stakeholders have also placed heavy emphasis on corporate ESG management. And as such, we have continued to proactively promote corporate sustainability development and ChipMOS was able to rank in the top 5% among publicly listed companies in the 8th Corporate Governance Evaluation in 2022. In addition, the Company also participated in the Carbon Disclosure Project for the first time and received the leadership and management levels in the categories of climate change and water security respectively. These accolades are recognition of ChipMOS' efforts in ESG and they strengthen our resolve to keep up with our hard work on the path towards sustainability.

Resilience of Corporate Governance

Having sound corporate governance is fundamental for any company driven to fulfill their sustainability commitments. And as such, ChipMOS has adhered to its principles of ethical management and strict legal compliance whilst pushing for continuous improvement of its governance measures. Through the supervision from the Board of Directors on sustainability related issues in recent years, the Company has effectively facilitated the completion of various projects and initiatives. In 2022, the Board of Directors implemented internal self-evaluation along with an external performance assessment. Not only that, ESG sustainability issues were also included as items of evaluation. While efforts have been made to bolster the competence for the Board, care has also been taken to ensure a healthy balance between the Company's financial performance and results in sustainable management. On top of that, managers' remuneration has also been linked to their sustainability performance as a way to motivate the management to work as a team and promote the Company's long-term development as the primary objective. This will improve organizational resilience, enhance corporate competitiveness so as to create sustainable values for our shareholders and all stakeholders.

Photo source: Global Views-Commonwealth Publishing Group

Deployment for Green Operations

ChipMOS values and pays close attention to issues of climate changes and as such, the Company has elevated its level of climate governance by entrusting its Board of Directors to routinely monitor the progress of environmental management so that the Company may accomplish its goal of reaching net-zero emissions by 2050. As for climate change management, the Company has performed impact assessment for the risks and opportunities relating to climate change, water resources and natural environments so that relevant response strategies can be established; with regards for green energy plan, ChipMOS continues to construct its solar power facilities while assessing the feasibility of other green energy sources. For production management, the Company strives to develop green production, promote energy management, water resources management and recycling to achieve sustainability despite limited resources. We shall encourage employees to submit carbon reduction proposals so as to foster their awareness for environmental protection, thus working hand in hand to create a low-carbon and eco-friendly green enterprise.

Bolster capacity for sustainability

Employees play the crucial role of promoting corporate sustainability and as such, ChipMOS treats each employee fairly and with respect. In addition, we have endeavored to create a safe, healthy and friendly working environment that is diverse and inclusive with various bonuses and incentive schemes. Incidentally, talent training has always been a key focus at ChipMOS and in our internal trainings, we have incorporated elements of ChipMOS characteristics and relevant experiences to ensure the passing down of expertise and assist employees to expand their know-how and apply what they have learned in their work. In an effort to bolster the competitiveness of talents in the general public, ChipMOS has been collaborating with various schools over the years to help nurture promising talents through industrial-academic collaboration with diverse internship programs and cooperation with new schools/faculties. Through the donation of semiconductor equipment, we were able to promote pseudo-production line practical training that features senior engineers as trainers to effectively close the gap between education and practical work, thus cultivating promising talents for the semiconductor assembly sector.

Having established a sound foundation, ChipMOS continues to expand and deploy its operations while adhering to the philosophy of "Giving back to the society what we take from it" to fulfill our corporate social responsibilities by caring for the society and paying it forward. In light of the overall sustainability trends, the issue of corporate sustainability shall become more comprehensive and diverse. And as such, the Company has to become more proactive and aggressive in accelerating its promotion of ESG by working together with its employees and partners so that we may attain sustainable growth and reach greater heights of excellence.

Chairman & President



2022 ESG Performance

Governace

NT$ 23.52 Billion

Consolidated revenues for 2022
Adhering to sound business strategies and continue to develop core technologies

NT$ 380 million

Proactive involvement in smart factories
The investment increased by 99.3% compared to 2021

Excellent

Result of external Board of Directors performance evaluation

Environmental

Leadership level (A-)

Result of CDP climate change questionnaire

Management level (B)

Result of CDP water security questionnaire

Expanding green influence

ChipMOS was invited by MOEA to share the implementation of green factory

Social

46%

Internal employees promoted to managerial positions
Active cultivation of talents to achieve the goal of sustainable talent development

Achieving "Win-Win-Win"

Dedicated to industry-academia collaboration to enhance the competitiveness of students, schools and ChipMOS

NT$19,961,042

Social Engagement Investment Amount

2022 Awards and Honors

Ranked top 5% of all TWSE-listed companies for two consecutive years

2022 National Sustainable Development Awards

Taiwan Corporate Sustainability Awards (TCSA) **Top 100 Corporations**

Excellence in Corporate Social Responsibility **Top 100 Performing Companies**

Economy & Society

- TCSA: Sustainability Report - Platinum Grade in the Electronic Information Manufacturing Industry
- Engineering and Technological Awards (acknowledgements from major customers)
- Taiwan Employment Creation 99 Constituent
- TWSE Corporate Governance 100 Index
- Result of Taiwan Sustainability Evaluation - Ranked in the top 25% of publicly listed companies

Environment

- Air Quality Purification Area Recognition – Special Contribution Award (Environmental Protection Administration, Executive Yuan)
- Outstanding Unit of Green Procurement and Promotion of Green Consumption Promotion (Environmental Protection Administration, Executive Yuan)
- Green Factory Label (Industrial Development Bureau, Ministry of Economic Affairs)
- Occupational Health and Safety Indicators Disclosed in the Corporate Sustainable Reports - Top 10% of TWSE-listed Electronic Companies (Occupational Safety and Health Administration, Ministry of Labor)

* For more recognitions ChipMOS has received, please see Appendix 8

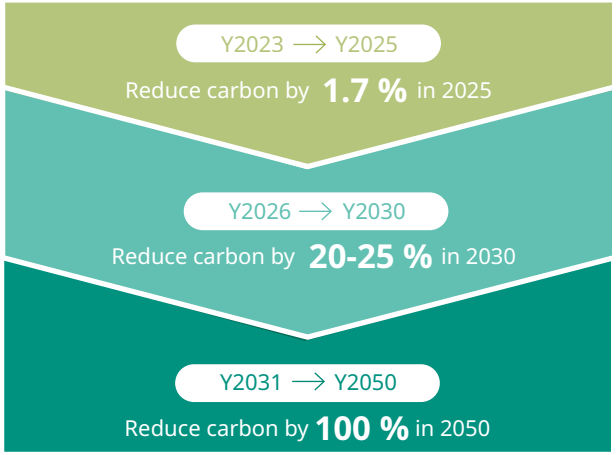
Climate Resilience

ChipMOS takes the severe impacts of climate change on enterprises, the environment and people's livelihood very seriously. And as such, we perceive the issue of climate change as a standing issue of materiality and we shall respond with a more proactive and positive mindset whilst leading our employees and working with our suppliers to promote low-carbon sustainability.

Raising of climate governance level

The Board of Directors routinely monitor the status of climate related issues and projects in order to improve overall efficiency and ensure prompt response and adjustments

Short, Mid and Long-term Goals



4 major pillars of strategy

Green Energy Plan

- **Net-zero emissions by 2050**
  - Self-constructed solar power
  - Green accreditation
  - Continue to assess other sources of green energy
- **Energy conservation management**
  - 2023 Goal: Energy Saving Rate ≧ 1.58%

Develop Green Production

- **ISO 50001 energy management system, systematized management**
- **Introduced highly efficient and energy-saving DC FFU in clean room in 2018 to improve fab operating efficiency, energy saving rate 62.16%**
- **Energy conservation actions**
  - Promote all employees and develop rewards program for energy-saving and carbon reduction proposals
- **Reduction of material source, and reused packaging materials**
- **Waste reduction and reuse**
- **Green procurement**
- **Collaborating and guiding our suppliers towards low-carbon transition**

Adapting to and Mitigating Climate Changes

Adaptation

- **Greenhouse Gas Inventory**
  - Completed the inventory and verification for all fabs and subsidiaries in 2023
- **ISO 14067/ PAS 2050 Product Carbon Footprint**
- **Water Resources Risk Management**

Mitigation

- **Identification of climate change risks and opportunities**
  - Introduced TCFD
  - Identified significant carbon risks and formulated relevant strategies
- **Green Factory Label (2022/11-2025/10)**
  - 2022 Green Building Label , Clean Production Assessment System
- **Voluntarily participate in CDP questionnaires**

Sustainable Actions and Initiatives

- **Cultivation of sustainable thinking**
  - Directors continued to take part in sustainable development related courses and trainings
  - Fostering sustainable thinking in employees
- **Environmental protection activities**
  - Long-term adoption of public venues, roads and public washrooms
  - Shore adoption and beach clean-ups
  - Incorporation of environmental protection concepts into employee activities to foster proper attitudes
- **External Initiatives**
  - Signing to become a TCFD supporter
  - Participated in the "Net-Zero Coaching Group"



Thematic Report

02

Youth Cultivation

Since 2013, ChipMOS has committed to its long-term effort to cultivate promising young students by collaborating with 10 colleges and universities in northern and southern Taiwan, thus offering assistance more than 771 students. The Company has developed 4 major initiatives including "Diverse Internship Program", "Scholarships", "Employment-Oriented Program" and "Industrial-Academic Classes" as ways to encourage students to apply what they have learned.



For Students

Through internship and hands-on practice, students are able to discern the discrepancy between academic theory and actual industrial practices while validating what they learn in classrooms through work, thereby facilitating better comprehension of the knowledge they have acquired thus far.

For ChipMOS

Each model of collaboration has come to fruition from in-depth discussions and execution between ChipMOS and the schools. The Company is willing to invest the time and manpower from the perspective of helping and cultivating students. Through long-term commitment and various arrangements with the schools, students will be able to prepare for their careers in advance and get through their break-in period quicker once they enter into employment.

ChipMOS x Southern Taiwan University of Science and Technology - Unlimited Synergy

In 2022, ChipMOS donated its clean room assembly equipment to Southern Taiwan University of Science and Technology so that their students could benefit from hands-on operations and be primed in advance for ChipMOS'assessment of assembly testing proficiency. The Company has also developed relevant training courses and field visits so that students will be able to integrate the knowledge they have acquired with their understanding of fabrication plants and actual working environments along with their practical experiences.

Comprehensive courses including hands-on practices with semiconductor equipment

The courses prepared by ChipMOS managers and the courses including fundamental theories and hands-on practice with actual semiconductor equipment, with the ChipMOSer guiding the students as they operate the equipment.

Company Visit

Arranging company visits at ChipMOS' facilities allow students to actually see the operations at our production lines and the company environment. It will help students to smooth out the transition from school to employment and apply the knowledge they have learned.

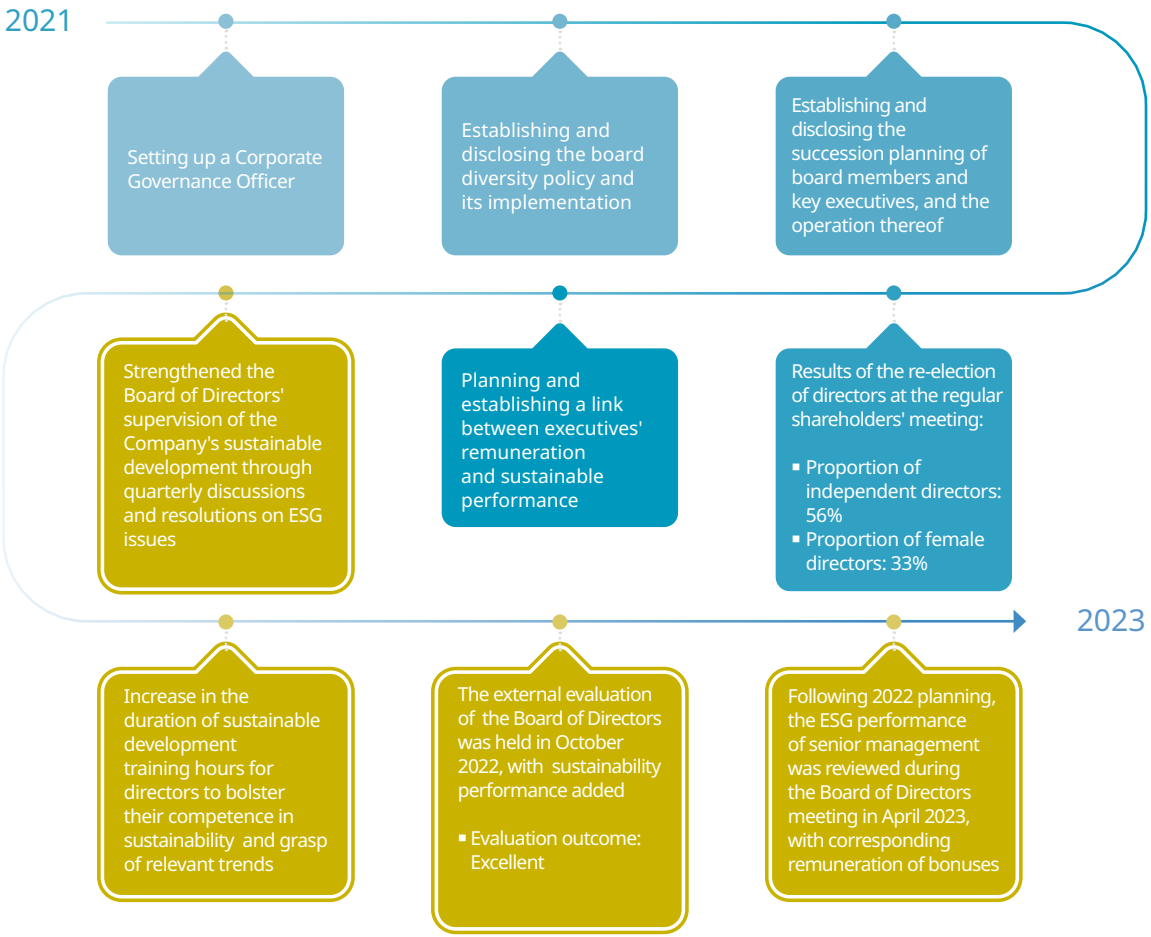
For all participants involved in these collaborations, be it the students, the schools or ChipMOS, the most invaluable outcome would no doubt be the new ideas and concepts borne from discussions and brainstorming sessions during the trainings. Such ideas and concepts are the very source of motivation and impetus that enables these talents, schools and the Company to achieve sustainable growth and remain competitive.

Sustainable Governance

Here at ChipMOS, we firmly believe corporate governance to be the vital factor that ensures sustainable management and operation for us as a company. It also plays a crucial role in helping an enterprise stay competitive in a capital market. And as such, ChipMOS has continued to strengthen its governance measures in all aspects and optimized its management to bolster the Company's overall competitiveness.



Enhancing the Diversity and Operation of the Board of Directors



Sustainable Strategies

Sustainable Strategic Blueprint

ChipMOS has linked to Sustainable Developed Goals (SDGs) established by the United Nations in the formulation of our ESG strategies, which shall enable us to achieve our sustainable objectives in our operations so that we can achieve sustainable management.

E

Green management and the path to low-carbon transitioning

- Commitment to the development of green production
- Continued promotion of green energy plan
- Collaboration with supply chain
- Continuation of water resources management





S

Diversity and inclusion to create sustainable future

- Creating a friendly work environment
- Offering competitive remuneration and benefits
- Emphasizing human rights for employees and supply chain partners
- Talent development and incubation to ensure ample room for career development
- Continuous cultivation of environmental sustainability and fulfillment of public welfare



G

Sound governance to bolster organizational resilience

- Strengthen Board of Directors operation
- Improve risk management
- Establish long-term partnerships with customers
- Grasp industrial trends and proactively commit to the development of relevant technologies



CHAPTER

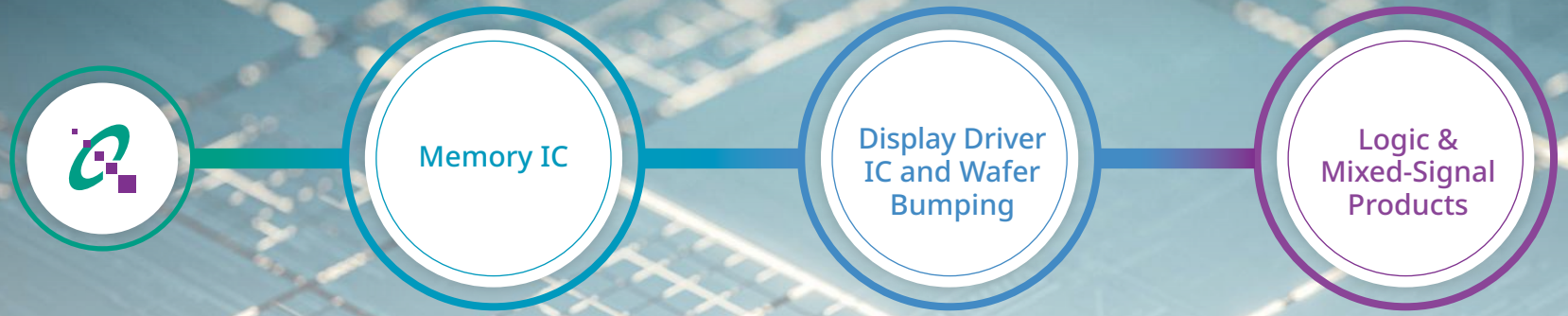
01 Operations



8 DECENT WORK AND ECONOMIC GROWTH

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

2022 ChipMOS successfully developed product technologies and actively helped customers to formulate technological blueprints



Production and Technologies	Development of new 2P2M structure for RDL process	Introduction of high thermal conductivity COF coating for the heat dissipation packaging services for high-resolution panels	Assembly design for optimized electrical property for high-frequency applications

Performance

- Granted R.O.C. Patent application. Patent No: I773443
- Passed customers' reliability test and collaborated with the customer for production verification for new products
- Thermal paste coating has already been adopted for commercial operation for large-size, 4K-resolution and higher TV displays
- Design and development of products with high-speed, high-bandwidth of up to 40Gbps of data transfer rate that are compatible with USB 4.0 specifications
- Successful collaboration in multiple projects with potential customers
- Apt demonstration of ChipMOS Turnkey services, generating profits in excess of NT$ 74,000,000.

1.1 About ChipMOS

GRI 2-1

Incorporated on July 28, 1997, ChipMOS is a leader in the field of semiconductor package testing. Its test capacity of LCD driver IC assembly ranks second in the world. At present, ChipMOS's testing and packaging equipment machines are mainly set in two major science and industry parks in Taiwan: Hsinchu Science and Industry Park, mainly providing memory testing services; and Tainan Science Park, mainly providing memory packaging and driver IC assembly testing services. In addition, the factories in Zhubei and Hukou, Hsinchu County, provide wafer bumping and wafer testing services, giving full play to the functions of independent operations of testing and packaging technical services, and integrating technical resources to provide a series of complete all-round services. In addition to providing semiconductor post process services, we also cooperate with global customer partners to provide vertically integrated and high-quality packaging and testing solutions. As of December 31, 2022, ChipMOS Taiwan has 5,295 employees..

Operational Sites

Hsinchu fab. (Headquarter)
No. 1, R&D Rd. 1, Hsinchu Science Park, Hsinchu City

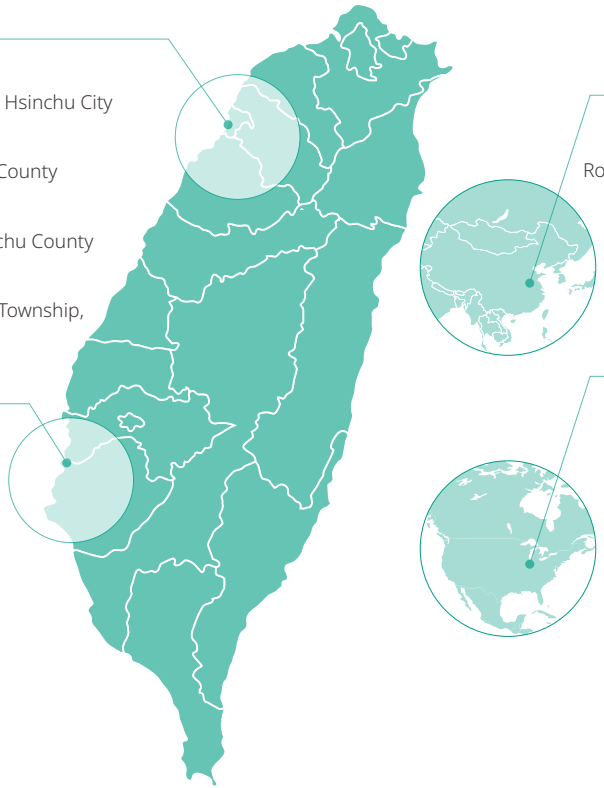
Zhubei fab.
No. 37, Xintai Rd., Zhubei City, Hsinchu County

Zhubei fab. 2
No. 112, Zhonghe St., Zhubei City, Hsinchu County

Hukou fab.
No. 4, Rende Rd., Fengshan Vil., Hukou Township, Hsinchu County

Tainan fab.
No. 5, Nanke 7th Rd., Southern Taiwan Science Park, Tainan City

Tainan fab. 2
No. 3, Nanke 7th Rd., Southern Taiwan Science Park Tainan City



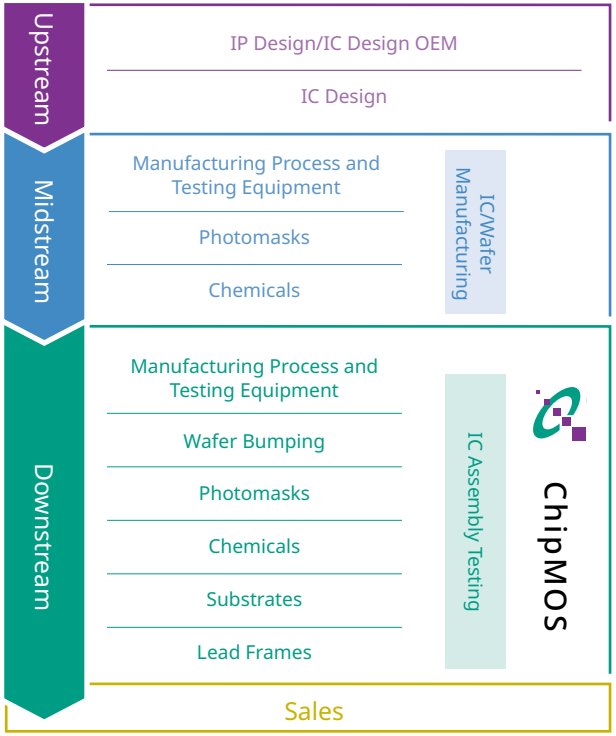
Shanghai subsidiary
Room 309-C, 6 Building, 990 Shenchang Road, Minhang District, Shanghai

U. S. subsidiary
2890, North First Street, San Jose, CA 95134, U.S.A.

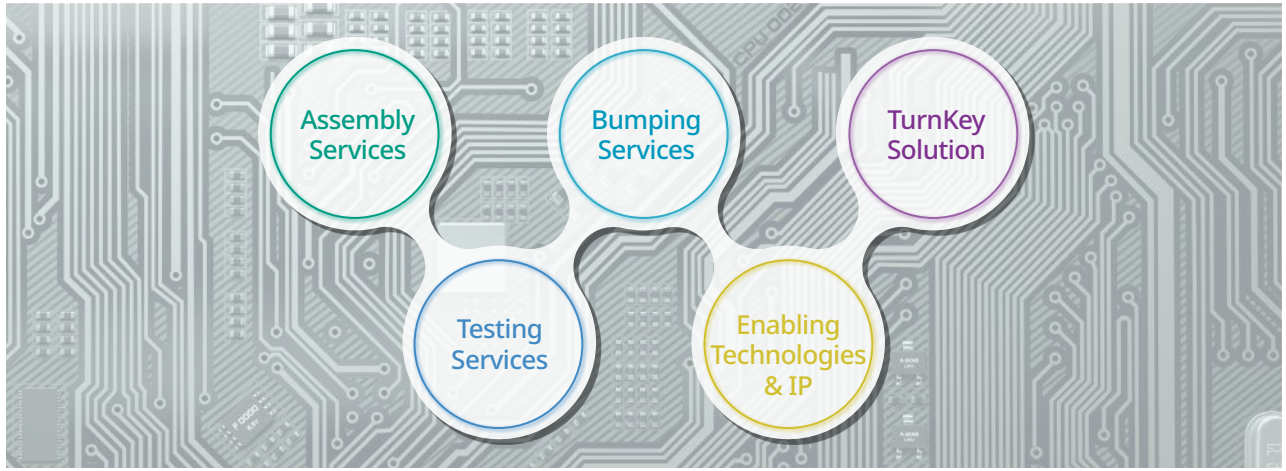
1.2 Main Products and Services

GRI 2-6

The vertical division of labor in the semiconductor industry is divided into upstream chip design, midstream IC wafer manufacturing, and downstream IC assembly and testing according to the manufacturing processes. ChipMOS is engaged in the downstream industry of the semiconductor industry. Its main products and services include: LCD Driver ICs, Memory ICs, Logic/Mixed-Signal IC Back-End Services and Bump Services. It vertically integrates the back-end process of semiconductors and provides customers with one turn-key solution/service.



1.2.1 Main Products and Markets

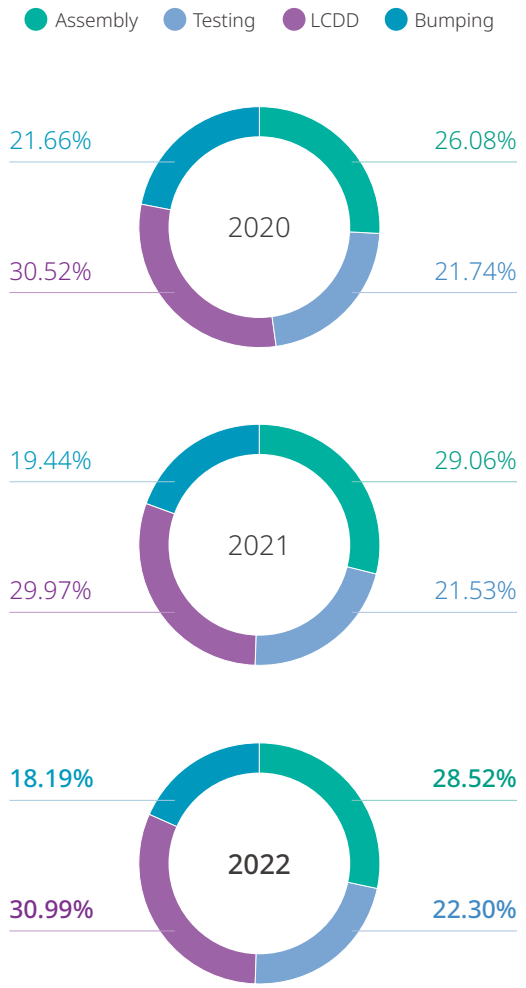


ChipMOS provides customers with back-end packaging and testing services for memory, driver IC and mixed-signal products, as well as diversified technology selection and technology integration services including lead frames and organic substrates, etc. Our main products include the packaging and testing OEM of Thin Small Outline Packages (TSOP), Fine-Pitch Ball Grid Arrays (FBGA), Tape Carrier Packages (TCP), Chip on Film (COF), Chip on Glass (COG), Wafer Level Chip Scale Packaging (WLCSP), and Wafer Bumping Manufacturing (Gold Bump). Our customers include semiconductor design companies, integrated component manufacturers and semiconductor wafer factories. Our products are mainly used in consumer electronic products such as personal computers, automotive electronics, communication equipment, office automation and mobile phones, etc.

ChipMOS provides customers with Driver ICs and memory packaging and testing, and provides turnkey services. ChipMOS U.S.A., Inc. is established in the United States to provide local customer service and business support and cooperation. In addition, ChipMOS has a professional national R&D laboratory to provide the driving force for future development. To cope with the continuous innovation of downstream electronic products, ChipMOS continues studying the improvement of packaging technology in three major areas of basic R&D: packaging materials (such as extending the service life and reducing the material cost), mechanical characteristics (strengthening the external structure and eliminating the internal stress), electrical characteristics (high-speed high-frequency/microwave RF). In 2022, ChipMOS obtained 26 patents, and as of the end of December, ChipMOS had 612 valid patents, 53 trademark rights and a total of 75 patent applications currently under review. ChipMOS is a professional manufacturer of professional IC all-round back-end services.

ChipMOS's top five key customers are mainly distributed in the United States, Taiwan, etc. The revenue, cost and gross profit of the products are attributed to departments concerned. Therefore, ChipMOS's and its subsidiaries' products are divided into four categories: packaging, testing, Driver IC and Wafer Bumping.

Distribution of Revenues of Main Products



Note: According to the proportion of revenue in the customers' regions: 79.4% in Taiwan, 8.5% in Japan, 8.4% in China, 1.6% in Singapore and 2.1% in other regions.

1.2.2 Growth Momentum of Future Operations

Multi-Faceted Product Layout

ChipMOS actively grasps market trends and focuses on niche market operations. With the continuous growth of terminal applications and products, all kinds of product lines have corresponding product combinations. Looking forward to the future operation dynamics and business growth, and from the perspective of three product combinations, there are the following aspects:

Driver IC

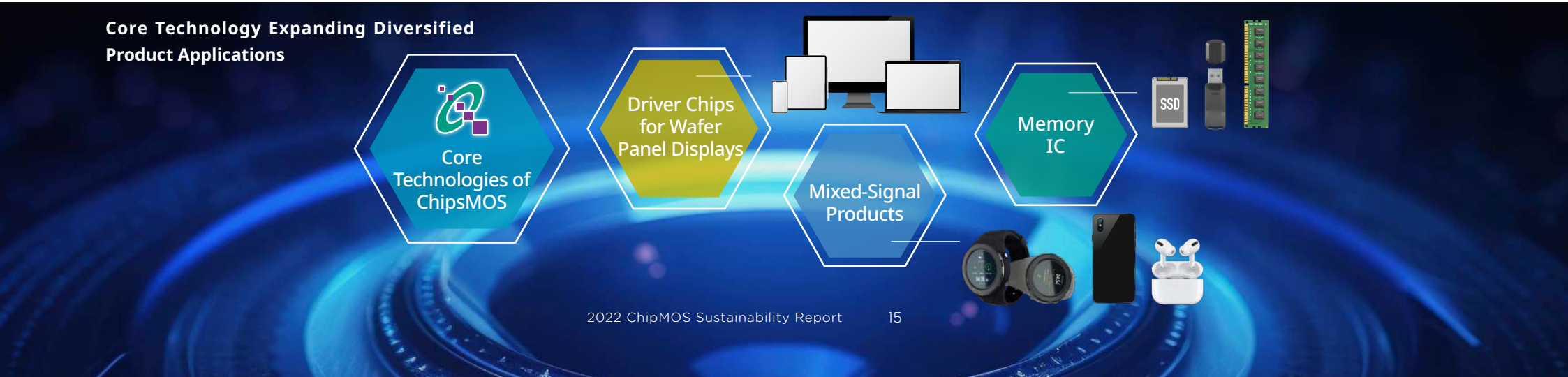
In 2022, market demand for 8K & high-end OLED TV continued to grow and our production line for new product MiniLED also began shipping officially within the year, subsequently driving sales growth for COF assembly and high-frequency testing services. At the same time, due to the improvement in smart phone panel specifications in conjunction with improving OLED panel yield rate, the demand for OLED driver IC has also grew noticeably. Given that OLED testing usually takes longer than traditional driver IC, the trend has translated to substantial boost in the average sales price (ASP) for relevant testing. In addition, thanks to the growing capacity support from the wafer factory for the automotive market in 2022, automotive driver ICs have also shown steady growth, which in turn drove up the testing price and gross profit fro driver ICs.

Memory

In 2022, while market demand for memory for products such as smart phones, personal computers and relevant consumer products had been lackluster, it fared noticeably better in automotive and industrial applications. The decline in demand for consumer IC products was conveniently addressed by automotive ICs that needed additional production capacity. Products featuring automotive ICs such as Nor Flash, NAND, DDR2, DDR3, DDR4 have recently passed relevant automotive specification requirements for application in system information communication and entertainment systems, digital video recorder (DVR), smart cockpit and telematics box (T-BOX). In terms of individual product, data center has no doubt become the largest market for DRAM with substantial demand. As for the evolution of NAND Flash wafer technology, it has reached the point of 3D stacking and broken through the constraint of past 2D structures to achieve improvement in both capacity and storage density; the growth in production capacity has also led to increased demand for emerging SSD storage and relevant product applications for mobile devices, client and server data center PCs expanded the demand for NAND Flash IC packaging and testing as well.

Mixed-Signal Products

To accommodate customers' needs for thin and small terminal applications, the Company has committed to the development of products including fingerprint readers, and various MEMS, such as the auto focus of camera lenses, Optical Image Stabilization (OIS) and Hall Motor Sensors. This has in turn driven the development and business of the Wafer Level Chip Scale Packaging (WLCSP) process and testing technology. The Flip Chip-Chip Scale Package technology is also successfully applied to USB4/DP2 0 Re-Driver and PCIe 5.0 Re-Driver products for notebook computers and their peripheral products.



R&D Momentum

With the popularity of mobile devices, the demands of the trends of single chip integration and thin and small products along with the emerging applications for AI and 5G, these factors continue to drive the technological development of the packaging and testing industry. ChipMOS has aggressively leveraged opportunities for industrial development by continuing to commit to the development of relevant researches. Here is a quick overview of key products and technologies that we have successfully developed in 2022:

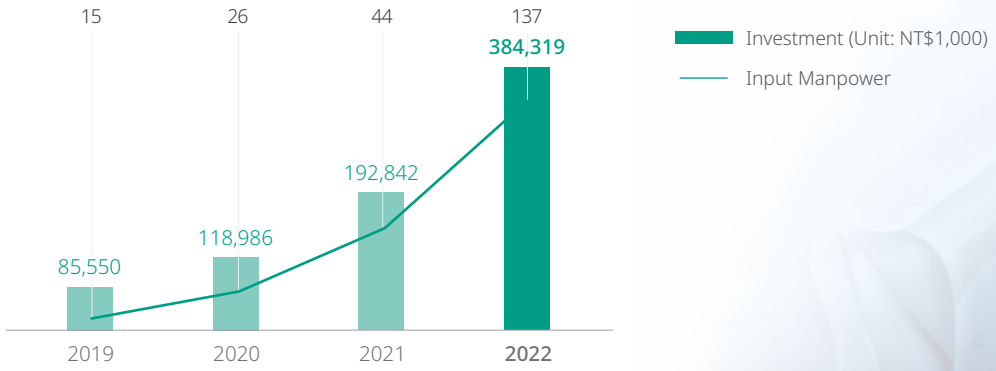
- New Cu pillar structure of tall bump height 100um development.
- Develop new structure of 2P2M Cu Pillar process.
- Research and development of high-density (>4000 Chs) multilayer COF bonding packaging technology services.
- Technical services for next-generation Micro LED driver IC packaging process in high-resolution panels.
- High thermal conductivity compound application for UFS thermal enhancement.

R&D Investment in the Recent 5 Years

Year	2018	2019	2020	2021	2022
R&D Expenses (NT$100 Million)	9.4	10	10.2	11.4	**11.6**
Proportion in Revenue (%)	5.08	4.95	4.41	4.16	**4.93**
R&D Personnel (persons)	669	645	671	680	**677**

Smart Factory

In order to effectively respond to the trend of Industry 4.0, improve overall organizational competitiveness and elevate product quality and services so as to create superior work efficiency and environment, since 2019, ChipMOS has been increasing the investment of funds and manpower year by year, and actively promotes automated intelligent manufacturing, going beyond simple computerization and automation and implementing intelligent development.



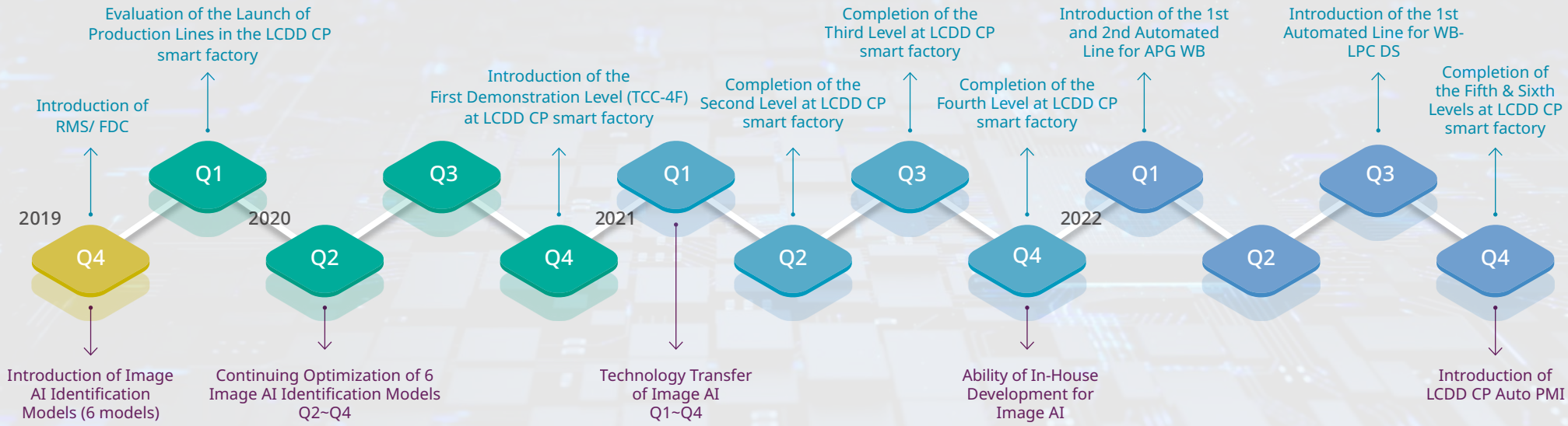


To ensure comprehensive development of ChiMOS' intelligence factory and industrial 4.0, our facilities have continued to develop relevant smart productions by leveraging process automation to reduce production cycles, reduce production variations and improve product quality; at the same time, we have also used production data for big data analysis to optimize our operating costs and strengthen production quality. The introduction of intelligence factory can be broken down into six major aspects: iManagement, iAPS, iControl, iLogistics, iImage and iExchange for relevant planning and implementations. The following is what we have accomplished thus far:

- Construction of automated probe mark recognition system for LCDD CP for the purpose of reducing false rate to optimize personnel work efficiency. ChipMOS is the first manufacturer in the industry to independently develop and introduce this system.
- The LCDD CP Automated Production Line has been introduced as replacement for manual loading and unloading to effectively boost productivity.
- Automated robotic arm has been introduced at APG Bonding Station as replacement for manual loading and unloading.
- Automated guided vehicle and automated robotic arm have been introduced at WB-LPC DS as replacement for manual transportation, loading and unloading to achieve production line automation.
- Real-time status dashboard has been introduced at the Bumping production line to enable personnel to monitor the status of WIP/ equipment/material at each station, thereby enabling versatile adjustment of resource deployment and immediate update of yield rate. It also enables paint point control for production anomaly so that corrections and adjustments can be promptly implemented.

In the near future, the Company shall continue to expand its development of automation/intelligence items in these six aspects in order to achieve our goal of establishing intelligence factory and industrial 4.0. Through improvements in different areas, we shall boost our corporate competitiveness and strive for a future of sustainable development.

ChipMOS Smart Factory Milestones



1.3 Operational Performance and Tax Governance

1.3.1 Operational Performance

GRI 201-1, 201-3, TC-SC-000.A, TC-SC-000.B

Operational Results of the Company

Operation challenges in 2022 are unprecedented, under the influences of geopolitics, global inflationary pressures, pandemic lock downs and semiconductor supply chain imbalance. In the first half of year, the operation momentum continued growth, driven by the semiconductor supply chain shortage from 2021. However, the semiconductor supply chain inventory level increases and end-demand rapidly decrease influenced by geopolitics and global inflationary pressures. Demand soft caused customers' inventory adjustments and macro weakness. China COVID lock downs have further aggravated the problem of consumer electronics macro softness. These macro headwinds impacted our 2022 results, including revenue and profit both declined compared to 2021. By cautiously stable operating strategy, in line with industry trend and customer requirements, ChipMOS will keep moving forward expanding the core technologies and product developments to maintain growth momentum and improve profitability. The followings are the major operating results of 2022:

Operating Result

Consolidated revenue for the fiscal year ended December 31, 2022 was NT$23.52 billion,, which reflects 14.2% down from 2021. The consolidated gross margin for the year was 20.9%. In individual product lines, memory product revenue decreased 15.6% from 2021, and represented 41.8% of 2022 total revenue. The revenue of flat panel display driver IC (DDIC) related products, including gold bump declined 13.2% and represented 47.3% of 2022 total revenue. Driven by automotive and smart mobile, OLED panel driver IC revenue grew more than 35% from 2021.

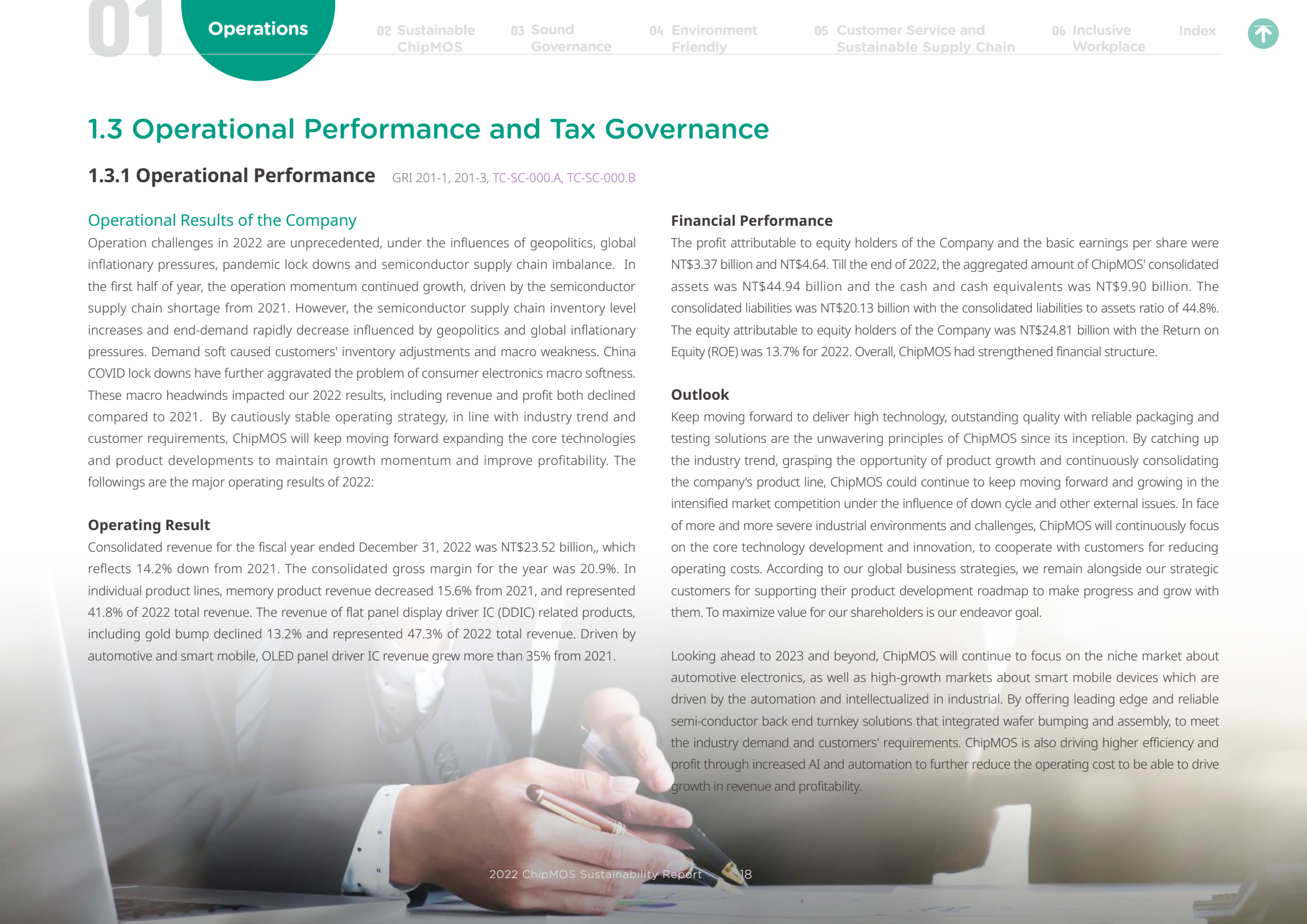
Financial Performance

The profit attributable to equity holders of the Company and the basic earnings per share were NT$3.37 billion and NT$4.64. Till the end of 2022, the aggregated amount of ChipMOS' consolidated assets was NT$44.94 billion and the cash and cash equivalents was NT$9.90 billion. The consolidated liabilities was NT$20.13 billion with the consolidated liabilities to assets ratio of 44.8%. The equity attributable to equity holders of the Company was NT$24.81 billion with the Return on Equity (ROE) was 13.7% for 2022. Overall, ChipMOS had strengthened financial structure.

Outlook

Keep moving forward to deliver high technology, outstanding quality with reliable packaging and testing solutions are the unwavering principles of ChipMOS since its inception. By catching up the industry trend, grasping the opportunity of product growth and continuously consolidating the company's product line, ChipMOS could continue to keep moving forward and growing in the intensified market competition under the influence of down cycle and other external issues. In face of more and more severe industrial environments and challenges, ChipMOS will continuously focus on the core technology development and innovation, to cooperate with customers for reducing operating costs. According to our global business strategies, we remain alongside our strategic customers for supporting their product development roadmap to make progress and grow with them. To maximize value for our shareholders is our endeavor goal.

Looking ahead to 2023 and beyond, ChipMOS will continue to focus on the niche market about automotive electronics, as well as high-growth markets about smart mobile devices which are driven by the automation and intellectualized in industrial. By offering leading edge and reliable semi-conductor back end turnkey solutions that integrated wafer bumping and assembly, to meet the industry demand and customers' requirements. ChipMOS is also driving higher efficiency and profit through increased AI and automation to further reduce the operating cost to be able to drive growth in revenue and profitability.





Operational Performance in the Recent 5 Years

	2018	2019	2020	2021	2022	Unit
Capital Stock	75.3	72.7	72.7	72.7	**72.7**	NT$100 million
Revenue	184.8	203.4	230.1	274.0	**235.2**	NT$100 million
Gross Profit	34.3	39.3	50.3	72.5	**49.1**	NT$100 million
Income Tax Expense	6.8	4.5	6.1	9.8	**6.6**	NT$100 million
Net Profit	11.0	25.8	23.7	50.6	**33.7**	NT$100 million
Earnings per Share - Basic	1.37	3.55	3.26	6.96	**4.64**	NT$
Equity per Share	24.85	27.02	28.64	33.53	**34.12**	NT$
Employee Salaries and Benefit Expenses	56.1	60.8	60.1	67.6	**64.7**	NT$100 million
Cash Dividends	2.6	8.7	13.1	16.0	**31.3**	NT$100 million
Return on Total Assets	3.69	8.07	7.20	13.29	**7.97**	%
Return on Equity	6.05	13.70	11.70	22.38	**13.71**	%

Note 1: Data source: the each Consolidated Financial Report has been audited by the certified public accountants.

Note 2: As of December 31, 2022, the ChipMOS's authorized capital was NT$9.7 billion, consisting of 970 million ordinary shares, and the paid-in capital was NT$7.27 billion with a par value of NT$10 per share, consisting of 727.24 million ordinary shares. All proceeds from shares issued have been collected.

Note 3: On November 1, 2016, ChipMOS publicly listed some of its outstanding shares in the form of American Depositary Shares ("ADSs") on the NASDAQ Global Select Market. As of December 31, 2022, the outstanding ADSs were 4,409,752 units representing approximately 88.20 million ordinary shares. Each ADS represents 20 ordinary shares of ChipMOS.

Output and Self-Made Rate of Main Products in the Recent 3 Years

Unit: thousand wafers/piece; NT$1,000

	2020			2021			2022		
	Capacity	Output	Production Value	Capacity	Output	Production Value	Capacity	Output	Production Value
Assembly	3,687,169	2,851,232	5,418,192	4,603,841	3,783,937	6,521,438	**4,829,713**	**3,063,895**	**6,127,244**
Testing	3,811,002	2,781,211	3,350,554	4,468,592	3,419,085	3,701,942	**3,908,306**	**2,397,496**	**3,599,504**
LCDD	2,494,884	2,076,231	5,028,193	2,759,920	2,101,102	5,477,583	**2,705,370**	**1,678,623**	**5,144,675**
Bumping	1,555	1,474	4,111,828	1,876	1,529	4,369,317	**1,827**	**1,141**	**3,620,181**
Total	-	-	17,908,767	-	-	20,070,280	**-**	**-**	**18,491,604**
Self-Made Rate (%)		100			100			**100**	

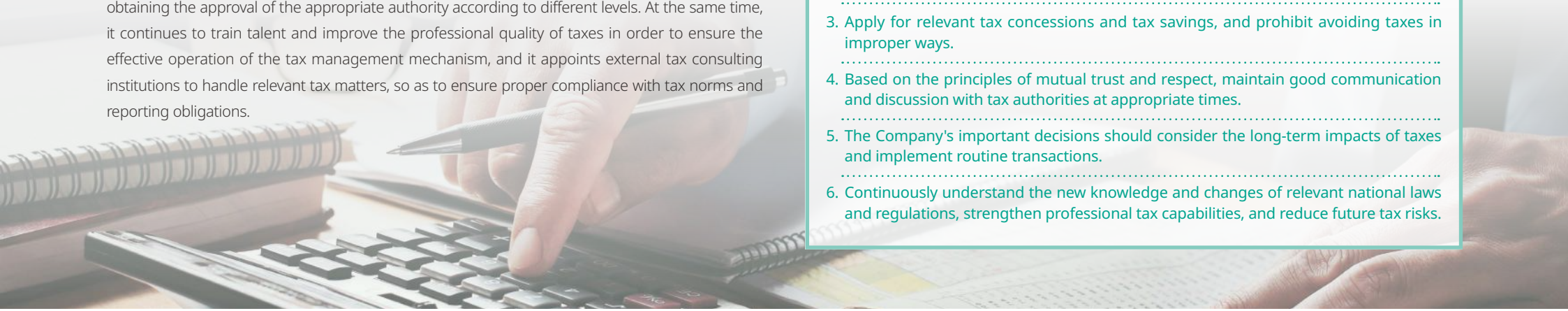
Note 1: For relevant contents, please refer to page 129 of the ChipMOS 2022 Annual Report.

Note 2: Production capacity for the testing departments decreased compared to the previous year primarily due to changes in product mixes.

1.3.2 Tax Governance

GRI 207-1~GRI 207-3

ChipMOS is committed to information transparency and believes that honest tax payment will help promote economic growth and sustainable corporate development. We formulate tax management policies and implement them in accordance with laws and regulations, continue to create long-term value of the Company and fully protect the rights and interests of shareholders and investors. The Financial Accounting Function is the authority and responsible unit in charge of various kinds of taxes. When handling various kinds of tax returns, they are responsible for obtaining the approval of the appropriate authority according to different levels. At the same time, it continues to train talent and improve the professional quality of taxes in order to ensure the effective operation of the tax management mechanism, and it appoints external tax consulting institutions to handle relevant tax matters, so as to ensure proper compliance with tax norms and reporting obligations.



Tax Policy

1. Comply with local tax laws and relevant regulations in all operating areas, declare and pay taxes within the time limit, and fulfill tax obligations
2. Tax information is transparent. Tax disclosure has been handled in accordance with relevant regulations and standards.
3. Apply for relevant tax concessions and tax savings, and prohibit avoiding taxes in improper ways.
4. Based on the principles of mutual trust and respect, maintain good communication and discussion with tax authorities at appropriate times.
5. The Company's important decisions should consider the long-term impacts of taxes and implement routine transactions.
6. Continuously understand the new knowledge and changes of relevant national laws and regulations, strengthen professional tax capabilities, and reduce future tax risks.

Income Tax Paid in the Recent 3 Years

Unit: NT$1,000

	2020		2021		2022	
Country	Amount	Proportion	Amount	Proportion	**Amount**	**Proportion**
Taiwan	272,788	98.81	690,122	99.79	**1,353,195**	**99.90**
United States	2,722	0.99	1,337	0.19	**1,159**	**0.09**
Others	569	0.20	107	0.02	**194**	**0.01**
Total	276,079	100	691,566	100	**1,354,548**	**100**

Note: The approved tax refund applied for the undistributed earnings of the previous year was obtained in 2020 - NT$138,941 thousand. For more information, please refer to ChipMOS Consolidated Financial Reports.

Effective Tax Rate in the Recent 3 Years

Unit: NT$1,000

	2020	2021	2022
Net Profit before Tax	2,973,359	6,035,585	**4,027,872**
Income Tax Expense	605,876	976,516	**655,898**
Effective Tax Rate	20.4%	16.2%	**16.3%**

Note 1: The lower effective tax rate in 2021 was due to the share of profits and losses of affiliated enterprises and joint ventures recognized using the equity method - NT$ 625,733 thousand, which was due to unrealized benefits and investment credit in accordance with the Industrial Innovation Ordinance - NT$ 105,141 thousand.

Note 2: The lower effective tax rate in 2022 was due to the share of profits and losses of affiliated enterprises and joint ventures recognized using the equity method - NT$ 453,715 thousand,, which was due to unrealized benefits and investment credit in accordance with the Industrial Innovation Ordinance - NT$ 87,194 thousand.

Note 3: For further information on income tax, please refer to the ChipMOS Consolidated Financial Report.

1.4 External Initiatives and Organizational Engagement

GRI 2-28

External Initiatives

Responsible Business Alliance (RBA) Code of Conduct

ChipMOS follows the Responsible Business Alliance (RBA) Code of Conduct. This Code aims to fulfill corporate social responsibility, and fully serves to measure the performance achievement of ChipMOS sustainability in five major aspects of the Company's operations: labor, health and safety, environment, ethics and management system. It also serves as the implementation policy for supply chain management. Through the Self-Assessment Questionnaire (SAQ) and supplier RBA audit, we are committed to protecting the rights and interests of all employees and supply chain personnel. ChipMOS RBA policies and objectives will be released after being approved by the Chairman to all colleagues.

Carbon Disclosure Project (CDP)

Starting from 2021, ChipMOS has voluntarily participated in the 2022 Carbon Disclosure Project (CDP) and completed its Climate Change and Water Security Questionnaires. From the results of the 2022 CDP questionnaires, ChipMOS received the Leadership level (A-) in the Climate Change Questionnaire and Management level (B) in the Water Security Questionnaire. Despite being a first time participant, the Company has been recognized by CDP for its outstanding performance. In addition, ChipMOS has been introducing the Task Force on Climate-related Financial Disclosure (TCFD) to identify relevant risks and opportunities, which were converted into a materiality matrix for corresponding strategies to be proposed for goal management; in 2022, ChipMOS officially signed to be the TCFD Supporters as a way to demonstrate ChipMOS in responding to and managing climate issues.

TALENT, in Taiwan

The cultivation and development of talent has always been an operational development goal of ChipMOS. In response to the spirits of ESG and DEI (Diversity, Equity, Inclusion) and the emphasis of global enterprises on talent social responsibility, ChipMOS continued to take part in the "TALENT, in Taiwan" in 2023. ChipMOS is committed to the six indicators of Talent Sustainability Action – "Significance and Value", "Diversity and Inclusion", "Organizational Communication", "Reward Incentive", "Physical and Mental Health" and "Talent Growth" – and takes concrete actions to maintain competitiveness by ensuring talent sustainability in the ever-changing trends in the sector.

Participation in External Organizations

Continue working with the industry to promote the joint audit of waste management

Since 2016, together with the Taiwan Semiconductor Industry Association (TSIA) - Packaging Environmental Safety Team, we have promoted joint audits and jointly designed the audit system. The Company has since continued to take part in the joint audit of waste management service providers and the team has audited 9 providers in 2022 and the audits have revealed no issues of concern. ChipMOS shall continue to strengthen the depth and breadth of waste management and ensure a sound control mechanism that will facilitate legally compliant disposal of wastes.

Cleaner production and promotion of the circular economy

We continued to respond to the global trend of the circular economy, participated in the "2022 Asia Sustainability Supply + Circular Economy Expo" and discussed relevant energy-saving cooperation opportunities with manufacturers through the TASS 2022 Business Opportunity Matching Expo.

Proactive participation in external events to stay abreast with the latest trends in information security protection

ChipMOS is accredited to the ISO 27001 certification on a yearly basis in order to enforce its information security policies while ensuring the security of its information and communication environments; the Company has also been actively taking part in relevant information security seminars and workshops such as Information Security Tools 101, Google Hacking & Shodan Practices, IETF International Talent Cultivation Training, Introduction to Ransomware and relevant tests organized by the government and external organizations as a way to strengthen our knowledge and skills in the domain of information security so that we can create a safer and seamless environment for information security.

Highlight of Activities in 2022

Responded to Tainan City Government initiative and participated in the "Net-Zero Coaching Group"

Responding to the call from Tainan City Government, ChipMOS participated in the "Net-Zero Coaching Group" along with other companies, schools, organizations including TSMC, UMC, Kun Shan University of Science and Technology, National Cheng Kung University's Research Center for Energy Technology and Strategy, Far East University and Southern Taiwan Science Park Administration to share our own experiences in energy conservation at relevant organizations such as schools and hotels. The Coaching Group also provides services such as energy efficiency diagnostics and reduction strategies so that more experienced companies can assist those with lesser experience by guiding members of the supply chain to promote greenhouse gas reduction and collectively work towards the goal of net-zero emissions.

ChipMOS was invited by MOEA to share the implementation of green factory

Responding to the government's initiative, ChipMOS' Tainan fab. were the first factory of assembly and testing industry to receive the Green Factory Label in 2014. Not only that, the Company has applied for extension of this accreditation in 2017, 2020 and 2022 and passed relevant reviews to maintain the validity of the Green Factory Label. In addition, our Hsinchu fab. has also received the Green Factory Label in 2022. ChipMOS was invited by the Industrial Development Bureau to take part in the "Decade of Green Factory Outcome Presentation" as a speaker to share its experiences in carbon reduction and relevant implementations with the audience.



Vincent Hsu, the Executive Vice President (front row, third from the right) attended on behalf of the Company to support the promotional project of Tainan City Government.

ChipMOS's Participation in External Organizations

Organization Name	Participation Status
Taiwan Semiconductor Industry Association (TSIA)	Member - Assembly and Testing Environmental Safety Team
Taiwan Alliance for Sustainable Supply (TASS)	Member
Chinese National Association of Industry and Commerce (CNAIC)	Member
The Allied Association for Science Park Industries	Member
Southern Taiwan Science Park - Water and Electricity Committee	Member
Southern Taiwan Science Park - Environmental Protection and Development Promotion Foundation	Director
Tainan City Government "Net-Zero Coaching Group"	Member
Academia-Industry Consortium for Southern Taiwan Science Park	Member
Taiwan AI Communication and Information Association (TAICIA)	Member
International Microelectronics Assembly and Packaging Society - Taiwan Chapter	Member
Information Sharing and Analysis Center, Science Park, Ministry of Science and Technology (SP-ISAC)	Member
Security Platform as a Service (SECPAAS)	Member
Taiwan Computer Emergency Response Team/ Coordination Center (TWCERT/CC)	Member
The Institute of Internal Auditors - Chinese Taiwan	Member
Computer Audit Association	Member
Hsinchu County Nurses Association	Member
Greater Tainan Nurses Association	Member

CHAPTER

02 Sustainable ChipMOS

ChipMOS 25th Anniversary Decoration: Lego Wall

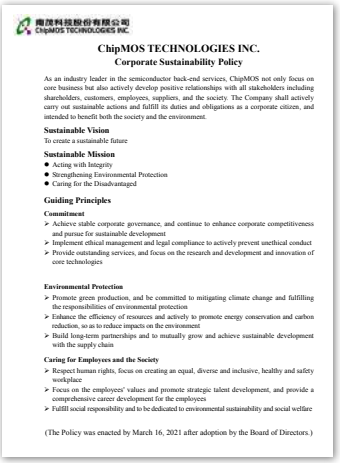


2.1 Sustainability Policies and Actions

GRI 2-14, 2-16, 2-22

ChipMOS adheres to the mission of "Honesty, Integrity, Friendliness and Care for the Disadvantaged" and has formulated the "Sustainable Development Code of Practice" and "Corporate Sustainability Policy", which are adopted by the Board of Directors as the highest principle for the Company to promote sustainable development. At the same time, ChipMOS has formulated specific implementation policies, and regularly reviews their implementation effectiveness and continuous improvement. We also incorporate relevant implementation policies in our operations and implement sustainability actions in various aspects, including continuously improving corporate governance, complying with ethical management and focusing on the R&D and innovation of core technologies, so as to practice our commitments and responsibilities to employees. We also proactively execute green energy plans, continue to invest in green production and strive for environmental protection as our way of contributing to the greater goal of net-zero emissions by 2050 . Internally, we protect and care for employees' health and rights, assist employees in career development; externally, we continue cultivating environmental sustainability and implementing public welfare, giving full play to our sustainability influence.

ChipMOS Corporate Sustainability Policy



ChipMOS TECHNOLOGIES INC.
Corporate Sustainability Policy

As an industry leader in the semiconductor back-end services, ChipMOS not only focus on core business but also actively develop positive relationships with all stakeholders including shareholders, customers, employees, suppliers, and the society. The Company shall actively carry out sustainable actions and fulfill its duties and obligations as a corporate citizen, and intended to benefit both the society and the environment.

Sustainable Vision
To create a sustainable future

Sustainable Mission
- Acting with Integrity
- Strengthening Environmental Protection
- Caring for the Disadvantaged

Guiding Principles

Commitment
- Achieve stable corporate governance, and continue to enhance corporate competitiveness and pursue for sustainable development
- Implement ethical management and legal compliance to actively prevent unethical conduct
- Provide outstanding services, and focus on the research and development and innovation of core technologies

Environmental Protection
- Promote green production, and be committed to mitigating climate change and fulfilling the responsibilities of environmental protection
- Enhance the efficiency of resources and actively to promote energy conservation and carbon reduction, so as to reduce impacts on the environment
- Build long-term partnerships and to mutually grow and achieve sustainable development with the supply chain

Caring for Employees and the Society
- Respect human rights, focus on creating an equal, diverse and inclusive, healthy and safety workplace
- Focus on the employees' values and promote strategic talent development, and provide a comprehensive career development for the employees
- Fulfill social responsibility and to be dedicated to environmental sustainability and social welfare

(The Policy was enacted by March 16, 2021 after adoption by the Board of Directors.)

* For the ChipMOS Corporate Sustainability Policy and Sustainable Development Best Practice Principles, please refer to ChipMOS website – ESG at ChipMOS

Resolutions moved and ESG related issues discussed by the Board of Directors in 2022

The Board of Directors at ChipMOS is entrusted to the task of supervising the Company's planning and implementation of sustainable development. ESG related issues discussed by the Board of Directors on a quarterly basis include: promotion of net-zero emission for sustainable development, outcome of sustainable development for the year (including the status of stakeholder engagement), mid/long-term goals for sustainable development, implementations relating to the Procedures for Ethical Management and Guidelines for Conduct, intellectual property management, risk identification and management outcomes and so forth, in an effort to boost project implementation rate and facilitate sustainable development for the Company.



Introduction and implementation of sustainability related projects in 2022

During the project implementation process, we engaged professional consultants in the respective fields to provide guidance. This allowed the participating members to gain a deeper understanding of the breadth and depth of each issue. Through discussions on internal practices, our colleagues were able to assess and review the current situation. The expertise, feedback, and recommendations from the consultants provided valuable insights, contributing to the enhancement of current operations and the planning of future sustainable projects.

Green Factory Label

In 2022, the Company launched its Green Factory Label project, focusing on the implementation of green building standards and clean production assessments at our fabs in northern and southern Taiwan. We engaged consultants to provide guidance throughout the process. A total of 48 members participated in the project, attending 8 meetings and training sessions. The project lasted for 6 months, and our fabs in both northern and southern Taiwan successfully obtained the Green Factory Label.

Duration | 2022/6-2022/12

Participating units | Production and Manufacturing, Facility Eng. Division, Safety Health and Environment Office, Q.R.A. Center and Human Resource Center

Focus Issue | Management of energy resources and water resources, recycling and reuse of packaging materials, waste recycling, sustainable innovation - energy transition, green management and social responsibilities



2.1.1 Sustainability Promotion

Following a top-down promotion strategy, the board of directors is the highest decision-maker at ChipMOS. The progress is reviewed quarterly, and the plans are promoted via the Sustainable Development Committee, to establish the sustainable culture and the sustainability mindsets of the employees step by step, and pursue relevant targets in our day-to-day activities. With regards to the promotion of sustainable development, the Company has opted for a slow-and-steady approach along the path of "laying the groundwork, sustainable establishment and sustainable cultivation". As we are anticipating greater breakthroughs and results 2023-2025, we have thus defined the current phase as the stage for "sustainable advancement". ChipMOS shall therefore implement ESG management with a more aggressive and proactive mindset and develop concrete action plans in accordance with our mid/long-term sustainability objectives in order to boost our overall sustainable competitiveness.

ESG Committee

The ChipMOS Sustainable Development Committee (hereinafter referred to as the ESG Committee) is the highest sustainability management organization within the organization. The Chairman & President serves as the Chair and the chief executive, and regularly report to the Board of Directors on the status and results of sustainability project implementations. According to the professional division of labor and the management of sustainability issues, the ESG Committee is divided into three groups: "Corporate Governance", "Environmental Protection" and "Social and Employee Care". The top managers of each unit are the main members, responsible for coordinating and promoting sustainability development goals. The ESG Committee meets regularly every year to jointly review the promotion of goals and discuss sustainability related plans.

The Committee aims to promote sustainability related activities, formulate sustainability strategies, establish employee sustainability thinking, prepare ChipMOS sustainability reports and manage the engagement of all stakeholders. When formulating the annual company policy, "enterprise commitment", "environmental protection" and "social engagement" are taken as the practical guidelines, while incorporating the issues of concern for stakeholders into management actions, actively implementing and promoting the economic, environmental and social aspects, and continuing to practice the responsibility of corporate citizens.

ChipMOS sustainability management organization at the highest level

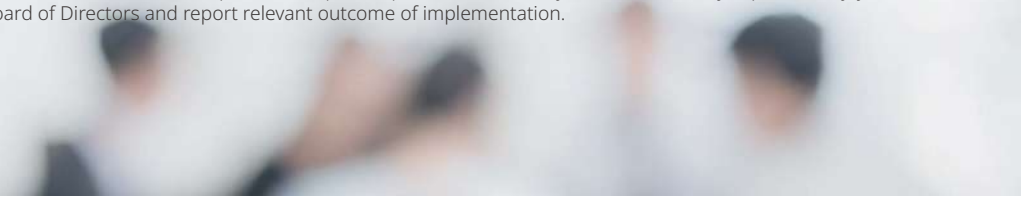
Top Decision Maker
Board of Directors

Chairman
Mr. Shih-Jye Cheng, Chairman & President

Main Committee Members
Tier-1 supervisors of Business Unit

Main Tasks

Formulate and promote sustainability strategy	Responsible for formulating the sustainability strategy and coordinating the implementation and promotion of the Company's sustainable operation management.
Review of implementation outcomes	▪ Review the progress of achieving sustainability goals in regular meetings on a yearly basis. ▪ Report the implementation status and results of sustainability project to the Board of Directors on a quarterly basis.
Compile Sustainability Report	Implement and promote sustainable development, compile ChipMOS sustainability into sustainability reports every year to be submitted to the Board of Directors and report relevant outcome of implementation.



ESG Committee Organization

Board of Directors

Chairperson
Chairman & President

Corporate Governance Team

- Corporate Governance
- Operational Performance
- Ethical Performance
- Risk Management
- Information Security Management
- Supply Chain Management
- Customer Service
- Product Quality

Finance & Accounting Management Center
New Product Development Management Center
Purchase & Logistics Management Div.
Strategy and Investment Relation
Business Management Center
Legal Office
I.T.M. Center
Q.R.A. Center
Audit Office

Environmental Protection Team

- Climate Change Management
- Energy Management
- Recycling
- Green Products
- Water Resources Management
- Reduction at Source

Hsinchu Operation Manufacturing Center
Tainan Operation Manufacturing Center
Purchase & Logistics Management Div.
Q.R.A. Center
PMC Management Center
Facility Eng. Division

Social and Employee Care Team

- Employment Relations
- Remuneration and Benefits
- Talent Development
- Human Rights
- Occupational Health and Safety
- Social Engagement

Human Resource Management Center
Facility Eng. Division

Sustainable Development by ChipMOS

2013 — 2016

Laying the Groundwork

Setting solid groundwork and fundamentals

- Established the "Sustainable Development Best Practice Principles" to be approved and announced
- Established a dedicated CSR unit in charge of planning and promoting relevant sustainability projects
- Issued ChipMOS' first CSR report, which has been verified by third party
- Continued improvement in the quality of relevant sustainability issues

2017 — 2019

Sustainable Establishment

Internal and external sustainability efforts

- Establish ChipMOS' image of sustainability through winning external awards
- Develop a digital communication platform that strengthens stakeholder engagement
- Help employees foster sustainability thinking through their daily lives to achieve total promotion of ESG actions
- Assist the ESG Committee to establish a common language and grasp relevant trends through the organization of training and trend seminars
- Referring and linking to pertinent SDGs for the establishment and implementation of ChipMOS' sustainability goals

2020 — 2022

Sustainable Cultivation

Entrenchment of ESG management

- ChipMOS' ESG Reports were prepared in accordance with GRI and SASB guidelines for accreditation, along with the introduction of TCFD to address the concerns of investors and stakeholders
- Voluntary participation in the CDP questionnaire to bolster areas of internal vulnerabilities
- The Board of Directors supervisors the Company's promotion of sustainability project on a quarterly basis
- Publication of CSR Report in English
- The Board of Directors approved and announced ChipMOS "Corporate Sustainability Policy"
- Continue to take part in external awards and participated in international award for the first time in the hopes of assessing the Company's current standing from diverse perspectives

2023 — 2025

Sustainable Advancement

Bolstering sustainable competitiveness

- Continuation of green energy plan to achieve the goal of net-zero emissions by 2050
- Continuous creation of ChipMOS' sustainable values
  - By paying attention to sustainability trends and assessing current situations for the evaluation of corresponding strategies
  - By creating more opportunities for stakeholder engagement
  - By achieving specific goals for related issues
- Comprehensive improvement of sustainable competitiveness
  - Participation in sustainability awards and completion of CDP questionnaire
  - Improve corporate governance mechanism
  - Natural environment risk assessment management

2.2 Materiality Analysis

GRI 2-29, 3-1~3-3

2.2.1 Maintenance of Good Interaction and Communication with Stakeholders

Understanding the suggestions and needs of various stakeholders through specific management policies and smooth communication channels, and conducting effective communication and issue management.

Policy

Listening and communicating instantly

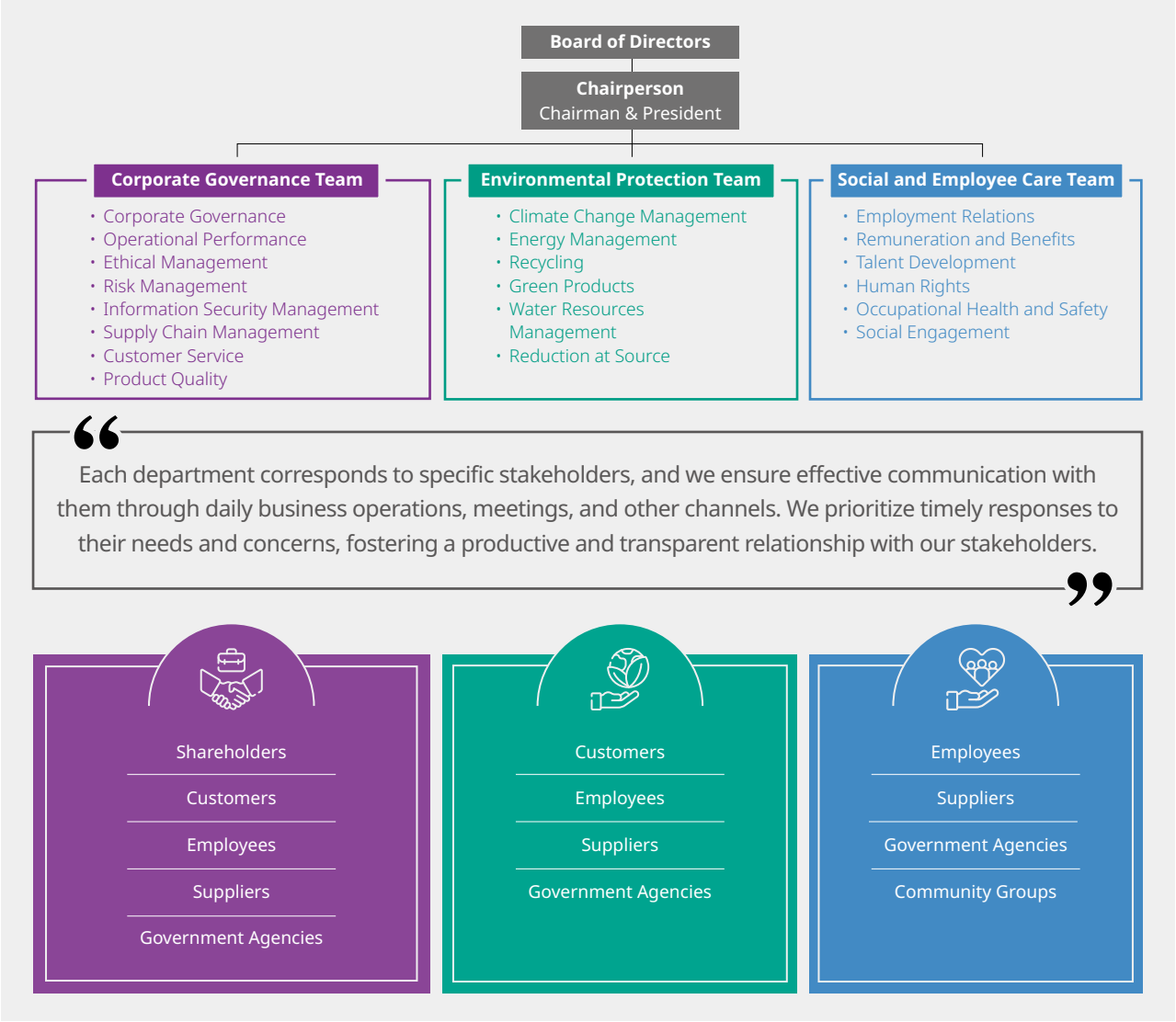
Paying attention to the voices of stakeholders and giving timely responses in appropriate manners during daily business.

Paying attention to feedback and responding clearly

Understanding the issues of concern for various stakeholders through various communication channels, conducting effective communication, and responding one by one in this Report.

Continuous sound interaction and cooperation

Maintaining smooth communication, and continuing to promote and develop various cooperation plans to jointly create a sustainable future.



2.2.2 Thorough Development of a Diversified Communication Platform

ChipMOS actively manages diverse communication platforms and regularly makes adjustments and additions to enhance user experience and meet the needs of stakeholders. By doing so, we aim to achieve effective communication that is more timely and aligned with the voices of our stakeholders.

Sustainability Influence

External

- ChipMOS website - ESG at ChipMOS
- FB - ChipMOS CSR Fan Page
- Sustainability Videos
- EMOS Intranet - Sustainable ChipMOS
- ChipMOS Sustainability Quarterly E-Paper
- ChipMOS Quarterly Publication

Internal

Sharing Information

- Sustainability trends at home and abroad
- Sustainability news/hot keywords
- ChipMOS economic, environmental and social information

Sustainability Influence

- Deeper understanding of ChipMOS
- Grasping sustainability trends
- Improving sustainability knowledge
- Influencing readers to establish correct thinking and behavior

Wonderful Sharing in 2022

Sustainability Video

In 2022, with the collective efforts from all employees, ChipMOS made significant breakthroughs in corporate governance, environmental initiatives, and social responsibility. This achievement has instilled great confidence in everyone involved and sparked a renewed drive for continuous improvement. 2022 marked ChipMOS' 25th anniversary, and the significant progress made in ESG initiatives made this year particularly meaningful for the Company. Through videos, we hope to showcase ChipMOS' 2022 ESG efforts and practices in an impactful way so that our stakeholders can gain a deeper understanding of our initiatives and progress. This approach enables us to foster meaningful and engaging dialogue with our stakeholders.

Video Information: https://youtu.be/Yos_5nhli1E

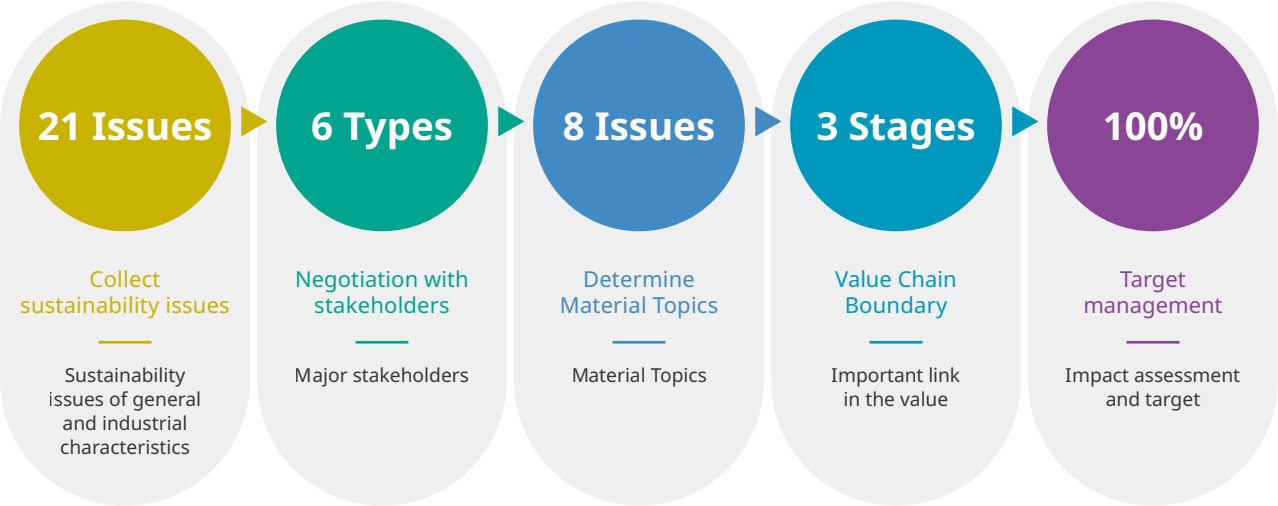


2.2.3 Analysis of Material Topics

Individual departments of ChipMOS communicated with various stakeholders through various channels in their daily business, collected and managed various issues. During our annual ESG seminar, we work with our ESG members to achieve consensus and integration. Following the GRI Standards, SASB standards and AA1000 principles (sustainability context, materiality, integrity and stakeholder inclusion), we systematically carried out the major theme analysis process: identification, analysis and confirmation. This was done to identify ChipMOS' major themes as an important basis for the formulation of sustainability management strategies and objectives.

2.2.3.1 Analysis Process

In order to make sustainability issues cover the overall operations of the Company, ChipMOS convened all members responsible for ESG development such as environment, society, governance and products to review the diversified communication results and feedback of stakeholders. After sorting and classifying the trends of industrial development and international ESG issues, 21 sustainability issues of general and industrial characteristic were finally determined. Based on the suggestions of various groups, the main stakeholders concerned were divided into six classes: stakeholders, customers, employees, suppliers, government agencies and community groups. In the third phase, we collected 376 stakeholder concern questionnaires and 86 two-way impact questionnaires. Using the matrix of issue impact and stakeholder importance, we identified 8 material topics for 2022. The fourth step examined the influence boundary of the 8 material topics, including the organization itself, upstream industries and downstream industries. Finally, target management was carried out for various material topics that could respond to the requirements of the United Nations development goals.



2.2.3.2 Stakeholder Communication

ChipMOS attaches importance to various stakeholders and firmly believes that the primary task of sustainable operations of the Company is to establish a good relationship with stakeholders and obtain more trust and support, which will effectively assist the operations and sustainable development of the Company.

We define stakeholders as "internal and external groups or organizations that will affect or be affected by ChipMOS". Through the annual ESG Committee meeting, we gather the suggestions of all members, and discuss the same according to the Company's sustainability context, industrial characteristics and practical experience, and with reference to the 5 major principles of the AA1000 SES-2015 Stakeholder Engagement Standard (SES) (Dependence, Responsibility, Influence, Diverse Perspectives and Tension), and identify 6 types of stakeholders by voting: shareholders, customers, employees, suppliers, government agencies and community groups.



Issues of Concern for Stakeholders and Communication Effectiveness

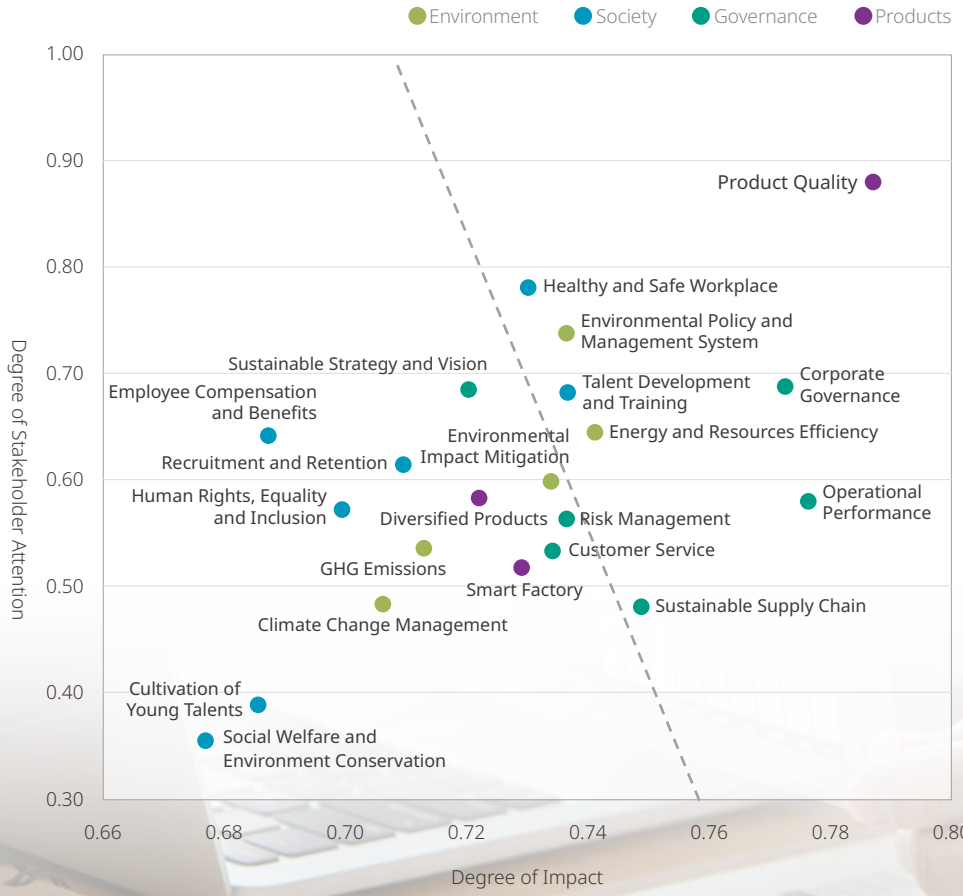
Stake-holders	Significance to ChipMOS	Main Concerns in 2022	Communication Channel and Frequency	Communication Effectiveness in 2022	Response Section
Shareholders	ChipMOS attaches importance to the rights and interests of shareholders and investors to pursue the development of sustainable operations and is responsible to shareholders and investors.	Environmental Policy and Management System Talent Development and Training Healthy and Safe Workplace Corporate Governance	Company Financial Report (quarterly) Quarterly Corporate Briefing (quarterly) Company Annual Report (annually) Annual Shareholders Meeting (annually) Market Observation Post System (irregularly) Sustainability Report (annual) Company Website and Community Website (irregularly)	• Convened a total of 10 meetings and made at least 39 significant announcements and disclosures to communicate with shareholders about the Company's development strategy and overall operations • Released over 107 message to communicate with various stakeholders about our sustainability actions and achievements through channels such as our company website and social media platforms on a sporadic basis • The average return on equity for shareholders from 2016 to 2022 was at least 10%. In 2022, the return on equity came to 13.71%	3 Sound Governance
Customers	Mutual trust and customers' recognition are the key to ChipMOS's continuous growth.	Product Quality Healthy and Safe Workplace Environmental Policy and Management System Energy and Resources Efficiency	Customer Satisfaction Survey (annually) Sustainability Report (annual) Customer Service/Quality Assurance Dedicated Window (permanent) Customer Audit (irregularly) Business Meeting (irregularly) Company Website and Community Website (irregularly)	• Passed third-party verification for standards including ISO 9001, IATF 16949:2016, ISO 26262:2018, IECQ QC080000:2017, ISO 17025 and ISO 27001:2013 Management System • The customer satisfaction survey covered various aspects such as quality, technology, hazardous substance management, delivery time, and service. All these aspects met the requirements of the customers, and the overall rating scored 4.04 out of 5, indicating high levels of satisfaction • There has been zero complaints related to cybersecurity issues	5 Customer Service and Sustainable Supply Chain
Employees	ChipMOS's core competitiveness is an important key and the biggest driver of the Company's continued operation and development.	Product Quality Environmental Policy and Management System Employee Compensation and Benefits Healthy and Safe Workplace	Production Line Meeting (monthly) Labor-Management Meeting and Welfare Committee Meeting (quarterly) Environmental Safety, Health and Energy Management Committee (quarterly) Company Publication – ChipMOS Quarterly Chairman's mailbox, employee mailbox/special line (permanent) Intranet, physical bulletin board (permanent) Chairman's talk and luncheon with shift leader (irregularly) Company website, Community Website (irregularly	• 47 Labor-Management Meetings, Production Line Meetings, Welfare Committee Meetings, Occupational Safety Meetings and monthly foreign worker meetings were held. • Chairman's Face-to-Face Talk with Employees, 4 sessions in total • Employee care interviews: A total of 751 employees were interviewed, and these include interviews with new employees, rotation interviews and project interviews • ChipMOS Quarterly, sharing relevant information of the Company and works contributed by colleagues (reading reflecting, baking, travel, pets, etc.). • Sustainability electronic newspaper, 4 issues in total, helping colleagues grasp the sustainability trend and the Company's sustainability actions	6 Inclusive Workplace
Suppliers	As important partners for long-term cooperation, we work together for stable development and sustainable operations.	Product Quality Environmental Policy and Management System Energy and Resources Efficiency Healthy and Safe Workplace	Supplier Quarterly Assessment (quarterly) Supplier On-Site Audit (annually) Sustainability Report (annual) Procurement/Quality Assurance/Training Window (permanent) Supplier Meeting and Questionnaire Survey (irregularly) Company Website and Community Website (irregularly)	• Worked with suppliers to jointly implement corporate sustainability; signed and fully followed the corporate social responsibility statement in 2022 together with a total of 265 suppliers. • Provided appropriate guidance and training to suppliers, and conducted regular written assessments and on-site visits. • In 2022, 91 suppliers conducted RBA audits, with an average compliance of 98%. • Continuously and actively encouraged suppliers to obtain certification in international standards.	5 Customer Service and Sustainable Supply Chain 6 Inclusive Workplace

Stake-holders	Significance to ChipMOS	Main Concerns in 2022	Communication Channel and Frequency	Communication Effectiveness in 2022	Response Section
Government Agencies	ChipMOS follows laws and regulations and performs relevant operations with a high degree of self-discipline and prudence, and actively participates in the plan promoted by the governments	Product Quality Healthy and Safe Workplace Environmental Policy and Management System Energy and Resources Efficiency	Market Observation Post System (regularly) Pollution Control Declaration (regularly) Sustainability Report (annual) Government Agency Audit (irregularly) Official documents, e-mails and meetings (irregularly) Company Website and Community Website (irregularly)	• Zero major violations. • Completed relevant declarations regularly in accordance with the provisions of the government and the applicable laws and regulations. • The use of raw materials was fully in line with international regulations and green product regulations • Actively responded to and participated in government promotion projects, such as: - Ministry of Labor Youth Vocational Training. and Recruitment–Talents Wanted to increase youth employment opportunities. - Green Factory Label and Green Purchasing - Coastal clean beach adoption, air quality purification area, public toilet promotion adoption programs	3 Sound Governance 4 Environment Friendly
Community Groups	Deeply understand local needs, actively cooperate with community groups and give the most sincere care.	Product Quality Sustainable Strategy and Vision Environmental Policy and Management System	Sustainability Report (annual) Employee relations/general affairs special window (permanent) Public welfare organizations (irregularly) Social engagement related activities (irregularly) Company Website and Community Website (irregularly)	• The total amount of social engagement investment came to NT$19,961,042. • Care for disadvantaged groups, a total of 38 organizations and more than 1,324 people benefited. • A total of 7,697 volunteers participated. • During the height of the pandemic, in consideration of reducing the risk of infection, the service of visually-impaired masseurs to the factory was suspended, but the salary of visually-impaired masseurs was still paid.	6 Inclusive Workplace



2.2.3.3 Analysis Results of Material Topics

After comprehensive consideration of the impact of the issues and the concerns of stakeholders, we have identified and determined 8 material topics for ChipMOS in 2022. Compared to the results of analysis from 2020, our stakeholders showed greater concern in "Energy and resources efficiency". These 8 material topics corresponded to two environmental aspects, two social aspects and, three governance aspect and one product aspect of the GRI Standards.



Description of the discrepancies in material topics for 2022 and 2021

2022	Discrepancies in degree of attention	Notes
Energy and Resources Efficiency	↑	Improvement in the degree of attention to green energy issues
Sustainable Supply Chain	↑	The importance of sustainable supply chain management has become even more evident in light of the impact of the pandemic and the changing environmental conditions.
Environmental Impact Mitigation	↓	Issues related to this material topic include water resource management and wastewater discharge management, as well as waste management and recycling. In September 2020, a process water recycling system was installed at Tainan fab., and in 2022, a process water recycling system with a capacity of 550CMD was established at Zhubei fab. These initiatives have effectively improved water efficiency and conservation
Recruitment and Retention	↓	We continue to promote talent retention and motivation through internal job rotation and incentives
Employee Compensation and Benefits	↓	We provide a competitive and fair compensation system and continuously improve various incentive measures. We also value work-life balance and strive to enhance employee well-being and job satisfaction.
Risk Management	↓	We have established comprehensive risk management measures and relevant counter-strategies

★ ChipMOS Material Topics

	Sustainability Issues	Corresponding to GRI Specific Topics	Chapters
Environment	Environmental Policy and Management System ★	(Topic chosen by ChipMOS)	4.1 Climate Governance
	Environmental Impact Mitigation	302 Energy, 303 Water and Effluents, 306 Waste	4.2 Climate Change and Energy Management 4.3 Water Resources Management 4.4 Recycling
	Climate Change Management	201 Economic Performance, 302 Energy, 305 Emissions	4.2 Climate Change and Energy Management 4.3 Water Resources Management 4.4 Recycling
	GHG Emissions	305 Emissions	4.2 Climate Change and Energy Management
	Energy and Resources Efficiency ★	301 Materials, 302 Energy, 303 Water and Effluents	4.2 Climate Change and Energy Management 4.3 Water Resources Management 4.4 Recycling
Society	Recruitment and Retention	202 Market Presence, 405 Diversity and Equal Opportunity	6.1 Attraction and Retention of Talents
	Talent Development and Training ★	404 Training and Education	6.3 Talent Development
	Healthy and Safe Workplace ★	403 Occupational Health and Safety	6.5 Healthy and Safe Workplace
	Employee Incentives and Benefits	401 Employment	6.2 Employee Incentives and Benefits
	Human Rights, Equality and Inclusion	406 Non-discrimination, 409 Forced or Compulsory Labor	6.4 Safeguarding Human Rights
	Social Welfare and Environment Conservation	413 Local Communities	6.6 Social Engagement
	Cultivation of Young Talents	(Topic chosen by ChipMOS)	6.1 Attraction and Retention of Talents
Governance	Corporate Governance ★	205 Anti-corruption, 206 Anti-competitive Behavior	3.1 Corporate Governance 3.2 Ethical Management
	Sustainable Strategy and Vision	(Topic chosen by ChipMOS)	Message from the Chairman
	Risk Management	(Topic chosen by ChipMOS)	3.3 Risk Management
	Operational Performance ★	201 Economic Performance	1.3 Operational Performance and Tax Governance
	Customer Service	418 Customer Privacy	5.1 Customer Service
	Sustainable Supply Chain ★	204 Procurement Practices, 308 Supplier Environmental Assessment, 414 Supplier Social Assessment	5.3 Supply Chain Management
Products	Product Quality ★	416 Customer Health and Safety, 417 Marketing and Labeling	5.2 Product Quality 4.5 Green Products
	Diversified Products	(Topic chosen by ChipMOS)	1.2 Main Products and Services 5.2 Product Quality
	Smart Factory	(Topic chosen by ChipMOS)	1.2 Main Products and Services 5.2 Product Quality

2.2.3.4 Boundary of Material Topics

ChipMOS examines the impact boundaries of 10 major issues from the perspective of technical services provided (display driver IC, memory and mixed-signal) and the upstream and downstream value chain. The impact categories are divided into direct cause, indirect cause, and business partnership.

● Direct cause ■ Indirect cause ▲ Business partnership

			Value Chain Boundary							
			Organization			Upstream Industry			Downstream Industry	
	Sustainability Issues	Material Topics	Display Driver IC	Memory	Mixed-Signal	Raw Materials	Equipment	Service Supply	Model	Customers
Environment	Environmental Policy and Management System	⌄	●	●	●	■	■		▲	
	Environmental Impact Mitigation		●	●	●				▲	
	Climate Change Management		●	●	●	■	■		▲	▲
	GHG Emissions		●	●	●	■	■		▲	▲
	Energy and Resources Efficiency	⌄	●	●	●	■	■			▲
Society	Recruitment and Retention		●	●	●					
	Talent Development and Training	⌄	●	●	●					
	Healthy and Safe Workplace	⌄	●	●	●	■	■	■		
	Employee Incentives and Benefits		●	●	●					
	Human Rights, Equality and Inclusion		●	●	●					
	Social Welfare and Environment Conservation		●	●	●					
	Cultivation of Young Talents		●	●	●					
Governance	Corporate Governance	⌄	●	●	●					
	Sustainable Strategy and Vision		●	●	●	■	■			
	Risk Management		●	●	●	■	■	■		
	Operational Performance	⌄	●	●	●	■	■			
	Customer Service		●	●	●	■	■		▲	▲
	Sustainable Supply Chain	⌄	●	●	●	■	■	■		
Products	Product Quality	⌄	●	●	●	■	■	■	▲	
	Diversified Products		●	●	●	■	■	■		▲
	Smart Factory		●	●	●		■			▲

2.2.3.5 Impact Management of Material Topics

ChipMOS uses the following 8 indicators to assess the impact of material topics on the Company and take mitigation measures and target management.

★ ChipMOS Material Topics ● Highly correlated ▲ Moderately correlated

	Sustainability Issues	Significance to and Influence on ChipMOS						
		Increase revenue	Reduce cost	Obtain funds/capital	Enhance customer trust	Reduce goodwill risk	Enhance cohesive force	Exert social influence
Environment	Environmental Policy and Management System ★				●	▲		●
	Environmental Impact Mitigation				●	▲		●
	Climate Change Management				●	▲		●
	GHG Emissions				●	▲		●
	Energy and Resources Efficiency ★				▲	▲		●
Society	Recruitment and Retention						●	▲
	Talent Development and Training ★	▲					●	
	Healthy and Safe Workplace ★					▲	●	●
	Employee Incentives and Benefits						●	●
	Human Rights, Equality and Inclusion				▲	▲	●	▲
	Social Welfare and Environment Conservation				▲	●		●
	Cultivation of Young Talents		▲					●
Governance	Corporate Governance ★	●	▲	●				
	Sustainable Strategy and Vision			▲	●			▲
	Risk Management				●	●		
	Operational Performance ★	▲		●	▲			
	Customer Service	●			●	●		
	Sustainable Supply Chain ★		●		●	▲		
Products	Product Quality ★	▲			●	●		
	Diversified Products	●		▲	▲			
	Smart Factory	▲	●		▲			

2.3 Sustainability Objective Management and SDGs

In accordance with the Company's ESG development direction and the results of major issues, ChipMOS focuses on 10 major SDGs to respond and set measurable and timely internal management objectives.

● Ahead of schedule ■ On track as planned ▲ More effort needed

Sustainability Issues	Goal Setting	Base Year	Middle Term: Targets in 2025	Long Term: Targets in 2030	Progress as of 2022	Achievements in 2022	Corresponding SDGs
Governance							
Corporate Governance	Corporate governance evaluation level	-	Top 20%	Top 5%	■	Top 5%	-
Sustainable Supply Chain	Average conformity of RBA audit results	-	98.5%	98.5%	■	98%	12, 17
Information Security Risk Management	ISO 27001 annual audit deficiency improvement completion rate	-	100%	100%	■	100%	-
	Operation interruption time caused by major information security incidents	-	<2 hours	<2 hours	●	No major incidents led to operation disruption in 2022	-
Ethical Management	a. Corruption incidents and violations of laws in social and economic fields	-	a. 0 case	a. 0 case	■	a. 0 case	16
	b. Conduct promotion on colleagues' professional ethics and compliance with laws and regulations by e-mail	-	b. 4 times	b. 4 times	■	b. 4 times	
	c. Completion rate of adding regulations governing professional moral conduct to suppliers' purchase contracts	-	c. ≧ 96% [Note 1]	c. ≧ 96%	■	c. 97.1%	
Customer Service	Overall Score of Customer Satisfaction	-	3.8	4.0	●	4.09	-
Risk Management	a. Number of major economic, environmental and social incidents	-	a. 0 case	a. 0 case	■	a. 0 case	-
	b. Implementation rate of the Company's risk control strategy	-	b.100%	b.100%	■	b.100%	-
Operational Performance-Organizational Strategy/ Operational Layout	a. Focus on the demand for automotive electronics	-	Maintain competitive advantages and grasp market demands	Maintain competitive advantages and grasp market demands	■	Automotive driver IC has shown steady growth in 2022	-
	b. Expand the scope of the non-TV related and non-driver related packaging and testing business	-	Expand the business scope	Continue expanding the business scope	▲	Continue to actively grasp market demands	-
Products							
Diversified Products-Product Layout	NPI success rate	-	95%	95.5%	●	96.7%	-
Smart Factory	Production efficiency improvement	2020	1.0%	1.5%	●	Machinery production efficiency: the efficiency of the automated areas is higher than that of non-automated areas by approximately 1.5~2%	12
Product Quality	Passing third-party ISO 9001/IATF 16949/ISO 17025 certification	-	100% fab	100% fab	■	100% fab	12
	Third-party QC-080000 certification	-	Passed	Passed	■	Passed	12
	Number of customer complaints about abnormal hazardous substances in products	2020	0 case	0 case	■	0 case	12
	Procurement of non-conflict minerals and raw materials	-	100%	100%	■	100%	12
	Process Improvement Team (PIT) proposal achievement rate	-	100%	100%	■	100%	12

Note 1: Considering that certain contracts with suppliers are standardized and cannot be modified, and that the inclusion of additional clauses related to Regulations Governing Professional Moral Conduct aims to encourage suppliers to voluntarily comply, the target for adjustment has been reduced from 100 to a minimum of 96% compliance. This allows for gradual implementation in collaboration with the suppliers.

Sustainability Issues	Goal Setting	Base Year	Middle Term → Long Term: Targets in 2025	Targets in 2030	Progress as of 2022	Achievements in 2022	Corresponding SDGs
Environment							
Recycling of Packaging Materials	Recycling rate of carton and rubber bands	2019	6%	10%	●	6%	13
Water Resources	Tainan fab. water recovery in the process ≥25% of tap water consumption	-	30%	35%	▲	15.1% (Attributed to the reduction of process water)	6
Energy and Resources Efficiency	Company-wide power conservation rate	2018	5%	10%	●	Accrued power conservation rate for 2019~2022 came to 5.12%	7, 13
Society							
Recruitment and Retention	a. Implementation rate of RBA internal management objectives	-	a.100%	a.100%	■	a. Hsunchi fab. and Zhubei fab. scored 187 and 187.1 respectively in the RBA VAP for 2022	8
	b. Renewal rate of foreign workers	-	b.80%	b.83%	■	b.75.6%	
Human Rights, Equality and Inclusion	a. Proportion of disadvantaged people in posts for employees with physical and mental disabilities	-	a.50%	a. 50%	■	a.42.31%	8
	b. Continuous inclusion and protection of diversified employees	-	b. Continuous employment of foreign spouses and evaluation of employees from diverse groups and employment types	b. Continuous employment of foreign spouses and evaluation of employees from diverse groups and employment types	■	b.The Company's current workforce includes employees with foreign spouses, foreign employees, and the disabled	
Cultivation of Young Talents	Expand and maintain internship cooperation opportunities	-	Continue expanding and maintaining internship cooperation	Continue expanding and maintaining internship cooperation	■	National Formosa University has been added as a new collaborating school in 2022	8
Healthy and Safe Workplace-Health Management	a. Better than the annual employee health check rate as specified by laws and regulations	-	a.99.5%	a.99.5%	■	a.99.6%	3
	b. Completion rate of the implementation of grading management for abnormal health checks	-	b.100%	b.100%	■	b.100%	
	c. Number of health promotion activities conducted	-	c.35 events	c.38 events	▲	c.29 events	
Employee Incentives and Benefits	a. Growth rate of employee participation in employee welfare activities Note 2	2019	a.5%	a.5%	▲	a.-52% (Affected by COVID-19)	8
	b. Proportion of job balance activities	-	b.≥ 25%	b.≥ 25%	■	b.31%	
	If there is any profit in the year, 10% shall be set aside as employee compensation	-	10%	10%	■	10%	8
	Rate of basic conditions in the basic salary and compensation for men and women	-	1:1	1:1	■	1:1	8
Social Welfare and Environment Conservation	Environmental Awareness/Public Welfare Practice Activities	-	≥18 events/year	≥18 events/year	●	24 events/year	3, 4, 11
	The number of volunteers increased by 5% compared to the benchmark year	2018	5%	5%	▲	-73.9% (Affected by COVID-19)	-
Talent Development and Training	Success rate for internal transfer coordination	-	60%	70%	■	61%	4
	Internal talent promotion rate	-	60%	70%	▲	46%	4
	Rate of annual training plan courses adopting diversified training modes	-	60%	75%	■	60%	4

Note 2: The medium to long-term goal for employee participation in welfare programs is to achieve a growth rate of 5% every 5 years, with the baseline year set as 2019, continuing from the target set in 2021.

2.4 Sustainable Value Management

ChipMOS's sustainable value management mode takes 6 types of capital (Finance, Intelligent, Manufacturing, Nature, Human and Social) as resource inputs. Through the core operation and management foundation of the Company, ChipMOS faces the upstream, self-operation and downstream stages of ChipMOS's value chain and all ChipMOS stakeholders, continuously creates value and achieves a balance in economic development, environmental protection and social activities. For more corresponding targets of SDGs, please refer to Appendix 5 SDGs Index.

ChipMOS Sustainability Vision → **[Input] 6 types of capital** → **[Process] Core operation and management**

- Steady and healthy corporate governance to ensure shareholders' rights and interests
- Leader of semiconductor packaging test service technology
- Establish long-term partnerships with customers
- Practice green production and green processes
- Cherish the value of employees and cultivate internal elites
- Focus on public welfare investment and actively cooperate with local governments

Financial Capital

Sound financial management is the key basis for maintaining the daily operation of the organization and providing product manufacturing and services.

- ChipMOS Capital: NT$ **7.27** billion

Intellectual Capital

Accumulate experience and technology in the field of semiconductor packaging and testing, and continuously invest in innovative R&D and patents.

- R&D funds: NT$ **1.16** billion

Manufacturing Capital

Maintain manufacturing equipment and plant related settings, and provide products and services that meet customer needs.

- Cost of adding and maintaining plant and equipment: NT$ **4,699,369,000**

Natural Capital

Gradually improve the effective use of energy resources, and promote the maximization of benefits through source input management and waste reduction.

- Cost of energy-saving actions: NT$ **27,055,000**
- Cost of water resource management NT$ **77,823,100**
- Cost of waste management: NT$ **26,019,300**
- Cost of air pollution prevention and control: NT$ **11,979,000**

Human Capital

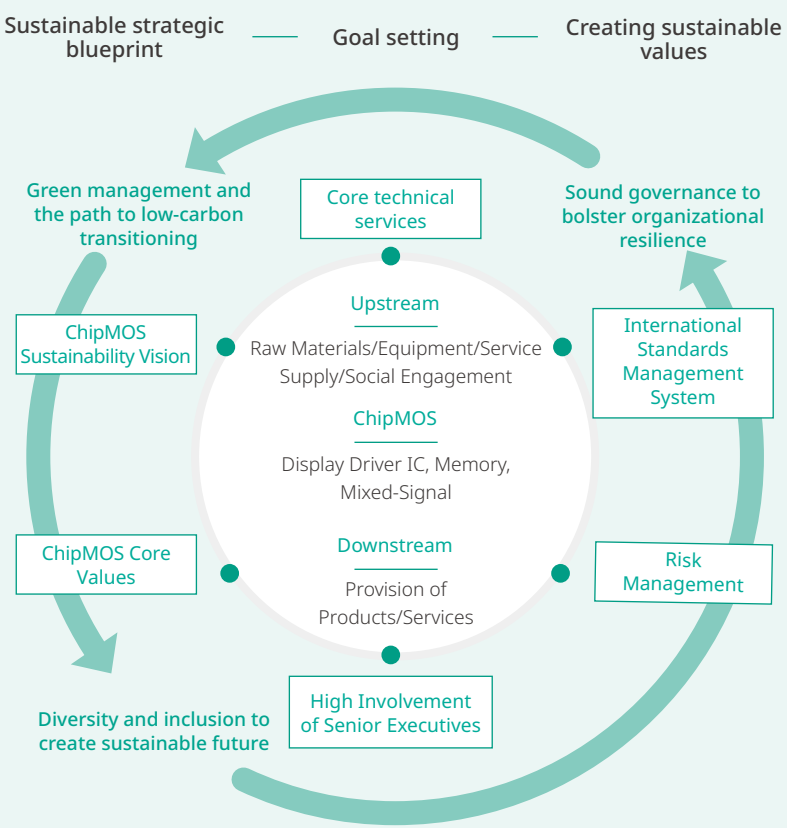
Attracting high-quality talent and strengthening talent cultivation have become the key capital of the core competitiveness of enterprises.

- Employee salary and welfare expenses: NT$ **6.47** billion

Social Capital

ChipMOS maintains long-term partnerships with stakeholders, and gives back to society and exerts social influence through social engagement.

- Total investment in social engagement: NT$**19,961,042**



[Output] Sustainability performance

Financial Capital

Consolidated Revenue: NT$ **23.52** billion
Consolidated After-Tax Surplus: NT$ **3.37** billion
Return on Equity: **13.71%**
Response Section: Operational Performance

Intellectual Capital

Valid patents: **612** items
R&D trademark rights: **53** items
Response Section: Main Products and Services

Manufacturing Capital

Total output value: NT$ **18,491,604**
Response Section: Operational Performance

Natural Capital

Energy Saving Rate **1.17%**
Energy saving plan, emissions reduced by **2,871** metric tons CO_2e
Total water intake reduced by **1.7%**
Wastewater discharge reduced by **5.95%**
Response Section: Environmental Friendly

Human Capital

Headcount: **5,302** persons
Employee average Monthly Turnover Rate: **1.14%**
Training Hours per Employee: **105.64** hours
Response Section: Attraction and Retention of Talents, Talent Development

Social Capital

Income tax payment: NT$**1,353,195,000**
Social Influence: **38** organizations benefited and **1,324** people directly benefited
Response Section: Social Engagement

[Impact] Value creation of ChipMOS

Leading Brands

- **No. 2 in the World** – Display Driver IC assembly test capacity
- **Excellent Quality** – High tech and highly trusted packaging and testing solutions

Corporate Governance

- **Board of Directors Functions** – Implement the Board of Directors diversity policy and implement the Board of Directors performance evaluation mechanism
- **Transparent Information Disclosure** – More than 107 public messages

Customers Come First

- **Product Quality** – The entire fab passes 4 quality related management systems
- **Customer Satisfaction** – Overall score: 4.04 (out of 5)

Supply Chain Partners

- **Support Local Procurement** – The proportion of local procurement expenditure is 57%
- **Sustainable Growth** – Drive suppliers should purchase 100% of non-conflict minerals

Environmental Sustainability

- **Reuse of Water Resources** – Nearly 4,546 international standard swimming pools have been saved in recovered water over 15 years
- **Energy Saving and Carbon Reduction** – 24 energy-saving projects, with a total carbon reduction of 2,871 tonnes CO_2e

Friendly Workplace

- **Protect Labor Rights and Interests** – 100% compliant with human rights and laws and regulations
- **Salary and Benefits** – Continuously optimizing the salary level of all staff
- **Employees Demonstrating Strengths** – The average training and learning hours of each employee are 105.64 hours
- **Healthy Workplace** – Employee health examination is implemented every year, which is superior to the diversified screening items in the industry (31 items in total)

Social Integration

- **Collaborate with Schools/Institutions** – 38 institutions that benefited directly
- **Expand Influence** – Continuously implement the environmental protection plan, with the participation of suppliers

CHAPTER

03 Sound Governance



8 DECENT WORK AND ECONOMIC GROWTH

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Mid- and Long-term ESG Goals

Governance

	Mid-term (2025)	Long-term (2030)	Outcomes (2022)
Corporate Governance	Top 20% in the Corporate Governance Evaluation	Top 5%	Top 5%
Ethical Management	Zero corruption incidents and violations of laws in social and economic fields	0 case	0 case
Risk Management	Zero major economic, environmental and social incidents	0 case	0 case

* For more details on our governance, please refer to 2.3 Sustainability Objective Management and SDGs
*For details on the concrete actions taken and outcomes on each issue, please refer to the contents of this chapter

Management Policy

Policy

Fulfill the responsibility of corporate management, protect the interests of shareholders and related stakeholders; comply with laws and regulations and ethical corporate management while actively prevent the unethical conducts; establish the risk control mechanism and maintain the stable corporate operation

Commitment

On the foundation of the core values, strictly abide with the ethics and insist the transparent operation; establish the effective supervisory mechanism and continuously improve the corporate competitiveness and sustainable operations

Resources

- Board of Directors, Operational Management
- Functional committees, ESG Committee and Information Security Management Committee

Specific Actions

- Implementation of diversification by the Board of Directors
- Board of Directors Performance Evaluation
- Ethical Management and Promotion of Legal Compliance
- Routine Implementation of Risk Identification Assessment and Management
- Promotion of Cybersecurity Awareness and Training to Bolster Employee Awareness

Evaluation Mechanism

- Supervision and Evaluation by Competent Authorities
- TWSE Corporate Governance Evaluation
- Internal Audit and Customer Audit
- Sustainability evaluation by investment institutions

3.1 Corporate Governance

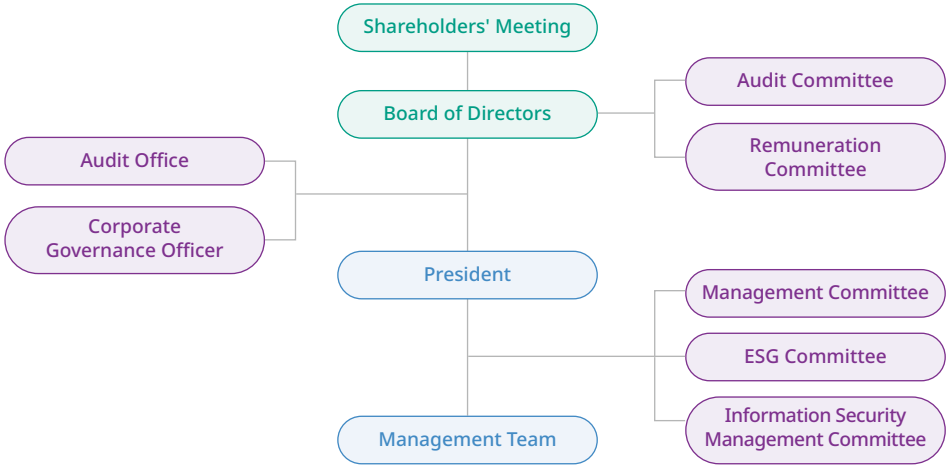
GRI 2-9~2-20, 405-1

3.1.1 Governance Organization

ChipMOS follows the "Articles of Incorporation" and "Corporate Governance Best Practice Principles" and relevant laws and regulations, formulates the corporate governance structure, establishes a good corporate governance system, abides by laws and regulations, and operates in good faith to ensure the steady operation and growth of the Company. ChipMOS strengthens the supervision and management of the Company's operation through the Board of Directors, strives to protect the rights and interests of shareholders and other stakeholders, actively communicates and interacts with stakeholders, continuously improves information transparency and implements sustainable corporate development, which are the main priorities for development promoted by corporate governance.

In 2023, according to the results of the ninth corporate governance evaluation announced by the Taiwan Stock Exchange, ChipMOS has been ranked among the top 5% of all TWSE-listed companies, and 11-20% of all electronics companies with market cap above NT$10 billion. ChipMOS will continue strengthening corporate governance management, including safeguarding shareholders' rights and interests, strengthening the operation of the Board of Directors, strengthening internal control risk management, improving information transparency, and implementing sustainable development, so as to actively improve the level of corporate governance and allow stakeholders to understand the effectiveness of the implementation of various policies.

Corporate Governance Organizational Structure





3.1.2 Giving Full Play to the Functions of the Board of Directors

Diversity	Member composition in the Board of Directors
>50%	Seats of independent directors
33%	Proportion of female directors better than the average proportion of TWSE-listed companies of 14%
98%	Board Meeting - Attendance rate of all directors in person
100%	Shareholders' Meeting - Attendance rate of all directors in person
Excellent	Result of external evaluation of the Board of Directors performance

Board of Directors

The ChipMOS Board of Directors is the highest governance authority and major business decision-making center of the Company. It is responsible for guiding the Company's strategy, supervising the management and the planning and implementation of the Company's sustainable development, and exercising its powers in accordance with the Articles of Incorporation and relevant laws and regulations, in order to ensure that the Company complies with various laws and regulations. It is responsible to the Company and the shareholders' meeting.

The ChipMOS Board of Directors has 9 directors with a term of office of 3 years. The election method of the directors (including independent directors) adopts the candidate nomination system, and directors are elected through a fair, impartial and open election process. The Board of Directors has 5 independent directors, accounting for 56% of all directors, and follows relevant laws and regulations to judge and evaluate the independence of independent directors. Three female directors (including 2 independent directors), accounting for 33% of all directors, which is higher than the average percentage of 14% female directors of the board of directors of TWSE-listed companies. In order to maximize the value of the Company, we must fully grasp the operation information and conditions, so as to increase the operational efficiency and make decision-making more smoothly. The Chairman of the Company is also the President.

In principle, the Board of Directors shall meet at least quarterly. In case of emergency or at the request of more than half of the directors, the Chairman may convene it at any time. In 2022, the Board of Directors held 6 meetings. 98% of the directors attended the meeting in person, effectively fulfilling their supervision function. Its operation and implementation were not corrected by the competent authority in 2022.



Implementation of diversification by the Board of Directors

The ChipMOS Board of Directors members have diverse backgrounds and are composed of members with rich industrial operation experience and academic experience, including professional backgrounds in business management, electrical engineering, electronics, financial and accounting, law and etc. The ChipMOS Board of Directors has 9 directors, including 5 independent directors (accounting for 56% of all directors), and complies with relevant laws and regulations for the judgment and evaluation of the independence of independent directors. The average term of office of all directors is 7 years. Among them, the term of office of independent directors is less than 3 years for 3 seats, 3-9 years for 1 seat, and more than 9 years for 1 seat. The term of office of more than half of independent directors does not exceed three consecutive terms. ChipMOS has 2 directors that concurrently serve as managers of the Company, accounting for 22% of all directors, no more than one-third of the number of directors. In addition, ChipMOS pays attention to gender diversity in the composition of the Board of Directors. Among these 9 directors, there are 3 female directors, accounting for 33% of all directors. The Company's implementation of the Board of Directors member diversification policy and its implementation are also disclosed in ChipMOS Annual Report and on the ChipMOS website.

Specific Management Objectives and Achievement of the Diversity Policy

Management Objectives	Achievement
Independent Directors form the majority of all Directors.	✓
Number of female Directors reach one-third of all Directors.	
Number of Directors who concurrently serve as Company managerial officer do not exceed one-third of all Directors.	

Board of Directors Members' Continuing Education

Every director at ChipMOS duly complies with legal requirements by engaging in continuous education on a yearly basis. In 2022, the total number of educational hours reached 95 hours, marking a significant 44% increase compared to the previous year's total of 66 hours. Directors also actively participate in training courses focused on corporate social responsibility and sustainable development. Notably, the total annual hours dedicated to sustainability-related courses by directors have risen from 27 hours to over 46 hours in the past two years. This commitment ensures that directors possess the necessary knowledge and skills to make informed decisions and provide effective oversight in areas encompassing the economy, environment, and society. The status of continuing education for board members in 2022 can be found on ChipMOS website.

Implementation Status of Diversification in The Composition of The Board of Directors

				Age (year)			Professional Knowledge and Skills							
Name	Position	Gender	Employees Identification	51-60	61-70	71-80	Management Administration	Risk Management / Crisis Management	Industry Knowledge	Leadership / Decision - making Capacity	Sustainability	Accounting and financial analysis	Legal	Sales / Marketing
Shih-Jye Cheng	Chairman	Male	●		●		●	●	●	●	●	●		●
Kun-Yi Chien	Director	Male			●		●	●	●	●	●			
David Chang	Director	Male		●			●	●	●	●	●			●
Silvia Su	Director	Female	●	●			●	●	●	●	●	●		
Chin-Shyh Ou	Independent Director	Male			●		●	●	●	●	●	●		
Kuei-Ann Wen	Independent Director	Female			●		●	●	●	●	●			
Hui-Fen Chan	Independent Director	Female		●			●	●	●	●	●		●	
Yeong-Her Wang	Independent Director	Male			●		●	●	●	●	●			
Hong-Tzer Yang	Independent Director	Male			●		●	●	●	●	●			

Note: please refer to the ChipMOS Annual Report (3. Corporate Governance Report), ChipMOS website or the Market Observation Post System for the introduction and attendance of the members of the Board of Directors.

Board of Directors Performance Evaluation

To enhance corporate governance and improve the effectiveness and efficacy of the Board of Directors, ChipMOS conducts annual evaluations of the board as a whole, individual directors and functional committees in accordance with the "Performance Evaluations Polices for the Board of Directors". The performance evaluation results of the Board of Directors, individual board members and functional committees are all "exceeding standards" in 2022. The findings were reported to the Board in 2023 Q1. Apart from the Company's internal self-evaluation, an external professional team was engaged in 2022 to conduct a performance evaluation of ChipMOS' Board of Directors. The evaluation resulted in an "excellent" rating, indicating that the Board has established policies and procedures in accordance with laws and domestic corporate governance standards in all aspects. The evaluation also recognized the effective functioning of the Board and its various committees in fulfilling their respective roles and responsibilities. For more information on Board of Directors' performance evaluation and status of implementation, please refer to ChipMOS website - Corporate Governance section.

In light of the Company's future development strategy and corporate governance objectives, the 2022 Board of Directors' performance evaluation included new ESG sustainability-related items. These items encompassed the management policies and execution of sustainable development (ESG) by the company's management team, as well as the identification of relevant ESG risks and the potential strategies to address them. This addition aimed to enable the Board to have a more comprehensive understanding and oversight of ESG-related matters and to guide the deliberation and execution of decisions pertaining to sustainable development.

External performance assessment

Interview highlights

- Composition and structure of the board of directors
- Participation in the operation of the Company
- Improvement of the quality of the board of directors' decision making
- Internal control
- Operation of functional committees
- Sustainable development

2022 external performance evaluation result: **"Excellent"**

Internal performance evaluation

self-evaluation indices

Board Performance Evaluation

1. Participation in the operation of the Company (Including supervision of the planning and implementation of the Company's sustainable development)
2. Improvement of the quality of the board of directors' decision making
3. Composition and structure of the board of directors
4. Election and continuing education of the directors
5. Internal control

Board Member Performance Evaluation

1. Alignment of the goals and missions of the Company
2. Awareness of the duties of a director
3. Participation in the operation of the Company
4. Management of internal relationship and communication
5. The director's professionalism and continuing education
6. Internal control

Functional Committee Performance Evaluation

(Audit Committee and Remuneration Committee)

1. Participation in the operation of the Company
2. Awareness of the duties of the functional committee
3. Improvement of quality of decisions made by the functional committee
4. Composition of the functional committee and election of its members
5. Internal control

Result of self-evaluation of the Board of Directors in 2022: **"Exceeding standards"**



Audit Committee

Organization

- Established on June 28, 2007.
- The < Audit Committee> Charter was formulated with the approval of the Board of Directors.
- Members of the Committee: it is composed of all independent directors, and at least one person should have accounting or financial expertise.

Chin-Shyh Ou, Independent Director (Convener)
Yeong-Her Wang, Independent Director
Kuei-Ann Wen, Independent Director
Hong-Tzer Yang, Independent Director
Hui-Fen Chan, Independent Director

Main Responsibilities

- Assist the Board of Directors in performing supervision duties.
- Exercise the functions and powers prescribed by the Company Act, the Securities and Exchange Act and relevant laws and regulations.
- Supervise the effective implementation of internal control.
- Review major asset or derivative transactions, capital loans, endorsements or guarantees, and matters involving the interests of the directors.
- Appointment, dismissal, remuneration, independence and performance evaluation of the CPAs.
- Appointment and removal of the Financial, Accounting or Internal Audit Officer.
- Supervise and audit the proper expression of the Company's financial statements.
- Supervise the Company's compliance with relevant laws and regulations and the management and control of existing or potential risks of the Company.

Implementation Status

- Convened a meeting at least once quarterly and fully communicate with the Company's internal audit unit and CPAs.
- 5 Audit Committee meetings were held in 2022. The average attendance rate of the independent directors was 96%.
- The attendance of each independent director at the meeting is disclosed in the ChipMOS Annual Report.

Remuneration Committee

Organization

- The <Remuneration Committee Charter> was approved by resolution of the Board of Directors, and Established on March 29, 2012.
- Membership of the committee: Formed by 3 Independent Directors

Yeong-Her Wang, Independent Director (Convener)
Chin-Shyh Ou, Independent Director
Kuei-Ann Wen, Independent Director

Main Responsibilities

- Formulate and regularly review the policies, systems, standards and structures of the performance and remuneration of the directors and managers.
- Regularly evaluate the achievement of the performance of the directors and managers, as well as determine the individual salary content and amount based on the evaluation results obtained from the performance evaluation standards.

Implementation Status

- Reviewing the results of the Board's performance evaluations and assessing the achievement of directors' and managers' performance goals.
- Determine the remuneration packages with reference to the industry's salary levels.
- Total of 5 meetings were convened in 2022.
- The attendance of 3 independent directors at the meeting are disclosed in the ChipMOS Annual Report

Managers' Remuneration and Linking to ESG Performance

The Remuneration Committee and the Board of Directors regularly evaluate and review the performance and remuneration adequacy of directors and managers. In addition to factoring in industry salary levels, individual performance achievements, and contributions to the company, they also take into account the overall operational performance of the company, future industry risks, and development trends to provide reasonable compensation. The Company's independent directors are paid monthly and do not participate in the distribution of annual directors' remuneration. The compensation for executives includes fixed pay and variable pay. The variable pay includes a "performance bonus plan" that is based on the company's annual business performance, financial condition, and individual performance. The performance evaluation for executives takes into account not only job-related performance but also includes indicators related to financial performance, internal operations, technical research and development, and customer management.

Starting from 2022, additional key performance indicators (KPIs) for sustainable development have been introduced to strengthen the implementation of ESG practices. Overall, the personal goals of executives are closely aligned with the Company's long-term and short-term business goals and shareholder interests, making sustainable business operations a common goal for the organization. The remuneration of directors and executives for 2022 was reviewed by the Remuneration Committee and submitted for approval by the Board of Directors. For more information on relevant compensation and remuneration policies, please refer to ChipMOS' Annual Report for 2022.



Corporate Governance Officer

ChipMOS has set up its Corporate Governance Officer in accordance with the laws. Its main duties are to handle matters related to the Board of Directors and the shareholders' meeting in accordance with the laws, prepare minutes of the Board of Directors and the shareholders' meeting, assist the directors in taking office and continuing education, provide information necessary for directors to perform business, and assist the directors in complying with laws and regulations, etc. In 2021, after approval, Vice President Ms. Silvia Su of the Finance & Accounting Management Center of the Company was appointed to serve as the Corporate Governance Officer to assist the operation of the Board of Directors. Her qualifications meet the requirements of ChipMOS "Corporate Governance Best Practice Principles", and she has completed professional training each year in accordance with regulations. For information on the corporate governance operations and continuing education of the Corporate Governance Officer, please refer to ChipMOS website - Corporate Governance Section.

Internal Audit

ChipMOS has established "Audit Office" as a special unit under the Board of Directors, which is responsible for inspecting the implementation of the Company's internal control system, and providing internal control consultation and improvement suggestions. The appointment and removal of the audit supervisor is approved by Audit Committee and the resolution of the Board of Directors. The performance assessment of the audit supervisor is determined by the Chairman, and the compensation recommendations are proposed by the Remuneration Committee and decided by the Board of Directors. The appointment, assessment, and compensation of other internal auditor are approved by the Chairman upon the report of the audit manager. The Audit Office reports the implementation of internal control to the Board of Directors and the Audit Committee at least once a quarter. In 2022, it reported 6 times to the Board of Directors and 5 times to the Audit Committee. We also discussed internal control and related issues with the independent directors through email and meetings, and held 1 meeting in 2022. For the communication between independent directors and the internal audit supervisor and accountants, please refer to ChipMOS website - Corporate Governance Section and ChipMOS Annual Report.

3.2 Ethical Management

GRI 2-25, 2-26, 205-1~205-3, 206-1, TC-SC-520a.1

3.2.1 Policies and Norms

ChipMOS is committed to adhering to the principles of "honesty and integrity" when engaging in all business activities, strictly abiding by government laws and regulations and implementing laws and regulations, and adhering to five aspects: corporate governance, securities laws and regulations and insider trading, protection and fair competition of intellectual property rights, environmental protection, safety and health laws and regulations, and labor laws and regulations. Through this, ChipMOS can maintain the Company's reputation, abide by business conduct and ethics, and engage in business activities based on the principles of fairness, honesty, trustworthiness and transparency, and implement the ethical management policy and actively prevent dishonest behavior.

In order to strengthen corporate governance and improve the internal control mechanism, the "Regulations Governing Professional Moral Conduct", "Code of Ethics Conduct" and "Procedures for Ethical Management and Guidelines for Conduct" are formulated to declare and require all employees to follow the same, and promote the core values of honesty, integrity and responsibility to all employees through various specific actions.

3.2.2 Implementation

100%

- Complete anti-corruption risk assessment for all operating sites
- All directors sign the integrity management policy statement, and senior executives sign the Regulations Governing Professional Moral Conduct
- Ethical integrity, professional ethics and compliance with relevant regulations is promoted to all employees
- Each newcomer shall sign the Letter of Commitment to the Regulations Governing Professional Moral Conduct when coming on board

Reporting and Protection

- Formulate the protection system for whistleblowers of fraud, encourage employees to contact the Audit Committee or President anonymously if they find that there are unethical and improper behaviors in the Company, take appropriate protective measures to protect whistleblowers, and prohibit managers from taking adverse personnel punishment against former employees. If a whistleblower is punished by adverse personnel punishment, the Audit Committee may order the Company to take measures such as restoring their original position or providing compensation.
- Set up an "Audit Committee Opinion Box" (Audit_committee@chipmos.com) independent of the management team, so that employees, customers and third-party manufacturers can directly report to the Audit Committee and appeal and report illegal and improper events o ⊤ r damages to their own rights and interests. 0 whistle blowing events reported in 2022.
- In 2022, there were 0 corruption events, no legal anti-competitive behavior, antitrust and monopoly, and no violations of laws and regulations in social and economic fields.

Risk Assessment and Advocacy Actions

- According to the corruption risk assessment of all ChipMOS operating sites, no significant risks were found in 2022.
- All 9 directors have signed the Ethical Management Policy Statement, and all senior executives have signed the Commitment to Professional Ethical Conduct.
- The relevant policy documents are available on the Company's internal website for all employees to consult at any time.
- In 2022, all 525 newcomers have signed the Regulations Governing Professional Moral Conduct
- Conducted relevant education and training on professional ethics and compliance with laws and regulations in the form of physical/online courses or e-mail:
  - The Company has issued four promotional letters to all employees
  - RBA Code of Conduct course had a total of 64 participants and 256 person hours.
  - A total of 430 employees participated in the education and training for newcomers (including RBA courses), with a total of 356.9 person hours.

Joint compliance with suppliers.

- The ChipMOS e-Commerce Platform establishes the terms and conditions of the Regulations Governing Professional Moral Conduct and the notice of reporting mailbox, so that suppliers can immediately know the above information to facilitate reporting.
- In order to implement the ethical management policy, when signing purchase contracts with suppliers, it is explicitly required to add the terms and conditions of the Regulations Governing Professional Moral Conducts, and inform that illegal and improper events of the Company's personnel are reported or sent to the reporting mailbox, and the legal effects of violations, thus preventing improper gifts or business entertainment from violating the requirements of the Regulations Governing Professional Moral Conduct, and to jointly abide by the responsibility for following the Regulations Governing Professional Moral Conduct with suppliers. The achievement rate of adding the terms of professional ethics to procurements contract in 2022 was 97.1%, an increase of 4% compared to that of 2021. We shall continue promoting the provision of the Regulations Governing Professional Moral Conduct in procurement contracts in a way that allows for gradual implementation in collaboration with the suppliers.



3.3 Risk Management

102-11

3.3.1 Risk Management Strategy

With the development of society and the progress of science and technology, facing the changes of the environment and climate, the opening of markets and the frequent occurrence of network attacks, the fluctuation degree of various changes in the operation process increased leading to greater risks for operations. The Company must face the necessity and urgency of risk management. In view of this, ChipMOS has formulated the "Risk Management Policies and Procedures", which has been approved by the Board of Directors, to specify the scope and organization of the Company's risk management, so as to strengthen corporate governance and establish an effective risk management mechanism.

The risk management scope of ChipMOS covers all kinds of risks faced in the process of operation activities, including operational risk, climate change risk, information security risk, financial risk, supply chain risk and legal compliance risk. For relevant ESG potential risk factors, e.g. the influence of finance, operations and reputation), control degree, etc., defines the priority and risk level of risk control through quantitative evaluation, and adopts corresponding risk management strategies according to the risk level, so as to promote the steady and healthy operation and sustainable development of the Company.

In addition, the Company also pays great attention to the usual risk announcements. For example, a special area for reporting professional ethics and ethical management is set up on the official website to report any suspicious behavior or compliance risk that may violate the Regulations Governing Professional Moral Conduct or the Procedures for Ethical Management and Guidelines for Conduct of ChipMOS. Also, the operation instructions related to personnel safety and health events and the Contingency Event Procedure stipulate the notification process of daily personnel safety and health events or accidents and the disposal process of operation emergencies.

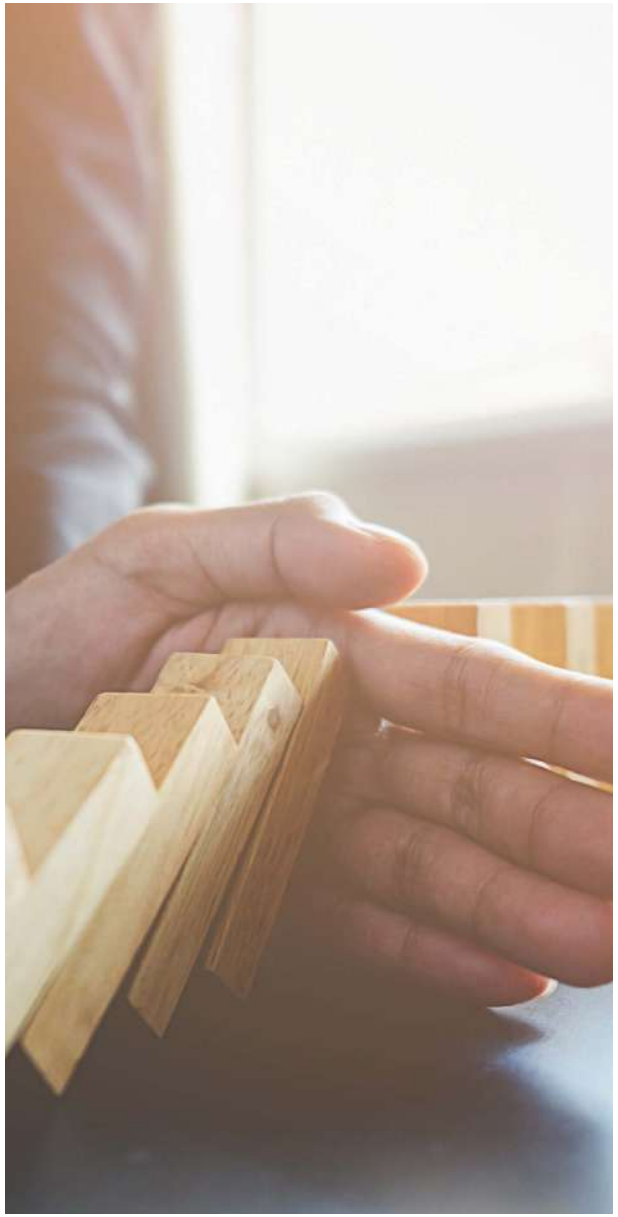
Risk Analysis and Identification	Annual risk assessment: define high, medium and low risk levels according to occurrence and impact degree.
Analysis of Operational Impact	Identify potential losses and impacts and quantify the impact of losses.

Risk Control Strategy	Formulate the implementation policy and control strategy according to the risk identification results. Establish an incident handling mechanism, such as a "contingency plan", "recovery plan" and "recovery confirmation" of the affected system.
Continuous Operation Management	Carry out risk scenario drills, such as key equipment failure, information security abnormalities, manpower shortage and other events. If potential risks are found in the drill, they will be continuously improved and tracked and used as a reference for the next emergency drill.

Risk Management Organization Structure

ChipMOS has set up the risk management team as the responsible unit, responsible for the implementation of risk management, with the first level supervisor as the convener to promote the financial, strategic, operational and disaster aspects of various risk management units, including operation and manufacturing, information technology, human resources, financial accounting, procurement materials, legal affairs, etc. Each risk management unit assigns a department-level or higher executive, who annually conducts a quantitative assessment of potential risks based on identification, analysis, and evaluation processes. This assessment includes evaluating the frequency, impact, and control level of potential risks. The units also follow prescribed procedures and carry out necessary operations and risk management tasks. The Audit Office shall audit business units on a regular basis to ensure proper implementation of risk control measures in accordance with the company's internal controls and audit plans, thus ensuring that the involved risks are within acceptable limits and continuously monitored.





Operation of Risk Management

A total of 48 potential risk factors were identified in 2022. On August 4, 2022, the ChipMOS risk management team reported the risk environment, risk management priorities, risk assessment and response measures faced by the Company in the board meeting.

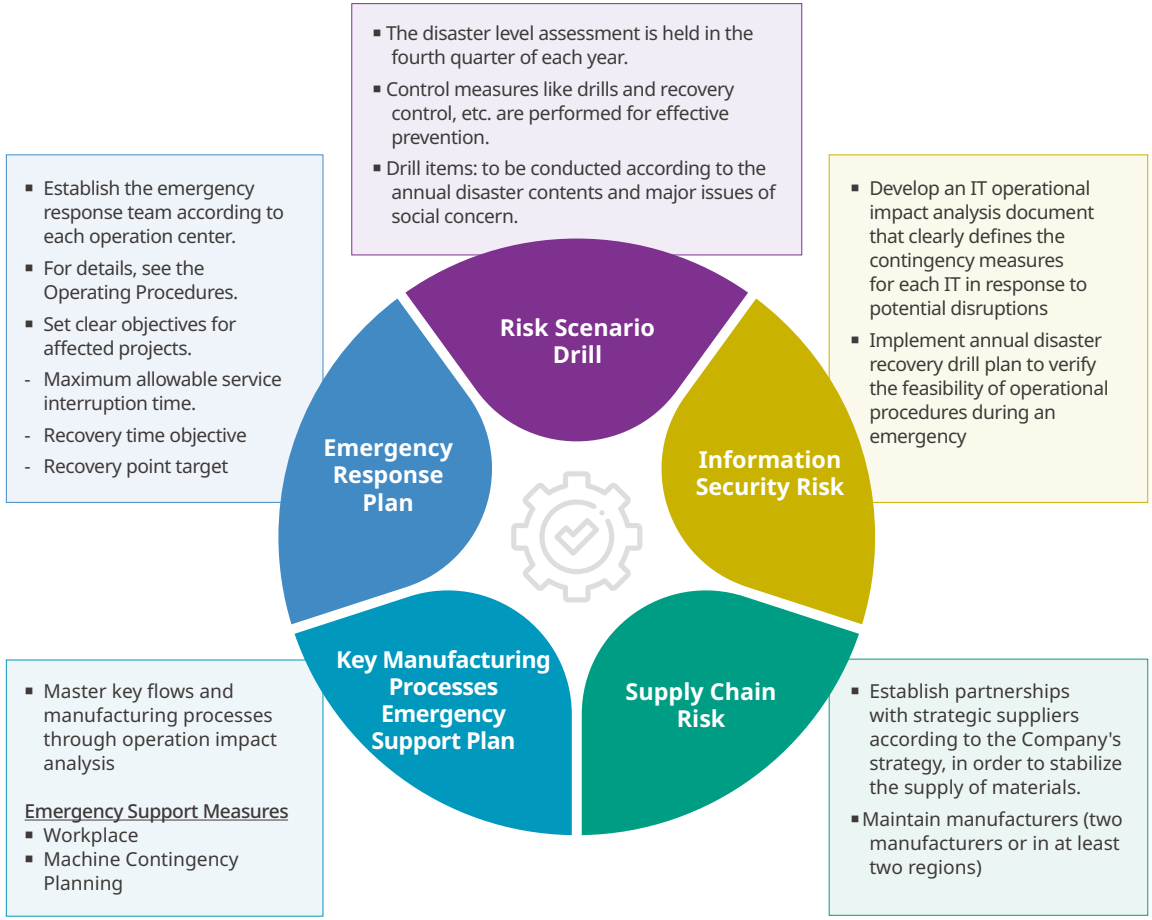
Risk Category		Potential Risk Factors	Linking 2022 Material Topic	Control Strategies and Practices
Environment	Climate Change Risk	Renewable Energy Regulations (Use of green power)	Environmental policy and management system	➡ We have set a target to install a green energy capacity of 6,990.45 kW, in accordance with legal requirements. This project is expected to be completed by 2024 Note: Climate change risks are managed in accordance with the TCFD framework. For more information, see the chapter on Climate Change and Energy Management.
		Carbon Neutrality (Carbon tax)	Environmental policy and management system	➡ Strive to reduce GHG emissions at the Company's organizational boundary to cope with the cost of carbon tax at home and abroad in the future
	Operational Risk	Interruption of Public Services	Energy and resources efficiency	➡ Through hazard risk and environmental identification, evaluate the risk factors in the process of business operations, grasp the risk impact, and effectively control the same. ➡ Formulate the "Contingency Event Procedure" and "Emergency Response Working Instruction" to ensure the response mechanism and aftermath treatment of various emergencies (including fires/earthquakes/typhoons, etc.), maintain the safety of employees, reduce the losses related to the Company and customers, and prevent or reduce the impacts and influences on the environment.
Society	Operational Risk	Natural Disasters	Healthy and safe workplace	
		Major infectious diseases	Healthy and safe workplace	➡ The Company shall establish a high-level command center and an epidemic prevention team to monitor the progression of the infectious disease in real-time. This proactive approach allows for the early development and implementation of action plans to safeguard employee health and ensure smooth business operations ➡ Supplier and raw material status will be closely monitored to proactively manage potential risks and implement inventory backup operations ➡ Comprehensive deployment of epidemic prevention equipment and spatial planning will be implemented to prevent employee infections. Additionally, timely communication with clients will be maintained to adjust operational modes as needed
		Talent Attraction	Talent development	➡ An effective talent acquisition system and internal talent pool will be established to provide a smooth channel for talent mobility ➡ We will actively expand diverse recruitment channels, offer internship and short-term work opportunities, and collaborate with educational institutions to strengthen the connection between academia and the workplace ➡ We regularly participate in external salary surveys and provide a comprehensive and fair total rewards package to attract, motivate, and retain talented individuals
Governance	Legal Compliance Risk	Changes in Policies and Regulations	Corporate governance Product quality	➡ Follow the laws and policies, implement the identification mechanism for enforcing laws and regulations, and take appropriate countermeasures. ➡ Pay close attention to the changes of relevant laws at home and abroad at all times, and update relevant systems and regulations in accordance with the laws.
	Information Security Risk	Information System Abnormalities	Corporate governance	➡ Carry out information security control and management of production machines, such as asset inventories, machine anti-virus operations, strengthening the awareness of information security protection of relevant personnel, and take relevant information security control measures to improve the capability of information security protection. ➡ Regularly conduct disaster recovery drills for important system information, and take actions to maintain the Company's operations.
		External Threats	Corporate governance	➡ Introduce an information security system to prevent external intrusion (such as firewall, intrusion prevention system) and electronic data monitoring system for external storage devices, to avoid data leaks or computer viruses. ➡ For the information security protection of confidential documents, third-party security control software is adopted to protect and prevent the risk of leaks of customer and the Company's data.
	Supply Chain Risk	Supply Interruption	Sustainable supply chain Product quality	➡ Focus on the establishment of long-term partnerships, and give priority to new suppliers with excellent reputations in relevant industries. ➡ Perfect the supplier management mechanism, effectively grasping the stability of supplier supply. ➡ For major key materials and equipment suppliers, maintain manufacturers (two manufacturers or in at least two regions) to avoid sudden risks such as manufacturers' own operations and regional natural disasters.
	Financial Risk	Interest Rate Fluctuation	Operational performance	➡ During fundraising, the main consideration covers the loan interest rate condition with better loan interest rate conditions in the market and less affected by the change of interest rate. ➡ We conduct regular evaluations of loan interest rates and make necessary adjustments based on market average rates
		Exchange Rate Fluctuation	Operational performance	➡ Sales denominated in foreign currencies are mainly denominated in US dollars, while the payment of main raw materials and machinery and equipment is denominated in US dollars or Japanese yen. Therefore, some receivables and payables denominated in foreign currencies can be offset against each other, resulting in a natural hedging effect. ➡ We stay vigilant to changes in international exchange rates and actively gather relevant currency exchange information. This allows us to plan ahead and minimize any potential foreign exchange losses or gains that may affect our operational funds.

3.3.2 Continuous Operation Management

Continuous Operation Management Actions

ChipMOS formulates relevant measures for the prevention of accidents, including risk scenario drills and emergency response and recovery plans. In case of major incidents of events of concern in the current year, ChipMOS will give priority to the drills.

In 2022, due to the instability of power supply, there were many power outages in Taiwan, which made the enterprise operation risk higher. ChipMOS immediately carried out continuous operation plan drills (specific to the major causes like natural disasters (for example, earthquakes), engineering accidents or abnormal power supply by Taipower) for the power failure of Zhubei fab., Tainan fab., with the expectation to properly cope with production, equipment, material management, information system operation, industrial safety and other disasters. In addition, The Company has implemented relevant contingency measures to ensure preparedness in the event of emergencies. These measures include establishing a supply line switching mechanism with the power utility company, as well as implementing uninterruptible power supply (UPS) systems and backup generators within the facilities. These measures aim to ensure that there are immediate response mechanisms in place in the event of unforeseen incidents, and to minimize any potential losses or damages.



Case of Continuous Operation Drills in 2022

For the risk scenario drill, ChipMOS has a "Contingency Event Procedure". The risk management team holds a disaster level assessment in the fourth quarter of each year. The disaster risks encountered in the operation and management process over the years will be aggregated into 13 risk events, and the risk level will be determined as per the occurrence rate and impact severity according to the disaster risk assessment of the whole year or major or important events in the current year, based on which the annual major practice and assisted drill items are decided. The events with a risk level greater than 5 in the current year are taken as the main drill items. The rest are sub-drill items, which must be drilled at least once within 5 years.



Operating Unit	Drill Project	Drill Situation
APG	Typhoon/ Disruption of transportation	Due to a strong typhoon, several sections of the highway have been closed and the airport has suspended flights, causing transportation disruptions and delaying customer shipments by one day. The originally scheduled materials cannot be received, which is also delayed by one day
WS	Power Failure	A transformer failure in the factory management system of Zhubei fab. caused a major power outage throughout the facility. The entire power system within the fab was affected, and more than half of the machines were unable to produce for over 6 hours.
MS	Earthquake	During a magnitude 4.1 earthquake, we found two IC machines shifted in position and three wafers had been misaligned. However, there were no casualties or injuries among the personnel at the fab, and the facility's operations and systems remained intact. Unfortunately, one of the shipping vehicles was involved in an accident due to the intense shaking caused by the earthquake, and the driver sustained injuries and was promptly taken to the hospital for treatment. Fortunately, the cargo being transported were unaffected by the incident.
LPC	Earthquake	Due to a magnitude 4 earthquake, the equipment of Taiwan Power Company at the Tainan fab malfunctioned, leading to a reduction in the Company's power supply. This resulted in a 13-hour power outage on the 5th floor of the TA building, with all machines becoming inoperable.
LCDD	Earthquake	The Tainan fab experienced a magnitude 4 earthquake, which damaged the electrical equipment of Taiwan Power Company and led to a disconnection in the power supply line. This power outage, accompanied by a voltage drop, caused all the critical machinery in the TA5F production area to halt operations. Subsequently, the cleanliness level in the clean room exceeded the allowable standards
WB	Power failure and voltage drop	Due to a power outage at Xingda Power Plant, all machines at the fab lost power, with the outage lasting for more than 20 hours
MPG	Earthquake Voltage drop (primary) Disruption of transportation	▪ Situation 1 (Earthquake + Voltage drop): A magnitude 5 earthquake in the Hsinchu area caused a voltage drop at Hukou fab, interrupting production at the testing machines ▪ Situation 2 (Transportation disruption): The earthquake caused the southbound road at the Hukou interchange on the highway to be impassable
Response Measures	1. Earthquake: Implement emergency measures within the fab to minimize the impact of the earthquake 2. Voltage drop: Set up an UPS and switch to different feeder lines from Taiwan Power Company to reduce power outage issues 3. Disruption of transportation: - Highway: Plan alternative routes, such as expressways/surface roads - Personnel injuries causing transportation disruption: Arrange other vehicle schedules for support to meet customer needs	

3.4 Information Security Management

GRI 418-1

3.4.1 Information Security Policy and Organization

ChipMOS formulated the "Information Security Policy" with the approval of the Chairman in 2014, which aimed to establish the overall direction of ChipMOS information security management as the basis for organizational action and future information security activities:

- Protect the confidentiality of the Company's information assets and avoid unauthorized access or improper disclosure.
- Ensure the integrity of information operations and avoid improper tampering and destruction.
- Ensure that authorized users can use information assets when needed.

Information Security Management Committee

In 2014, ChipMOS set up the Information Security Management Committee (headed by the Chairman and all tier-1 managers at various BU as committee members) to be responsible for the formulation of information security policies, the supervision of the implementation of information security plans, the management review, coordination and communication of information security related matters, so as to ensure the effectiveness of the implementation of information security management system and improve the information security of the Company's operation. The Committee convenes an annual management review meeting once each year.

In 2022, the Company has established its "Information Security Office" to actively enhance our information and communication security protection and management mechanisms. As a specialized unit under the Information Security Management Committee, the Office coordinates, plans, and manages ChipMOS' information and communication security protection. On top of that, in an effort to reinforce our backup systems and upgrade both software and hardware capabilities and our IT system business continuity planning (BCP), ChipMOS made a substantial investment of over 70 million dollars in 2022 to continually boost the Company' resilience against cybersecurity threats, thereby ensuring uninterrupted business operations.



Chairperson General Manager

Management representative Information Security Office - Information Security Manager

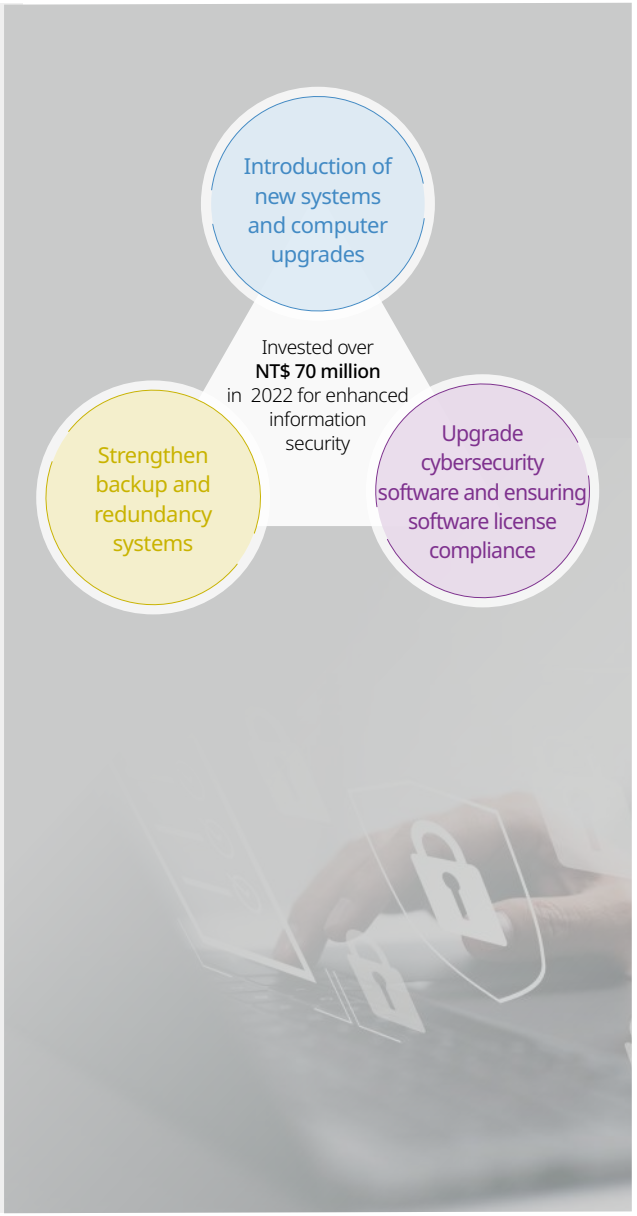
Committee members Chief Manager at all BUs

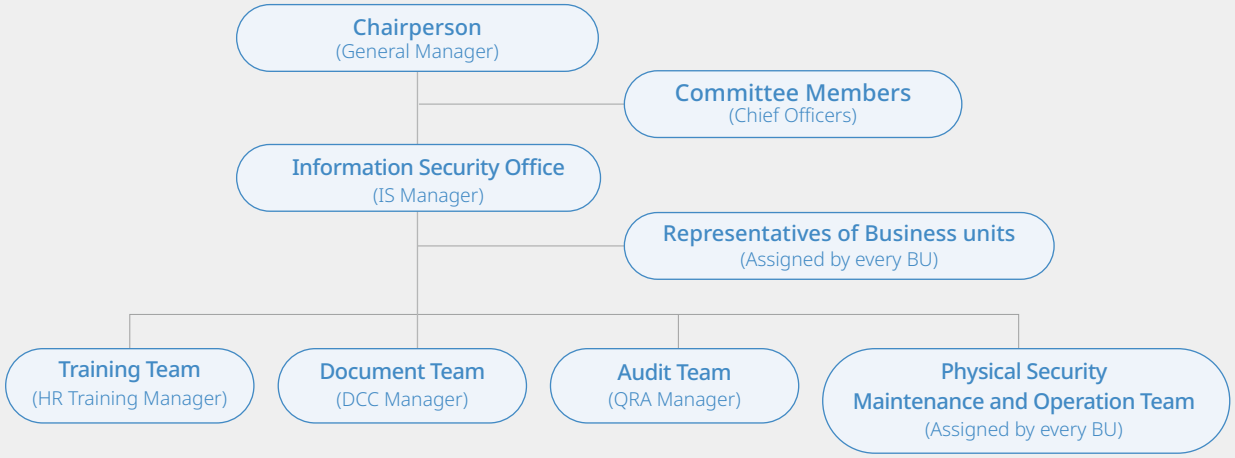
Main Responsibilities

- Establish and review information security policies
- Supervise the implementation of information security plans
- Management review and coordinate communications on information security related issues

Operation status in 2022

- Convene an annual management review meeting to review the annual performance and assess the projects for the upcoming year
- A total of 11 information security team meetings were held, which included tracking the progress of security activities and discussing responses to internal and external cybersecurity issues





3.4.2 Comprehensively protect the information security of all stakeholders

ChipMOS attaches importance to the information protection of all stakeholders. It not only continuously strengthens the internal protection mechanism of the Company, but also brings the information security issues of the whole supply chain into the protection scope to ensure the best defense of the Company, customers, employees and suppliers.



ChipMOS stays vigilant on the latest cybersecurity issues and actively participates in external conferences such as Cybersec 2022 Taiwan Information Security Conference, SP-ISAC Security Seminar, and information security personnel education and training. We also took part in the SECPAAS integrated security service platform, collaborating with external resources to enhance our cybersecurity defenses. We have implemented the Security Scorecard system to assess and shore up our cybersecurity vulnerabilities. In 2022, ChipMOS continued to pass the ISO 27001 verification of the Information Security Management System. In terms of actual management actions, we continue strengthening the Company's information security environment and actions by taking relevant key measures, and protect the Company's information assets, continuous operation and authorized use, so as to win the trust of stakeholders.

Additionally, in response to the 2022 revision of ISO 27001, we plan to revise our internal ISMS documents in 2023. Not only are we actively participating in related seminars held by external organizations, but we also anticipate introducing consultancy guidance in 2023. This is intended to strengthen our management practices, comply with international cybersecurity standards, and effectively implement information security management.

Strengthen employees' awareness of information security	Promoted monthly awareness campaigns and achieved 100% employee awareness coverage rate
Risk assessment and prevention	Implemented information security risk analysis and improvements to ensure the continuous operation of the Company
Zero Trust Mechanism	Implemented measures such as two-factor authentication and verification mechanisms for privileged accounts to enhance cybersecurity protection

Strengthen employees' awareness of information security and capabilities

Description

Based on the results of the 2021 information security survey, a lack of information security awareness among employees has been perceived as the most significant obstacle to defending against security threats. Recognizing this, we have planned a four-pronged approach to information security education and training in 2022

Practice

Employee Training
Frequency: annually
Content: Audit illegal software usage, promote preventive measures against ransomware incidents, raise awareness on phishing scam emails, and establish regulations for USB drive usage control

Thematic Information Security Social Engineering Awareness Promotion
Frequency: at least once a month
Content: Promote common social engineering attack techniques to raise awareness among colleagues and prevent falling victim to such attacks

Promote preventive measures against ransomware incidents to raise awareness among employees
Frequency: at least once a month
Content: Analyze the proportion of external threat emails filtered by the system and raise awareness among colleagues to remain vigilant about unknown emails at all times

Phishing scam email drills
Frequency: every 2 months
Content: Simulate sending targeted emails with specific subjects, including links or attachments, to measure click rates and test employees' awareness of information security

Achievements in 2022

- 1,894 employees completed relevant trainings
- 20 thematic promotions on information security social engineering awareness
- 9 promotions on preventive measures against ransomware incidents to raise awareness among employees
- 6 phishing scam email drills



Optimizing operational impact of important systems

Description

In order to ensure the continuous operation of the Company, avoid the interruption, damage, improper use and information leakage of information system services, it is required to reduce the damages to an acceptable level

Practice

- Define the appropriate maximum allowable service interruption time, recovery time objective and operation continuity strategies for important systems or new import projects.
- Formulate the operation impact analysis form, identify potential risks, and make improvement to reduce possible losses.
- We have strengthened backup and recovery systems, replaced outdated systems, and upgraded to new versions of software licenses to prevent operational interruptions caused by software vulnerabilities

Achievements in 2022

- completed the operation impact analysis of 27 systems

Information Asset Inventory and Risk Assessment

Description	We shall conduct an inventory of the Company's tangible or intangible information assets, assessing their confidentiality, integrity, and availability. We will establish risk assessment criteria to identify vulnerabilities in information assets and the cybersecurity risks posed by threats. Based on the assessment results, we will implement appropriate measures to mitigate the risk of damage
Practice	➡ Identify critical assets within the organization, assess the threats and vulnerabilities to these assets, and evaluate the potential risks posed by these threats and vulnerabilities ➡ Plan for necessary security needs and implement control measures accordingly
Achievements in 2022	Identified 4 high-risk measures and developed a risk improvement plan. It is expected that the improvements will be completed by 2023-2024.

Strictly control the service quality of the information security supply chain

Description	To improve the service quality of external manufacturers and ensure the stability and security of the ChipMOS system.
Practice	➡ Implement the evaluation of information outsourcing service manufacturers. Manufacturers with poor evaluation results must put forward specific improvement plans or the cooperative relationship will be terminated.
Achievements in 2022	Evaluate the service quality of outsourcing service cases for 88 manufacturers, of which 10 manufacturers needed to improve and have completed the improvement, and the cooperation with 4 manufacturers has been terminated.

Information security enhancement for outsourced vendors

Description	To strengthen the content of confidentiality agreements with outsourced vendors and ensure comprehensive implementation, while establishing and enforcing confidentiality provisions for new vendors
Practice	➡ Sign confidentiality agreements with information service outsourced vendors
Achievements in 2022	Completed the signing of confidentiality agreements with 26 vendors, with 2 currently in the approval process.

Risk assessment of assets safety project

Description	When implementing critical information security projects, conduct risk assessments to evaluate various security risks to proactively prevent security incidents from occurring after implementation, thereby safeguarding the Company's operations
Practice	➡ Perform multi-faceted assessments to evaluate potential impacts on operations, risks related to sensitive information, and the risk of information leakage
Achievements in 2022	Completed cybersecurity risk assessments for a total of 6 projects



	Stabilize the working environment of information security protection	Endpoint Security Enhancement
Description	For the potential vulnerability that the system may be attacked or damaged, the authenticity of personnel certification needs to be strengthened	In light of the increasing incidents of cyberattacks, relying solely on antivirus capabilities for endpoint security poses a significant concern. The ability to defend against unknown and sophisticated threats is a major vulnerability, leaving the system susceptible to external threats and vulnerabilities
Practice	➡ Conduct quarterly vulnerability scanning to identify potential risk vulnerabilities and continue to improve them. ➡ Improve information security to avoid account theft. System managers or external connection systems need to conform with two-factor authentication when logging in to ensure the authenticity of users. ➡ Before opening a newly built external website, vulnerability scanning and improvement must be completed before it can be launched	➡ Evaluate and implement effective Endpoint Detection and Response (EDR) tools that can detect and defend against hacker intrusions and attacks. This comprehensive approach enhances both the antivirus and anti-hacking capabilities of the endpoint, minimizing the occurrence of cybersecurity incidents
Achievements in 2022	✔ Conducted 4 vulnerability scans and successfully addressed 5 high-risk, 47 medium-risk, and 142 low-risk vulnerabilities.	✔ We deployed key host and privileged account endpoints and implemented 24/7 monitoring and protection measures.

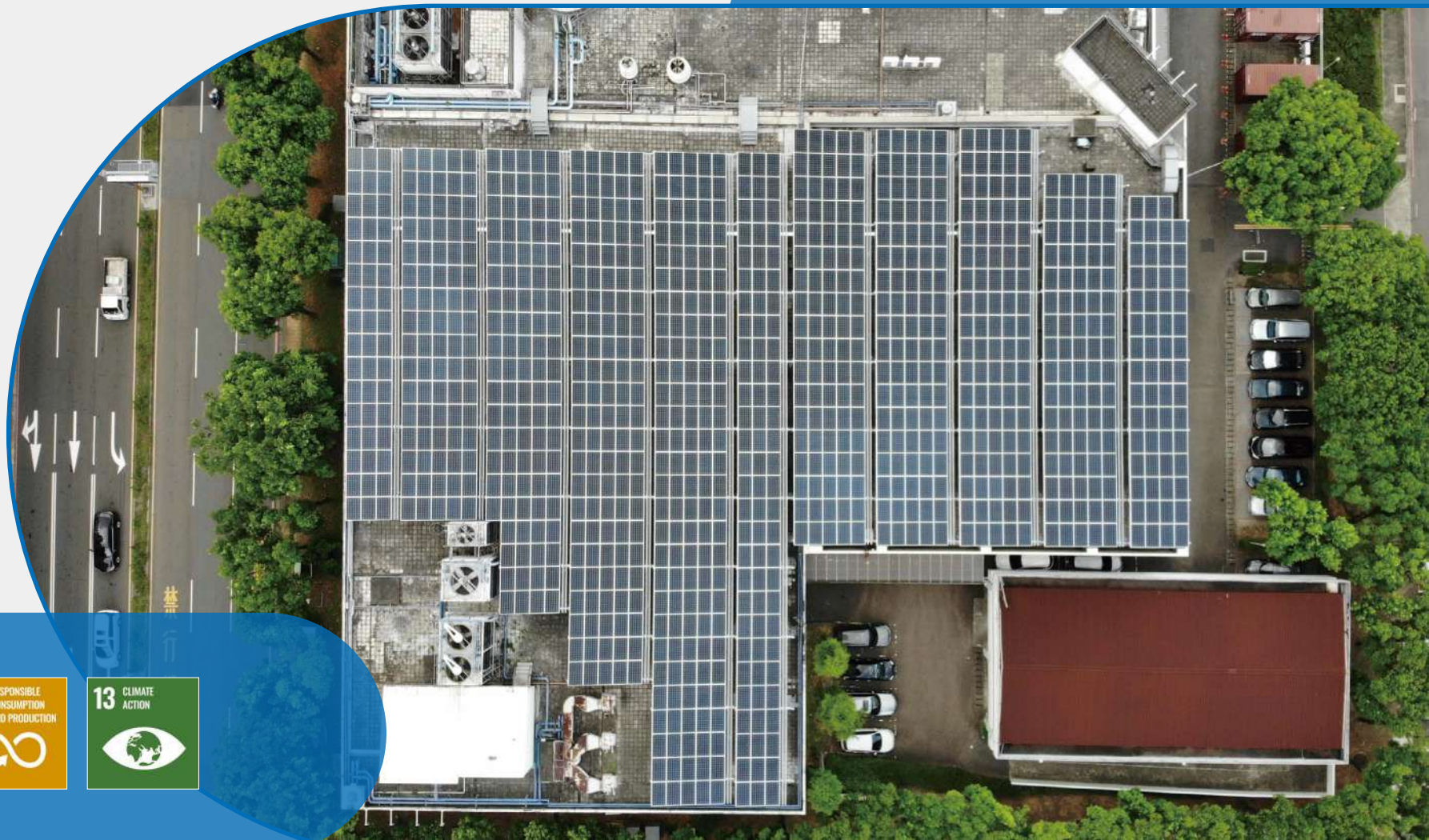
	Fortification of Wireless Network Security	Zero Trust
Description	Given that the current authentication method only relies on a single verification of the network card's MAC address, this poses a risk of intrusion if the MAC address were to be spoofed	➡ Local administrators shall regularly change their passwords to prevent unauthorized individuals from using tools to crack and gain local ownership of the system ➡ Implementation of host dual-factor authentication: System access is only granted upon successful completion of dual-factor authentication, which enhances the authenticity of the login process and provides a higher level of security for the host system ➡ Implementation of external duo-factor authentication: When accessing the intranet from external sources, users are required to perform dual-factor authentication before being granted access to the system. This ensures that only authorized employees are able to log in and perform operations ➡ External Remote Access Consolidation: To enhance security, we have implemented a unified access approach using SSL VPN and dual-factor authentication for connecting to our internal resources. This ensures secure access from remote locations. In addition, specific user permissions have been set up to control and manage access rights effectively
Practice	➡ Enhance wireless network security with a dual authentication system to mitigate the risk of unauthorized access by individuals attempting to spoof their identities for internal network access	
Achievements in 2022	✔ We implemented a dual authentication mechanism across all fabs	



CHAPTER

04 Environment Friendly

Starting from 2021, ChipMOS will build solar panels in the northern part of the fab, completing the project of building renewable energy in the whole factory.



6 CLEAN WATER AND SANITATION

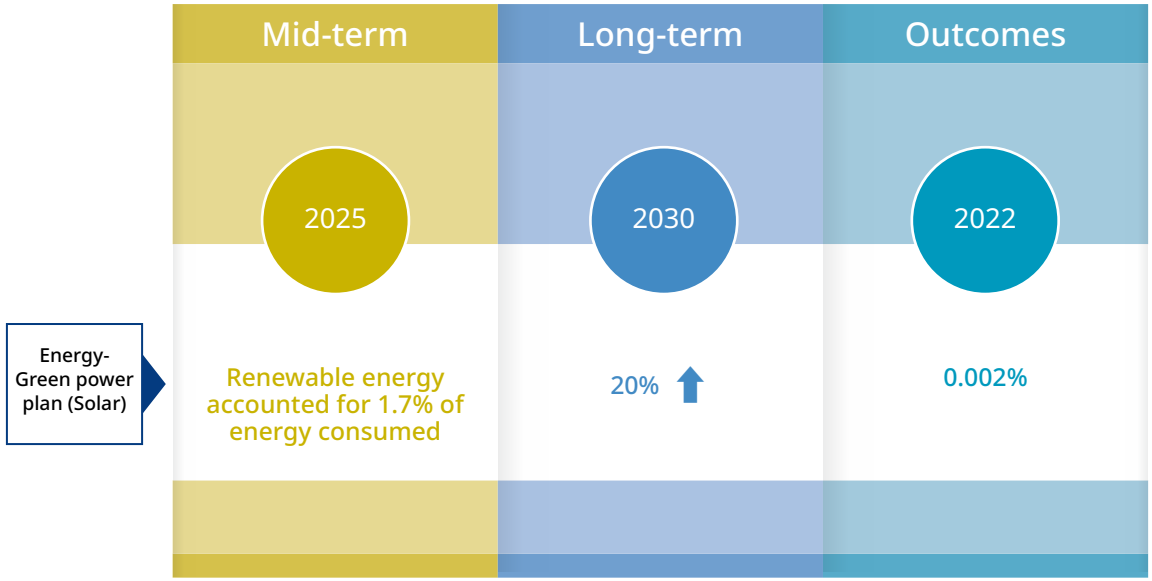
7 AFFORDABLE AND CLEAN ENERGY

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

Mid- and Long-term ESG Goals

Environmental



ChipMOS Green Power Plan

Y2022 ⇨ The Company purchased 8 renewable energy certificates, which accounted for 0.002% of its total energy usage

Y2022 ⇨ The Company bought back the solar rooftop it offered on a lease, with a total installed capacity of 990.45 kW at the fabs

Y2023 ⇨ Leased land for the construction of solar power generation facility, with a total installed capacity of 4,500 kW

Y2024 ⇨ The Company will lease more land for the construction of additional solar power generation facility to increase the installed capacity by 1,500 kW, bringing ChipMOS' total installed capacity to 6,990.45 kW

Y2024~Y2030 ⇨ The Company shall continue to increase the proportion of renewable energy through initiatives such as self-built solar power systems, purchasing renewable energy certificates, and exploring other green energy sources

*For more environmental goals relating to carbon reduction, please refer to Thematic Report 1 on Climate Resilience and Chapter 2.3 on Sustainability Objective Management and SDGs

*For details on the concrete actions taken and outcomes on each issue, please refer to the contents of this chapter

Management Policy

Policy

promote green production, improve resource utilization efficiency, strive for carbon-reduction and energy saving, conserve water resources, mitigate climate changes and lower environmental burdens

Commitment

Comply with environmental regulations, endeavor to improve environment management performance, achieve optimal balance between environmental responsibility and revenue growth and fulfill our responsibility of environmental protection

Resources

- ESG Committee and Environmental Safety, Health and Energy Management Committee

Specific Actions

- Introduction of TCFD for the identification of risks and opportunities for climate changes and water resources
- GHG Inventory/Carbon Footprint/Water Footprint Inventory
- Solar power construction/Green energy planning/Action plans for energy conservation and carbon reduction
- Water-saving measures/Installation of process water recycling equipment
- Source management/Recycling/Waste reduction management solutions

Evaluation Mechanism

- Routine organization of energy management review meetings
- ISO 14001, ISO 50001, ISO 14064 third-party certification
- RBA Audit, Customer audit, Internal audit
- Sustainability evaluation by investment institutions

Collaborating and guiding our suppliers towards low-carbon transition

2023 Industrial Development Bureau, MOEA - Low-carbon Program for Big leads Small in Manufacturing Industries

In 2023, ChipMOS took the initiative to participate in MOEA's Industrial Bureau's subsidy program for the low-carbon and intelligent upgrading and transformation of the manufacturing industry. Our plan is to promote the transition to low-carbonization by adopting a "big leads small" approach. From 2023 to 2025, we will function as the hub of relevant activities and drive 12 supply chain manufacturers to swiftly adopt low-carbon technologies, equipment, and management practices. This transformation will enhance our organizational resilience, improve overall industry competitiveness, and together, we will create sustainable value.

"Big leads small" low carbon

Nexus Fab.

ChipMOS

12 supply chain vendors

Categories include suppliers of raw materials, indirect materials, fixtures and components, equipment suppliers and so forth

Carbon reduction approaches

1. ChipMOS leads 12 suppliers in the joint planning and implementation of carbon-reducing measures

Strategic directions for energy conservation and carbon reduction

Optimization of Operating Conditions
- Smart energy saving for chiller system
- Cooling water and chilled water pump impeller Ceramic finish application

Equipment Energy Resource Reduction
- Motor upgrade to IE4 high-efficiency motor
- Replacement of cooling tower heat dissipation fins
- AC FFU replacement with DC FFU
- Replacement of old air compressors with new ones
- Improvement of the oven's exhaust opening and closing ducts
- Additional installation of rainwater recycling systems
- Sand filter for purified water and activated carbon tower Reverse water recycling

Smart energy saving
- Smart control for chiller system
- Cooling water and chilled water pump impeller
  Variable frequency drive installed for the pump

Lighting energy saving
- Lighting reduction
- Non-production area lighting control
- Outdoor lighting timer and control
- Relocation of lighting fixtures to provide better illumination, enhance better illumination for specific locations
- Replacement of LED lights at production lines and parking area

2. Provide guidance to suppliers in the introduction of carbon management systems and offer technical consultation on carbon reduction

We have assisted suppliers in their application for diagnostic guidance and evaluation of relevant carbon management systems (including ISO 14064-1 Greenhouse Gas Inventory, ISO 14067 Carbon Footprint Assessment and ISO 50001 Energy Management Systems) along with support for suppliers exploring carbon emission reduction and the adoption of low-carbon technologies while helping them assess and plan relevant energy-saving initiatives.

Anticipated benefits

Specific energy-saving results

The Company has met the goals (1%) set by the Energy Bureau and is anticipating to reach a 1.58% energy-saving rate.

Fortifying the supply chain's carbon management capacity

To expand the benefits of carbon reduction across our supply chain by enabling suppliers to establish their own carbon management system planning and enhancing their independent carbon management capabilities.

Boosting competitiveness and collaborating to achieve sustainable values

Together with our supply chain partners, we shall promote low-carbon transformation whilst enhancing our organizational competitiveness and fortifying relationships, so as to achieve mutual growth, sustainable operations, and win-win.

4.1 Climate Governance

GRI 307-1

ChipMOS continues following the international agreements of "the Paris Climate Agreement", and continues to actively seek viable decarbonization strategies and incorporate climate change as an element in its corporate governance by elevating the supervisory mechanism for senior management whilst pushing for green production and planning of various energy conservation and carbon reduction initiatives. Through measures such as carbon and water footprint inventories for our products and material flow cost accounting, we hope to achieve reduction of consumption and carbon emission. Meanwhile, we will continue educate employees to enhance their awareness of environmental protection, and also extend to vendors and stakeholders to collaborate to become a green friendly enterprise.

In 2022, ChipMOS had no pollution incidents and no major violations of environmental laws. ChipMOS's environmental sustainability activities continue to be recognized, including the Green Factory Label, Excellent Enterprise for Green Procurement, encouraging ChipMOS to continue investing in environmental protection. For more ChipMOS environmental recognitions, please refer to Appendix 8.



Overview of ChipMOS' Climate Governance Actions

Governance Organization

- Supervised by the Board of Directors - The Board of Directors shall present its report on climate response on a quarterly basis

For more information on the Board of Directors'supervision of climate-related issues, please refer to Chapter 2.1.1 on Sustainable Promotions

Carbon management

- Voluntary participation in the CDP questionnaire to bolster areas of internal vulnerabilities
- Introduction of TCFD for the identification of risks and opportunities for climate changes and water resources
- In 2023, completed the subsidiary's greenhouse gas inventory and verification for 2022
- Proactive green energy planning: construction of solar power, purchase of green power/renewable energy accreditation

Policies and management systems

- Implementing environmental protection policies and energy management policies
- Introduction of international standards management system and accredited to third party verifications. Such as ISO 14001, ISO 14064-1, ISO 50001, ISO 14067 and so forth

For more details on ChipMOS' environment-related policies, please visit ChipMOS' official website-Corporate Sustainability-Environmental Friendliness

Green Influence

- Officially signing to become a TCFD Supporter
- Joined Tainan City's "Net-Zero Advisory Group" to share our energy-saving experience and contribute to the cause of carbon reduction
- Participated in the "MOEA Industrial Development Bureau's Decade of Green Factory Outcome Presentation" as a member to share its experience

For more information on ChipMOS' participation in external activities, please refer to 1.4 External Initiatives and Organizational Engagement

Pillars of ChipMOS Net-zero Emissions Strategy

Green Energy Plan

- Rolling out energy-saving projects according to plan
- Solar energy construction plan
- Purchase of green accreditation
- Continue to assess other sources of green energy

Adapting and Mitigating Climate Changes

- Introduce TCFD for the identification of climate change risks and opportunities to assess the potential financial impact
- Water resources risk identification and response measures
- Greenhouse gas inventory and verification for the parent company and its subsidiaries
- Implement product carbon and water footprint inventory



Develop Green Production

- Continue to introduce international standards management system
- Prioritize the addition/replacement of energy-efficient equipment
- Promote circular economy and resource recycling
- Expand the scope of green procurement
- Collaborate and guide suppliers towards low-carbon transition

Sustainable Actions and Initiatives

- Proactively assess and participate in local and international climate action related initiatives
- Fostering sustainable thinking for all employees
- Long-term cultivation in environmental protection activities and leading employees to take part
- Responding to relevant government projects and volunteering to become a sharing company to leverage our green influence

* For more specific targets and details of relevant actions, please refer to Thematic Report 1 - Climate Resilience

Promote higher environmental protection awareness for all staffs and spearhead our low-carbon corporate culture

Rewards for energy conservation and carbon reduction proposals

In an effort to implement energy conservation and carbon reduction policies while encouraging total participation from employees, ChipMOS made use of its existing ID BOX proposal platform in September 2022 and added a new category of proposal as "Energy Conservation and Carbon Reduction" along with specific number of proposals for all business units as annual targets. At the same time, the Company has also introduced a reward mechanism for such proposals as a way to incentivize employees to come up with creative and novel ways of carbon reduction. These proposals are to be reviewed and followed-up quarterly during the Environmental Safety, Health and Energy Management Committee meetings.

- The target for 2022 was 25 proposals, with 38 proposals actually submitted by employee, achievement rate: 152%.
- Anticipated results: The proposals are expected to reduce our annual carbon emission by approximately 7,347 t CO_2e/year and up to NT$ 9.9196 million in energy/water/materials conserved.
- Compared to that of 2022, the target number of proposals [note 1] for 2023 has been increased to 31, a 24% growth.

Note 1: The target number of proposals for each business unit has been determined and adjusted based on their respective power consumption

Organize environment related courses to heighten employees' climate awareness

In an effort to disseminate relevant concepts on climate change and the latest international trends in net-zero emissions, ChipMOS has held the following environment-related trainings in 2022, including: ISO 45001 & ISO 14001 evaluation personnel training, ISO 14064-1 internal auditor training, environmental education training and so forth. A total of 11 sessions were held for 516 participants. On top of that, the Company has also promoted awareness for issues such as energy conservation, carbon reduction and climate changes through a variety ways to acclimatize employees to these issues in their day-to-day lives and stay abreast with the latest information and trends. In 2022, ChipMOS issued 2 promotional e-mail on energy conservations and carbon reduction along with the publication of 4 promotional articles on climate change via the ChipMOS Learning e-Paper.



4.2 Climate Change and Energy Management

4.2.1 TCFD Imported

ChipMOS is well aware of the importance of corporate action and shoulders the heavy responsibility of environmental protection. We refer to the framework of the Task Force on Climate-related Financial Disclosures (TCFD) issued by the Financial Stability Board (FSB), identify the management of ChipMOS climate change risks and opportunities, and further have a comprehensive understanding of the impact of climate change.

In addition, on the basis of the TCFD framework, we have further introduced Task force on Nature-related Financial Disclosures (TNFD) and deployed the latest draft of the framework beta v0.4 released in March 2023 to identify and manage nature-related risks, and to assess the reliance on and impact on natural capital of the organization's operating bases and suppliers. Moreover, through the analysis of biodiversity significance and contingency measures, we will more concretely present the management of climate and natural environmental issues in ChipMOS.



ChipMOS Climate and Environmental Report

TCFD Framework

Governance	**ESG Committee** ▪ The Sustainable Development Committee under the supervision of the Board of Directors is the highest level organization in ChipMOS in response to climate change ▪ The Chairman of the Board of Directors serves as the Chairman of the Committee and regularly reports the implementation status and results to the Board of Directors **Environmental Safety, Health and Energy Management Committee** ▪ It is the main authority responsible for promoting and implementing climate risk response actions ▪ Regularly track the promotion and implementation through quarterly meetings
Strategy	▪ ChipMOS defines short-term, medium-term and long-term (to 2030) climate related risks and opportunities according to the existing internal target management schedule ▪ Assess the potential impact of climate risk factors on the Company's strategic, operational and financial planning
Risk Management	▪ ESG Committee members jointly identified climate change risks and opportunities according to the TCFD Framework at the seminar ▪ According to the results of climate risk identification, formulate countermeasures and key development plans ▪ Climate change issues will be included as a part of risk management, and control strategies and specific practices will be formulated accordingly
Indicators and Objectives	**Effectively reduce carbon footprints** ▪ Since 2009, starting from Tainan fab., ISO 14064-1 GHG emissions inventory has been introduced; from 2013, it has been expanded to the Scope I and II GHG inventory to all fabs every year, and has been verified by a third party. In 2020, the calculation of category III was added, accurately controlling greenhouse gas emissions and conducting the key management. ▪ Since 2012, conducted product carbon footprint inventory for series of products to effectively master product carbon emission data **Efficient Use of Energy** ▪ Actively invest in the use of renewable energy, import high-efficiency and energy-saving equipment, water resource recycling, material source management and waste reduction, formulate annual implementation objectives, and have the senior executives regularly inspect the implementation results

4.2.2 Identification of Climate Risk / Opportunity

ChipMOS ESG Committee members have held four meetings since 2021 to discuss in-depth risks and opportunities related to climate change. By adopting TCFD as the guiding principle, the risk topics cover transitional risks and entity risks, with a summary of risk categories including regulations and policies, market/technology and disruption of operations. For carbon-related risks, there are a total of 48 items, four of which have been identified as major carbon risks, seven as moderate carbon risks. We have also identified 21 carbon opportunities, three of which are major opportunities and seven are moderate opportunities. In total, there are 69 risks and opportunities. We rank the risks and opportunities according to the possible time of risk impact (short-term, medium-term and long-term), impact degree factors (finance, operation / manpower, law and goodwill), and finally identify four major carbon risks and three major carbon opportunities, for total seven major risks and opportunities, assess the potential financial impact, and develop relevant countermeasures and countermeasures, so as to mitigate the impacts of climate risks and grasp future business opportunities.

Climate Change Risks and Opportunities





Major Carbon Risks

- 5 Customer Behavior Change
- 6 Demand for Low-carbon Products and Services
- 22 Renewable Energy Regulations
- 28 Carbon Tax

Major Carbon Opportunities

- 6 Energy Efficiency Improvement
- 14 Customer Behavior Change
- 16 Low Carbon Energy

Non-major Carbon Risks

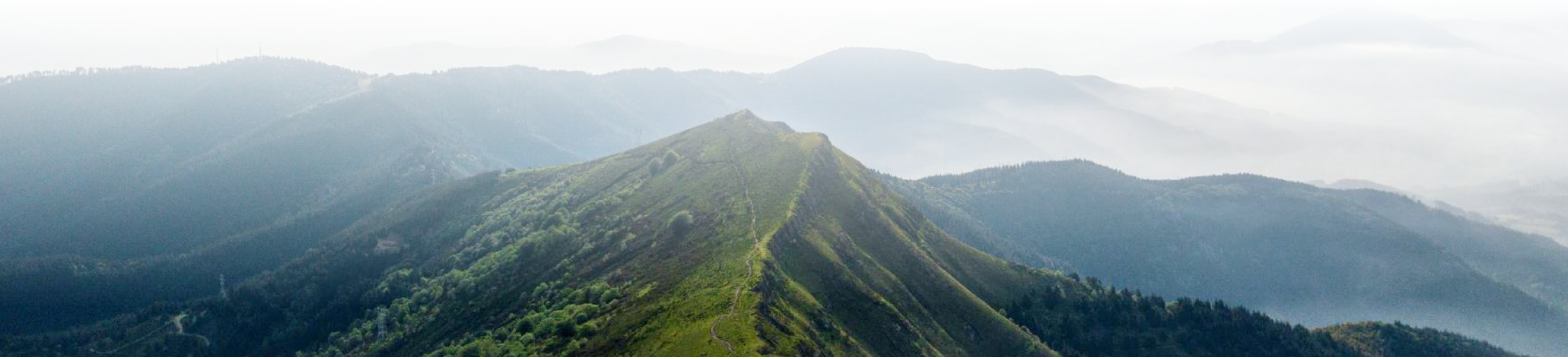
- 21 Fuel Tax / Energy Tax
- 23 General Environmental Regulations
- 26 Voluntary Agreement
- 31 Lack of Regulation or Legality
- 32 Total Volume Control / Emission Trading
- 35 Extreme Rainfall and Drought
- 38 Average Temperature Change

Non-major Carbon Opportunities

- 1 Alternative or Diversified Resources
- 4 Recycled Materials
- 5 Production Process
- 9 Low Carbon Products or Services
- 10 Commissioning and Solutions
- 17 Participation in Renewable Energy Projects
- 18 Policy Incentives

Major Carbon Risks	Risk Description	Impact to Value Chain	Time of Occurrence	Potential Financial Impact	Management Practices
Renewable Energy Regulations	International or domestic regulations on renewable energy may affect the current and future energy sources, composition, price, etc.	Within the Organization	Middle Term	Increase in Capital Expenditure	Solar energy installations are expected to reach 6,990.45 kW in 2024, with a capital expenditure of approximately NT$389.963 million: 1. Lease and Buyback In 2021, the roofs were leased to install 990.45 kW, and was bought back in 2022. 2. Leas land and Build on Its Own The contract will be completed in 2022, and it is expected to obtain fields with 6,000 kW in 2023.
Carbon Tax	Tax system formulated by international or domestic governments, related to GHG emissions or climate change.	Within the Organization	Middle Term	Increase in Indirect Costs	1. Strive to reduce GHG emissions at the Company's organizational boundary to cope with the cost of carbon tax at home and abroad in the future. 2. At present, 98-99% of greenhouse gas emissions in the fab. come from electricity. At present, efforts are made to invest in energy-saving projects and renewable energy equipment to improve the use of renewable energy and reduce carbon emissions. 3. Develop low-carbon products and reduce GHG emissions.
Customer Behavior Change	Because of the rising global or regional awareness of sustainability, customers have different considerations when choosing products or services than before.	▪ Within the Organization ▪ Customers	Middle Term	Decrease in Operating Income	The customer requests to draw up a green power use and carbon neutralization assessment plan. 1. First, conduct the carbon footprint verification and establish the verification scope 2. Formulate carbon reduction targets 3. Set up carbon neutrality targets
Demand for low-carbon products and services	Due to the climate change factors, the products and services currently provided are high energy consumption or high carbon emission, which do not meet the market demand and may be eliminated.	▪ Within the Organization ▪ Customers	Middle Term	Decrease in Operating Income	1. Strive to reduce GHG emissions on the organizational boundary of the Company. 2. At present, 98-99% of greenhouse gas emissions in the fab. come from electricity. At present, efforts are made to invest in energy-saving projects and renewable energy equipment to improve the use of renewable energy and reduce carbon emissions. 3. Develop low-carbon products (together with relevant material evaluation units) to reduce GHG emissions.

Major Carbon Opportunities	Opportunity Description	Location of Occurrence	Time of Occurrence	Potential Financial Impact	Management Practices
Energy Efficiency Improvement	Avoid the impact caused by energy shortage or price fluctuation, and help to launch new products or services.	Within the Organization	Middle Term	Decrease of Operating Costs	1. Replacing old models with high energy consumption and updating new models year by year to improve energy efficiency. 2. The production capacity of new models will also help to meet the process requirements of new products.
Customer Behavior Change	When customer behavior changes, different considerations will be given to the selection of products or the provision of services.	Customers	Long Term	Emerging Market Development	The customer requests to draw up a green power use and carbon neutralization assessment plan. 1. First, conduct carbon footprint verification and establish the scope of verification 2. Formulate carbon reduction targets 3. Set up carbon neutrality targets
Low Carbon Energy	Reduce dependence on fossil fuels and gradually replace them with renewable or low-carbon or green energy.	Within the Organization	Middle Term	Carbon Assets Management	The solar power generation system has been built, with an additional budget of NT$348 million in 2022, with NT$41.96 million of budget planned for 2023, and the total power consumption of renewable energy will reach 1.7% in 2025.



4.2.3 Greenhouse Gas Inventory

GRI 305-1, 305-2, 305-4, 305-5, 305-7 TC-SC-110a.1 TC-SC-110a.2

Highest supervisory unit
The Board of Directors

Main Authority and Responsibility Function
Environmental Safety, Health and Energy Management Committee

Since 2009, all fabs have conducted annual independent checks and passed third-party verification.

- Check Basis: international standard ISO 14064-1
- Contents of the Check:
  Scope 1 (Category 1): Direct GHG emissions
  Scope 2 (Category 2): Indirect energy emissions
  Scope 3 (Category 3~6): Other indirect GHG emissions

Control and roadmap planning

- Responsible personnel for Greenhouse Gas Check report quarterly to the Board of Directors, who in turn follow-up on the year's progress and ensure that relevant checks are up to speed
- The Company shall complete all checks and verifications for its subsidiaries for 2022 by 2023 Q3 to ensure consistent scope of coverage with the Consolidated Financial Statement

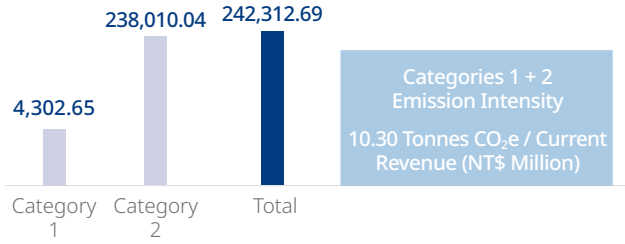
ChipMOS actively responds to the global trend of carbon reduction, brings mitigation and adaptation of climate change into important issues in operation management, and sets the Environmental Safety, Health and Energy Management Committee as the authority and responsibility function to promote carbon management issues. Since 2009, each fab has independently implemented inventory, established a GHG emission inventory, and identified key GHG emission sources in the production process for management. We conduct verification every year in accordance with ISO 14064-1 to ensure data quality and provide credible carbon management information to stakeholders. In 2020, the planned implementation was transformed into ISO 14064-1:2018, which would more accurately and deeply control the carbon emission management inside and outside the organization.

In 2022, the Company's GHG emissions (Category 1 + Category 2) were about 242,312.69 metric tons CO_2e; relevant analyses showed that out of ChipMOS' total GHG emissions, 98.22% are Category 2 emissions generated by purchased power, Category 1 emissions were less than 1.78% of. Due to safety and protection of the high-voltage equipment at Hukou fab., a total of 1,134 metric tons of CO_2e has been emitted due to the use of sulfur hexafluoride (SF6). In light of ChipMOS' emission structure, an energy-saving team has been established internally, to actively conduct energy-saving and carbon reduction management programs for various energy-consuming equipment. In addition to meeting the 1% energy saving requirement of the Bureau of Energy every year, the Company also replaced outdated equipment and adjust control parameters, to improve energy efficiency. For Category 1 emissions in very limited volume, we also strengthen control and promotion for low-carbon actions in daily operations, and reduce the use of natural gas, and gasoline and diesel used official vehicles.

Note1: In 2022, the Hukou fab. used 0.045 metric tons of sulfur hexafluoride (SF6) as insulation and arc quenching gas in high-voltage electrical equipment. However, SF6 is a greenhouse gas with a high global warming potential (GWP) of 25,200. This resulted in approximately 1,134 metric tons of CO_2e emissions. Additionally, the filling frequency of SF6 is approximately once every 10 to 15 years.
Note2: In response to the requirement of the EPA GHG Inventory Registration in 2022, an inventory of refrigerant fugitive emissions from equipment in the plant has been fully implemented, and the base year has been reset to 2022, resulting in an increase in the number of categories compared to that of 2021.In the future, when purchasing new equipment, we will prioritize the type of refrigerant with low GWP value and evaluate the feasible options for replacing refrigerants with high GWP value.

Emissions and Intensity of Categories 1 and 2

Unit: Tonnes CO_2e



Note1: The power emission coefficient-0.495 KgCO_2e/ kWh announced by the Bureau of Energy in 2022.
Note2: The cope of the inventory shall cover all of ChipMOS' facilities in Taiwan, as well as its Shanghai and U.S. subsidiaries

Emissions and Intensity of Categories 1 and 2 (Taiwan fabs only)

Unit: Tonnes CO_2e / Current Revenue (NT$ Million)



The Company will complete the GHG Inventory and verification for its subsidiaries in 2023 in preparation for pertinent legal requirements

Per Financial Supervisory Commission's official launch of the "Sustainable Development Action Plans for TWSE- and TPEx-Listed Companies" in 2022 and the U.S. SEC's rule changes that require companies to disclose their GHG emissions along with climate-related risks and their actual or likely material impacts on the business in conjunction with EPA's 2022 announcement "to include ChipMOS in the second batch of companies that are expected to register their GHG emissions", the Company has proactively implemented the following measures and responses:

- ChipMOS shall complete the 2022 Greenhouse Gas inventory and verifications for all fabs it operates along with its Shanghai and U.S. subsidiaries by May 2023 so that the scope of coverage will be consistent with its Financial Report.
- For its Hsinchu fab., Zhubei fab., Hukou fab., Tainan fab. and Tainan fab.2 with GHG emissions exceeding 25,000 metric tons of CO_2e each year, ChipMOS shall complete their verifications and register relevant outcomes for 2022 on the EPA platform before the end of August 2023.

ChipMOS regularly conducts greenhouse gas inventory and continuous reduction within the organizational boundaries every year. Since 2021, we have taken the initiative to add Category 3 and Category 4 verification in accordance with ISO 14064:2018. The projects concerned include: indirect GHG emissions generated by transportation (including "upstream/downstream transportation and distribution of goods", "business travel activities") and indirect GHG emissions generated by products used by the organization (including "purchased goods" and "solid / liquid waste disposal activities"), so as to find out the best feasible carbon reduction focus and actively invest in reducing GHG emissions.

Note 1: GWP: Global warming potential (citing IPCC: the sixth announcement in 2021)
Note 2: The cope of the inventory shall cover all of ChipMOS' facilities in Taiwan, as well as its Shanghai and U.S. subsidiaries

Category 3 and Category 4 Emissions for 2022

	Category	Calculation Boundaries and Assumptions	Emissions (Tonnes CO_2e)
Category 3	Upstream transportation and distribution	Inventory all GHG emissions generated during transportation for all raw materials and consumables purchased in the year	108.75
	Downstream transportation and distribution	Inventory all GHG emissions generated during transportation of products and tally the volume of gasoline and diesel fuels used by relevant vehicles	84.87
	Employee commuting	Employee commuting encompasses means of transportation such as driving a car, riding a motorcycle or taking public transportation	2,782.73
	Business travel	Business travel shall cover all means of land/sea/air transportations (such as taking the high-speed railway for domestic business trips)	73.05
Category 4	Purchased goods	1. Raw materials and consumables purchased for production-related purposes at the fabs 2. Emissions from the generation (by electricity or fuel) of externally purchased energy that do not fall under Categories I and II	45,759.65
	Capital Goods	Inventory of machinery and equipment procured during the year	10.18
	Disposal of solid and liquid wastes	Waste disposal inventory, such as the volume of annual waste disposal (i.e. domestic garbage, recycled items and so forth)	1,320.86
	Use of assets	Emissions from Asset Use (Electricity Consumption)	87.73
		Total	**50,227.83**

Base Year for Greenhouse Gas Calculation

Unit: Tonnes CO_2e

Category	Type of Fab	Hsinchu fab.	Zhubei fab.	Zhubei fab. 2	Hukou fab.	Tainan fab.	Tainan fab. 2	Shanghai subsidiary	U.S. subsidiary
Category 1 + Category 2	Base Year	2022							
	Total Emissions in the Base Year	49,377.38	40,470.82	10,400.34	30,905.21	80,011.10	31,118.06	1.19	28.59
	Base Year Setting Description	In response to the EPA regulations, the 5 fabs in Hsinchu, Zhubei, Hukou, Tainan, and Tainan fab. 2 have conducted a comprehensive inventory of refrigerant fugitive emissions from equipment and reset the baseline year to 2022.							
Category 3 + Category 4	Base Year	2022							
	Total Emissions in the Base Year	9,548.90	10,015.31	2,326.99	5,544.92	17,024.81	5,744.39	4.79	17.72
	Base Year Setting Description	The base year is reset to 2022, taking into account factors such as the inventory boundary, the way employees commute to the inventory, and the selected emission factor adjustment for upstream and downstream transportation.							

ISO 14067/PAS 2050 Product Carbon Footprint

In an effort to consolidate a foundation for the promotion of green products, green processes and green design, ChipMOS has proactively responded to the requirements of customers' carbon management plans. Apart from the carbon emission disclosure plan that covers GHG emissions, the Company has implemented carbon footprint inventory for specific product series starting from 2012 and continued to plan for the inventory of other products. In addition, the results of our carbon inventory have been verified by authorized third parties in accordance with ISO 14067/PAS 2050 standards to ensure the delivery of reliable carbon emission data to our customers. As of 2022, the Company has completed the carbon footprint inventory for 10 product series.

Being an assembly and packaging OEM service provider, ChipMOS has inventoried its carbon footprint as a service provider and analyzed the volume of GHG emission during each phase of its product lifecycles in order to achieve precise control over the exact hot spot of carbon reduction in its value chain. This would allow the Company to collaborate with its supply chain and external partners towards the goal of carbon reduction. Here at ChipMOS, the effort of carbon reduction not only runs from top-down but is also implemented duly from bottom to the top, starting from our entry-level employees working in unison, involving everyone to facilitate carbon management in our day-to-day management. By starting from our own operations and main line of business, we endeavor to inspire all employees to inculcate the spirit of carbon reduction.

As of the end of 2022, we have completed the carbon footprint inventory for 10 product series products

- TSOP(II)-54ME
- LCD Driver IC for COF (Chip on Film) (8 inch wafer)
- LCD Driver IC for COG (Chip on Glass) (8 inch wafer)
- LCD Driver IC for COG (Chip on Glass) (12 inch wafer)
- Gold Bump Wafer (8 inch and 12 inch wafer)
- Quad Flat No-lead Package (QFN)
- Ball Grid Array (BGA)

Y2022 completed

- RDL (Re-Distribution Layer)
- TSOP (Thin Small Outline Package)
- Wafer Level Chip Scale Package- Wafer Bumping (Include Wafer Backside Coating)

4.2.4 Energy Management and Efficiency

GRI 302-1, 302-3, 302-4 TC-SC-130a.1

The use of energy not only consumes the earth's resources, but also produces carbon dioxide and causes the greenhouse effects. Therefore, the efficient use of energy resources will help mitigate the impact on the environment. In view of the characteristics of the science and technology industry, ChipMOS is one of the major power users under the regulations of the Energy Administration of the Ministry of Economic Affairs. We have always adhered to a rigorous and cherished attitude towards energy use. Since 2012, we began to carry out energy-saving actions in a planned way, and continuously introduced various energy-saving technologies and equipment. In 2014, in Tainan fab, the ISO 50001 Energy Management System was introduced spontaneously. In 2017, Hsinchu fab. was also certified with ISO 50001 Energy Management System. Starting from 2020 onward, ChipMOS has taken a more aggressive stance in the use of renewable energy by constructing solar power generation equipment to increase the ratio of renewable energy consumption. At the same time, the Company continues to evaluate the viability of purchasing and developing other green energies as a way to reduce purchased power so that we can achieve the goal of net-zero emissions by 2050.

The collection of more precise and complex data every year helps strengthen our energy management strategies and make them more efficient. Statistics show that the purchased power accounted for more than 99% of the total energy consumption in 2022. In addition, 8 renewable energy certificates were purchased, accounting for 0.002% of the total energy consumption. In 2022, the Company used a total of 1,731,074.61 GJ of purchased power primarily for production and expansion of production lines that drove up our energy consumption, followed by natural gas at a total of 9,703.23 GJ, followed by diesel oil at a total of 234.44 GJ.

Type of Energy	2018	2019	2020	2021	2022	Unit
Purchased Power[Note 1]	438,232	449,151	466,290	494,358	**480,854.06**	Megawatt Hour
	1,577,635.31	1,616,605.52	1,678,642.23	1,779,688.97	**1,731,074.61**	Gigajoule (GJ)
Gasoline[Note 2]	6,700.68	7,675.96	7,546.80	6,515.31	**7,079.6**	Liter
	218.72	250.51	246.29	212.63	**230.79**	Gigajoule (GJ)
Diesel Oil[Note 3]	208,449.41	201,578.31	37,256.34	5,704.10	**6,679.20**	Liter
	7,678.19	7,084.59	1,309.40	200.47	**234.44**	Gigajoule (GJ)
Natural Gas[Note 4]	196,571.15	286,487.61	261,786.10	244,115.50	**258,064.70**	CBM
	7,563.58	10,787.94	9,786.39	9,192.41	**9,703.23**	Gigajoule (GJ)
Total (Total consumption of energy)	1,593,095.80	1,634,728.56	1,689,984.31	1,789,294.48	**1,741,243.08**	Gigajoule (GJ)
Energy Intensity[Note 5]	86.21	80.38	73.44	65.30	**74.04**	Gigajoule (GJ) / Current Annual Revenue (NT$1M)
Purchased Power/Total (Total consumption of energy)	99.03	98.89	99.33	99.46	**99.42**	%

Note 1: Electricity calorific value is converted as 1 kWh = 0.0036 gigajoules
Note 2: Gasoline calorific value is converted as 1 liter = 0.0326 gigajoules
Note 3: Diesel calorific value is converted as 1 liter = 0.0351 gigajoules
Note 4: The calorific value of natural gas is converted as 1 cubic meter = 0.0376 gigajoules
Note 5: Energy Intensity = absolute energy consumption (purchased power+gasoline+diesel+natural gas) / consolidated revenue of current year (NT$1M)

Highlight of Energy Saving Performance for 2022

- ChipMOS' power saving rate came to **1.17%** in 2022, with a total of **24** energy-saving solutions implemented.
- Improved energy efficiency and implemented energy conservation and carbon reduction by **2,871** tons of CO_2e
- Improved relevant designs and purchased new equipment with better energy efficiency that helped to save **0.55%** of power

Energy Saving Target for 2023

Plan to implement **26** energy-saving projects, energy-saving rate **1.58%**



In order to make more effective use of energy resources in important manufacturing sites, we continue developing various energy-saving projects, extend the scope of promotion from the public environment to the production end, carry out source control, and strive to create a low-carbon green energy production environment. Our specific measures include: upgrading of production equipment such as clean room system, ice water system, lighting reduction system, air conditioning reduction system and production machine environment.

- Equipment Energy Resource Reduction
- Smart Energy Saving
- Lighting Energy Saving
- Optimization of Operating Conditions

Major Energy Saving Actions in 2022

Energy Saving Category	Number of Projects	Investment (NT$1,000)	Annual Benefits[Note 1] (NT$1,000)	Annual Power Saved (Megawatt Hour)	Annual Energy Saved (MJ)	Carbon Reduction[Note 2] (T-CO_2e)	ROI[Note3]	Energy Saving Rate[Note4]
Equipment Energy Resource Reduction	11	17,571	6,066	1,989	7,160,389	985	2.9	0.40%
Smart Energy Saving	2	7,443	1,934	634	2,282,522	314	3.8	0.13%
Lighting Energy Saving	3	1,241	68	22	79,769	11	18.4	0.004%
Optimization of Operating Conditions	8	800	9,620	3,154	11,354,573	1,561	0.1	0.64%
Total	24	27,055	17,688	5,799	20,877,253	2,871	1.5	1.17%

Note 1: Calculation method of annual benefits: annual power saved *1 kWh electricity charge – NT$3.05
Note 2: Carbon Reduction is calculated as 0.495kgCO_2e/ kWh based on the emission coefficient announced by the Energy Administration in 2022
Note 3: ROI calculation method: input amount / annual benefits
Note 4: Energy Saving Rate: power saved in 2022 / total power consumption in 2021 (subject to the calculation method of the Energy Administration)



Green Energy Planning

The outsourced power used in the manufacturing process is the most important source of our overall carbon footprint. Therefore, we are committed to reducing the generation of outsourced power and continue to invest in renewable energy. To support the government's energy transition policy, in 2012, ChipMOS installed the solar energy panels on the roofs of Tainan fab., and signed the contract with Taipower for green power supply; subsequently, in 2019, the second solar power generation system was built. In 2021, the whole fab. was set up in a unified plan to expand the use of renewable energy in the northern fab. In 2021, four additional solar power generation systems were completed on the roofs of our fabs, with the capability up to 990.45 kW (Hsinchu fab., Hukou fab., Zhubei fab. 2 and Tainan fab.). As of the end of 2022, the Company constructed two solar power generation facilities on leased land, generating 932.66 kW of power. This brought our accumulated solar power generation during the past 11 years to a total of 4,935, 355 kWh, which can satisfy the monthly electricity consumption of nearly 14,021 households.

To actively achieve the carbon reduction goal, ChipMOS' next stage of development planning will focus on the self-generation and self-consumption of solar energy, by planing to complete the solar energy installation of 990.45 kW in 2021 and achieving the target of building 4.5 MW renewable energy by the end of 2023. At the end of 2022, the Company constructed two solar power generation facilities on leased land, generating 932.66 kW of power. Once the in-house solar energy facility planning is complete, for the mid-and long term, the Company will assess the possibility of purchasing and developing other green energy sources, to realize the more ambitious reduction goal.

Statistics of Solar Power Generation

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total	Unit
Power Generation kWh	290,168	263,360	269,152	265,176	234,512	256,608	258,632	243,120	357,800	943,110	1,553,717	4,935,355	kWh
Sunshine Hours	-	-	2,274	2,511	2,172	2,381	2,353	2,185	2,596	2,250	2,029	2,306	Hours / Year
Generation Efficiency	--	--	118	106	108	108	110	111	138	419	766	220	kWh

Note 1: Calculated based on the average monthly power consumption of 352 kWh per household in 2021 announced by Taipower (data taken from the official website of Taipower)



4.2.5 Gas Emission Control

Air pollution has adverse effects on climate, ecosystem, air quality, biological habitat, agriculture and human and animal health. ChipMOS actively invests resources to strengthen air pollution equipment, and achieves the effect of improving air quality through resource injection. Meanwhile, the emission data related to air pollution shall be regularly detected in accordance with various control standards of local regulations on gas emission.

In view of the characteristics of the product production process, ChipMOS only produces a small amount of volatile organic compounds (VOCs), sulfur oxides (SOx), nitrogen oxides (NOx) and particles at Zhubei fab. and Tainan fab; other fabs have no controlled stationery pollution sources requiring inspection.In 2017, Zhubei fab. and Tainan fab adopted the Regenerative Thermal Oxidizer (RTO Furnace) , and obtained the air pollution operation permit from the Environmental Protection Bureau, with the VOCs detection results of meeting the regulatory emission standards. Through the treatment of energy-saving and environmental friendly VOCs control equipment, the emission concentration was lower than the regulatory limit. Sampling inspection shall be carried out every year according to the permit requirements. In 2022, the removal efficiency of Zhubei fab. came to 92.7%, and 93.8% for Tainan fab. The sampling results met the air pollution discharge standards.

VOCs Emission (in MT)

Fab Area	Discharge Port	2018	2019	2020	2021	**2022**	Allowable Value of Local Competent Authority
Zhubei fab.	P102	-	-	-	-	**-**	<0.6kg/hr (35.89t/year)
	P103	-	-	-	-	**-**	
	P105	1.752	1.314	2.102	1.840	**2.024**	
Tainan fab.	P103	1.314	1.226	1.314	1.051	**1.314**	<0.6kg/hr (1.94t/year)
	P106	0.350	0.263	0.438	0.438	**0.438**	
Total		3.416	2.803	3.854	3.329	**3.776**	

SOx (in MT)

Zhubei fab.	P105	5.256	5.256	5.256	1.577	**3.215**	≦ 100 ppm (7.13t/year)
Tainan fab.	P103	-	-	-	-	**-**	2.039 t/year
	P106	1.314	1.051	1.051	1.051	**1.051**	
Total		6.570	6.307	6.307	2.628	**4.266**	

NOx (in MT)

Zhubei fab.	P105	3.767	3.767	3.767	3.416	**3.451**	≦ 150 ppm (10.968 t/year)
Tainan fab.	P103	-	-	-	-	**-**	0.68 t/year
	P106	0.438	0.175	0.175	0.175	**0.175**	
Total		4.205	3.942	3.942	3.591	**3.626**	

Particle (in MT)

Zhubei fab.	P105	0.613	0.613	0.613	0.613	**0.570**	≦ 50 mg/Nm^3 (0.88 t/year)
Tainan fab.	P103	-	-	-	-	**-**	0.408 t/year
	P106	0.263	0.066	0.066	0.066	**0.066**	
Total		0.876	0.679	0.679	0.679	**0.636**	

Note: According to the regulations, Tainan fab. conducts the testing of SO_x, NO_x and particles before extension, so the testing data for the year of 2019 will be adopted from 2019 to 2022.

4.3 Water Resources Management

GRI 303-1~303-5

4.3.1 Identification of Water Risks and Opportunities

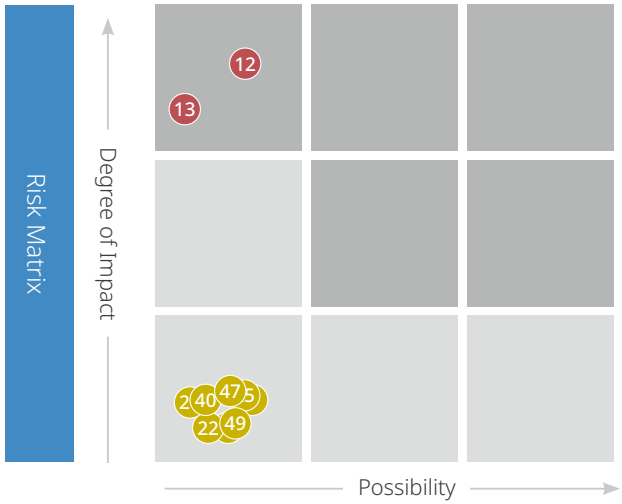
To cope with the high volume of process water consumption, making good use of water resources is the policy that ChipMOS has been actively promoting. Because of the extreme climate change has prolonged the impact of the dry season, we are facing the risk of water shortage. Therefore, it is more important to manage water resources effectively and identify relevant risks and opportunities.

According to the result of water risks and opportunity identification by ChipMOS ESG Committee in 2021, the Company has to manage a total of 51 water risks, including 2 major water risks; 19 water opportunities in total, including 3 major water opportunities. These add up to a total of 70 risk and opportunity items.

Introduction of ISO 46001 Water Efficiency Management Systems in 2023

ChipMOS plans to complete introducing the ISO 46001 Water Efficiency Management System in 2023-2024. The company will establish water use standards, performance targets, action plans, and regular evaluation and audit mechanisms through systematized management. This will help us to strengthen water efficiency and enhance resilience to drought response.

Water Risks and Opportunities





Major Water Risks

- 12 Water supply interruption
- 13 Extreme water shortage

Non-major Water Risks

- 11 Drought
- 22 Water price change
- 23 Water control regulations
- 24 Quality / quantitative discharge standard of drainage water
- 25 Mandatory water efficiency, water saving, recycling or process standards
- 27 Uncertainty of new regulations
- 40 Flood
- 47 Seasonal or annual variation in water supply
- 49 Plastic particles

Major Water Opportunities

- 13 Water efficiency
- 14 Waste water recovery
- 18 Adaptability

Non-major Water Opportunities

- 8 Production process
- 15 Green building

Source of Risk	Water supply interruption	Extreme Water Shortage
Risk Description	The water supply interruption caused by natural or other human factors has affected the operation of the Company or its vendors.	Extreme water shortage caused by natural or other human factors, with the severity increasing with time.
Impact to Value Chain	Within the Organization / Suppliers	Within the Organization
Time of Occurrence	Short term / long term	Long Term
Potential Financial Impact	1. Increase of direct cost (short term) 2. Decrease of operational income (short term) 3. Operation disfunction of the Company (long term)	1. Decrease of operational income 2. Operation disfunction of the Company
Management Practices	1. Hukou fab. followed the statutory application and built the 1,080 CMD anti-drought wells in 2021. 2. Entering contracts with water truck provider in advance for the dry seasons, to meet the water consumption required by the fabs.	

Source of Opportunity	Water use efficiency	Recycling of wastewater	Adaptability
Opportunity Description	Improve the use efficiency of operating water.	Recycling process or reusing of water for people's livelihood.	Increase its resilience to the impact of climate change.
Impact to Value Chain	Within the Organization	Within the Organization	Within the Organization
Time of Occurrence	Middle Term	Middle Term	Middle Term
Potential Financial Impact	Decrease of Operating Costs	Decrease of Operating Costs	Adaptation to climate change
Management Practices	Continued to invest in process water recycling equipment.		1. Hukou fab. followed the statutory application and built the 1,080 CMD anti-drought wells in 2021. 2. In 2022, Zhubei fab. built its process water recycling equipment 550 CMD.



4.3.2 Water Resources Risk Management

We continue to collect water resource use data, and use the risk assessment tool of "Aqueduct Water Risk Atlas" of the World Resources Institute to identify the risk level of water supply in the area where each fab. is located, so as to strengthen the water conservation policy. Through the data of water resources access sources and total water intake, it is helpful to understand the overall water use of ChipMOS, as well as the related potential impacts and risks. Currently, all fabs of ChipMOS are in the low or mid-low area of water resource pressure. Among our fabs, the water impact of the Tainan fab came to 0.214%, which is relatively higher compared to other facilities in terms of the impact on water source areas. This is primarily due to the larger water demand resulting from the packaging process characterized by the fab's products.

ChipMos has set clear water resource management goals and developed water utilization strategies to ensure efficient water usage. Efforts are made to conserve water at the source and invest in constructing process water recycling facilities. This allows for the reuse of process water, effectively improving water resource utilization and reducing the amount of water intake. These measures are aimed at minimizing the impact on water resources and mitigating environmental impact. In 2022, ChipMos had a total water intake of 1,767.131 million liters, which was approximately 31 million liters less than in 2021. The decrease in water intake is mainly attributed to the implementation of new process water recycling equipment at Zhubei fab and a reduction in water consumption during production processes.

Water Alert and Response

ChipMOS actively monitors the use of water resources. During the dry season, we track the storage capacity of the source reservoir every week, and each fab closely monitors the volume of tap water reservoir. If it is lower than the early warning value, we immediately confirm whether the water supply system inside and outside the fab is normal, so as to facilitate subsequent emergency treatment.

Measures in the event of a drought

- Set water storage alert thresholds, with each fab implementing daily monitoring and control measures to ensure that the water storage level is maintained at or above 95%.
- Enter into contract with water truck providers in advance to accommodate water consumption demands at the fabs
- Implement short, medium, and long-term voluntary water-saving measures at our fabs, such as reducing the frequency of RO system flushing and increasing the utilization of process and cooling water through recycling.



2022 ChipMOS Water Source Impact and Risk Level

Fab Area	Source of Water Resources	Water Risk Level[Note 1]	Regional Water Consumption[Note 2] (10,000 tons / day)	ChipMOS Water Consumption[Note 3] (10,000 tons / day)	Influence of Water Usage[Note 4]
Hsinchu fab.	Baoshan Reservoir Baoer Reservoir Yongheshan Reservoir	Low	56.9	0.04219	0.074%
Zhubei fab.				0.00278	0.005%
Zhubei fab. 2				0.00892	0.016%
Hukou fab.				0.02596	0.046%
Tainan fab.	Zengwun Reservoir Wushantou Reservoir Nanhua Reservoir	Moderate -Low	101.6	0.21781	0.214%
Tainan fab. 2				0.02926	0.029%

Note 1: The water risk level is based on "the Aqueduct Water Risk Atlas" of the World Resources Research Institute.
Note 2: Based on the total daily consumption of tap water in the region of the tap water company.
Note 3: Average daily tap water consumption of each fab in 2022.
Note 4: Water Usage Impact = water consumption of each fab of ChipMOS / regional water consumption.

Water Intake

(in Million Liters)

Fab Area	Water Source	2018	2019	2020	2021	2022
Hsinchu fab.	Tap Water	153.368	147.703	153.452	157.199	153.583
Zhubei fab.	Tap Water	43.959	63.995	65.170	12.253	10.116
Zhubei fab.	Underground Water	408.248	446.141	554.929	650.131	577.122
Zhubei fab. 2	Tap Water	26.304	28.256	30.031	32.304	32.468
Hukou fab.	Tap Water	89.690	81.931	81.437	86.886	94.511
Tainan fab.	Tap Water	781.888	943.653	994.405	769.073	792.815
Tainan fab. 2	Tap Water	30.895	56.376	69.829	90.669	106.516
Total		1,534.352	1,768.055	1,949.253	1,798.515	1,767.131

Note: Groundwater (well water) is mainly used in the processes of Zhubei fab. ChipMOS obtains the legal water right certificate issued by Hsinchu County Government every year.



4.3.3 Recycling of Process Water

Over the past 15 years accumulated recovered water has **11,364.141** million liters **equivalent to nearly** **4,546** international standard swimming pools saved

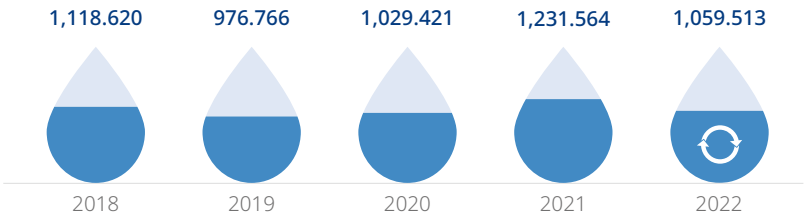
Because of the higher impact of water consumption in the Tainan fab compared to other ChipMOS fabs, the Tainan fab has invested in the construction of water recycling equipment for the grinding and cutting processes since 2008, and has been cooperating with equipment vendors and external organizations in order to recycle and reuse the process water in the manufacturing process by filtering through ultrafiltration membranes. Since 2015, Tainan fab has been using more process recycled water per day than the amount of tap water used. In 2022, the volume of process recycled water reached 115% of the tap water usage. Through the utilization of process water recycling equipment, the fab has effectively reduced water intake from the water source area by 1.3 times[Note 1]. This has minimized the environmental impact of operations to the lowest possible level.

In 2022, taking into consideration the production process characteristics of the fabs, ChipMos was more proactive in investing in the construction of a new process water recycling facility (550 CMD)at Zhubei fab. The facility is expected to recycle approximately 200.7 million liters of process water per year and it officially commenced operation in October 2022.Over the past 15 years, the accumulated recovered water has reached 11,364.141 million liters, equivalent to nearly 4,546 international standard swimming pools saved[Note 2].

Note 1: Through the use of process water recycling equipment, Tainan fab has improved its water efficiency and reduced water intake, resulting in a decrease in water impact on the water source area from 0.494% to 0.214%, translating to a 1.3 times reduction.
Note 2: Calculated according to 2.5 million liters of an international standard swimming pool (FINA).

Process Water Recovery at All Fabs.

(Unit: Million Liters)



During the production and operation in the fab, the consumption of water resources will be affected by many factors, such as the volatilization of air conditioning heat dissipation. A total of 537.070 million liters of tap water was consumed in 2022, increasing by 9.5% compared with that in 2021. The increase in water consumption is primarily attributed to the expansion in production area.

Water Consumption at All Fabs. (Unit: Million Liters)

2018	2019	2020	2021	2022
440.330	467.192	524.246	490.699	**537.070**

Note: Water consumption = Volume of water withdrawn - Volume of water discharged

ISO 14046 Water Footprint

About water resources management, in addition to saving water and recycling water, we also improve the water resource efficiency of the supply chain through the water footprint inventory. Moreover, we follow ISO 14046 and have third-party verification to improve the reliability of data. Since 2014, ChipMOS has completed the ISO 14046 water footprint verification of series products, and has passed the third-party certification, so as to effectively master the water resource status of production and provide customers with reference. The Inventory of Product Water Footprint includes: LCD Driver IC for COF (Chip on Film), LCD Driver IC for COG (Chip on Glass), 8 inch and 12 inch Gold Bump Wafer, Ball Grid Array (BGA) and Quad Flat No-lead Package (QFN), etc.

4.3.4 Wastewater Treatment and Discharge

Rivers play an important role in providing water resources, and also provide important habitats for many diverse animals living by water and grass. And as such, maintaining clean rivers is also an important part of ChipMOS' efforts in water resources management. Through various statistics on discharge volume, we have been conducting independent detection of process wastewater quality along with the implementation of effective management and continuous improvement.

The wastewater in ChipMOS fabs is discharged after proper treatment, which meets the current regulatory discharge standards, and is regularly tested according to the licensing requirements. Hsinchu fab. and Zhubei fab. 2 and Hukou fab. have no process wastewater. Hsinchu fab. and Tainan fab. are located in the Science Park, and Hukou. fab is located in the industrial zone, where the wastewater is discharged after unified treatment by the park sewage treatment plant and the industrial zone sewage treatment center. Zhubei fab. is also treated by the wastewater treatment plant. After confirming to meet the discharge water standard, the waste water is discharged to the receiving water body approved by the Environmental Protection Authority. Zhubei fab. and Tainan fab. independently set up the On-Line to monitor the wastewater discharge and ensure the quality of the discharged water. In 2022, about 1,230.061 million liters of wastewater were discharged, translating to a decrease of 5.95% compared with that of 2021, mainly due to the reduction of water intake after the new cutting process drainage recovery equipment was put into operation and reduction in production capacity.

Discharge Capacity

(Unit: Million Liters)

Fab Area/Project	2018	2019	2020	2021	2022	Treatment Method	Final Discharge Destination
Hsinchu fab.	122.695	118.162	122.762	125.759	122.866	Unified Treatment in the Park Area	Kehyea River
Zhubei fab.	434.432	492.003	603.619	639.643	543.148	Self-discharge Outside the Fab	Douzipu River
Zhubei fab. 2	5.261	5.651	6.006	6.461	6.494	Self-discharge Outside the Fab	Fengshan River
Hukou fab.	24.555	23.468	23.626	23.919	23.112	Unified Treatment in the Industrial Zone	Qiedong River
Tainan fab.	499.497	650.401	654.333	493.844	512.071	Unified Treatment in the Park Area	Dazhou Drainage Line
Tainan fab 2	7.582	11.177	14.662	18.190	22.370	Unified Treatment in the Park Area	Dazhou Drainage Line
Total	1,094.022	1,300.863	1,425.007	1,307.816	1,230.061	-	-

Note: Hsinchu fab., Zhubei fab. 2, Hukou fab have no process wastewater, and only domestic sewage is discharged.

Discharge water detection by water quality

Fab Area/ Project	According to the applicable standards	pH Value		Chemical Oxygen Demand (COD) (mg/L)		Suspended Solids (SS) (mg/L)		NH_3-N (mg/L)		Cu (mg/L)		Ni (mg/L)	
		Regulatory restrictions	Actual Test Value	Regulatory restrictions	Actual Test Value	Regulatory restrictions	Actual Test Value	Regulatory restrictions	Actual Test Value	Regulatory restrictions	Actual Test Value	Regulatory restrictions	Actual Test Value
Zhubei fab.	Discharge Water Standard	6~9	7.9 ~7.9	100	15.1 ~25.1	30	2.6 ~5.3	30	2.9 ~3.17	1.5	0.003 ~0.030	0.7	0.012 ~0.034
Tainan fab.	Permissible Standard for Sewage Sewers in the Southern Taiwan Science Park, Ministry of Science and Technology	5~10	7.8 ~7.8	450	15.9 ~57.1	250	1.5 ~44.4	60	2.55 ~18.0	3	0.051 ~0.162	1	ND ~0.030
Tainan fab. 2		5~10	8.0 ~8.0	450	23.5 ~66.1	250	4.0 ~33.0	250	17.0 ~23.0	3	0.024 ~0.046	1	ND ~0.048

Note 1: The water quality inspection items that ChipMOS gives priority to are mainly the process water in Zhubei and Tainan fabs, such as waste water from electroplating, etching, grinding and other processes, and waste water generated from the use of organic, ammonia, electroplating solution and other raw materials.

Note 2: Hsinchu fab., Zhubei fab. 2, and Hukou fab. are the testing fabs, so there is no test data for the process discharge water.

Note 3: The actual test value is the minimum to maximum values of the test results filed to the competent authority. ND indicates below detection limit.

4.4 Recycling

GRI 301-1, 301-3, 306-1~306-5

4.4.1 Reduction of Material Source

ChipMOS provides complete semiconductor back-end process services. The main raw materials for packaging, testing and materials include Solder Ball, Lead Frame, Substrate, Molding Compound and etc. We continue refining the production process, strive to improve the source, reduce waste, and understand the use of various materials by analyzing the annual material consumption rate. We have also continued optimizing the use of substrates and lead frames during production lines to reduce the consumption of invalid materials. Through the consolidation and utilization of materials, the switching consumption of molding compound was reduced, and the major raw material consumption was greatly improved. In the past five years, in the consumption rate of the major raw materials, the part of compounds has been continuously improved and decreased year by year; and we have continued to optimize the remaining raw materials for improved utilization efficiency so as to achieve our target loss value. The target consumption values for relevant raw materials in 2022 are as follows: solder ball (3%), lead frame (1.9%), substrate (0.6%) and compound (4%). These target values have been adjusted in accordance with the product portfolio as determined in the production plan for the year. Due to the fact that lead frame is a packing material that is subject to high customization, the demand for small batch production in 2022 has resulted in increased usage of lead frames, and we were thus unable to achieve the target consumption rate.

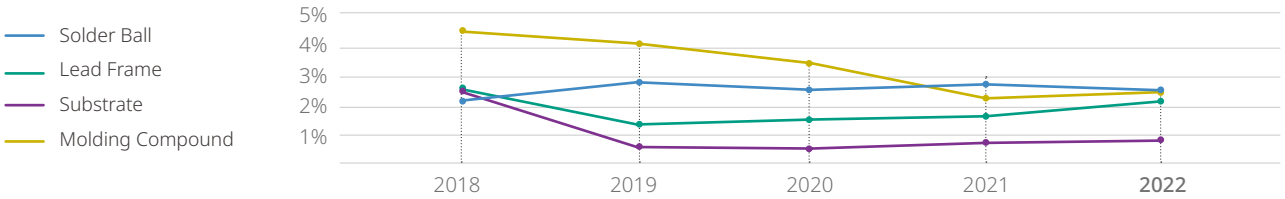
Quantities of Raw Material Consumed

▲ Non-recyclable ● Recyclable

Category		Unit	2018 Use Volume	2018 Consumption Rate (%)	2019 Use Volume	2019 Consumption Rate (%)	2020 Use Volume	2020 Consumption Rate (%)	2021 Use Volume	2021 Consumption Rate (%)	2022 Use Volume	2022 Consumption Rate (%)
Solder Ball	▲	1M	40,391	2.28	47,284	2.97	64,667	2.79	64,145	2.84	**58,513**	**2.68**
Lead Frame	▲	1M	524	2.64	825	1.61	843	1.66	1,164	1.72	**746**	**2.20**
Substrate	●	1M	874	2.54	577	0.58	752	0.52	788	0.67	**691**	**0.61**
Molding Compound	●	MT	317	4.55	322	4.08	352	3.45	429	2.36	**294**	**2.38**

Note 1: Consumption Rate = (actual use volume – BOM standard use volume) / BOM standard use volume x100%
Note 2: BOM= Bill of Materials

2018-2022 Material Consumption Rate



4.4.2 Reusing of Packaging Materials

ChipMOS provides professional and vertically integrated packaging and testing services. During the transportation of customers' supplied chips and IC products, we need to use wafer boxes and trays as the carrying tools, in combination with cartons and sponge buffer materials to achieve the effects of product protection. In order to reduce waste generation and reduce environmental load, we recycle and reuse reusable packaging materials.

During the IC testing and production, good products, secondary products and poor products are classified according to the product yield. In addition to using trays for loading, Velcro tapes (good products) used to fix the material trays will be replaced with PP tape for shipping and recycling after all test processes are completed. The secondary products and poor products are partially retested or scrapped according to the customer's instructions. The trays originally loaded are 100% recycled, screened according to the material specifications and standards, and then reused in the production process. Statistics of Main Packaging Materials for Recycling from 2018 to 2022 listed below:

Packaging Material Recovery

Item (Unit)		2018	2019	2020	2021	2022
Tray (Pcs)	Purchase Volume	1,117,000	1,054,500	1,198,050	1,235,250	**740,080**
	Reused Volume	1,551,803	1,584,081	1,411,776	1,849,440	**1,257,518**
	Reused Rate (%)	139%	150%	118%	150%	**170%**
Carton (MT)	Purchase Volume	16.9	20.8	22.5	24.3	**22.1**
	Reused Volume	17.4	22.1	24.5	26.8	**25.2**
	Reused Rate (%)	103%	106%	109%	110%	**114%**
Rubber Band (kg)	Purchase Volume	2,734	2,122	2,297	2,229	**1,903**
	Reused Volume	2,359	1,877	2,065	2,030	**1,768**
	Reused Rate (%)	86%	88%	90%	91%	**93%**
Wafer Box (MT)	Purchase Volume	0	0	0	0	**0**
	Reused Volume	77.98	113.7	137.4	139.1	**120.2**

Note 1: Main packaging materials are recycled and reused in ChipMOS fabs.
Note 2: Reused Rate (%) = Reused Volume / Purchase Volume
Note 3: The statistical value of cartons is corresponding to large cartons used by wafer for shipment, and the corrugated core paper is made of 100% recycled waste paper.
Note 4: The main source of the wafer boxes is the original box used for the purchase of products supplied by customers and the recycling after the chips are cut off the assembly line. ChipMOS has specially assigned persons clean to remove the labels and dirt on the boxes and then recycle the same for shipment. Therefore, there is no purchase volume.
Note 5: The purchased rubber bands are used for some of the customers' poor products, which shall be returned together with the finished products, so they cannot be recycled in the fab. The customers whose defective products are handled by ChipMOS can obtain rubber bands and trays for recycling after scrapping.

4.4.3 Proper Disposal of Wastes

TC-SC-150a.1

Promoting Circular Economy - Turning Wastes into Resources

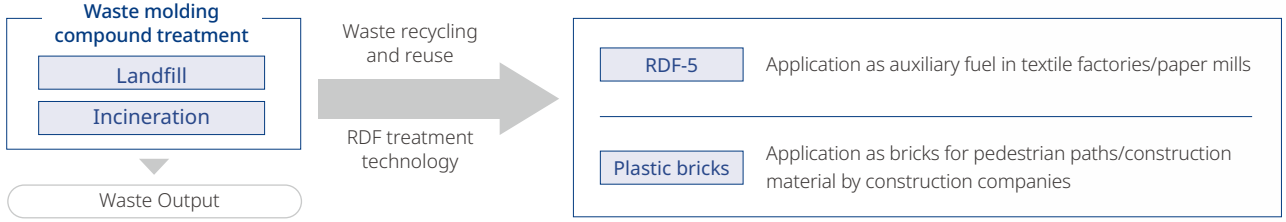
ChipMOS has promoted the waste reduction plan year by year, and together with the functions like process, facility, etc., extended the concepts of "Life Cycle" and "Source Management", and sought for reduction and recycling plans from the process and machine production process, and driven the circular economy in the fab, and made full use of resources through reduction, reuse, recycling and other ways, while taking into account economic development and environmental protection. In addition, the fab promotes "ISO 14051 Material Flow Cost Accounting", in order to master various information as the basis for management improvement, so that waste can become a resource in the circular economy, and then improve the value of resource reuse.

Case 1 Recycling and reuse of waste molding compound

In the past, the disposal methods for "waste molding compound" at our fabs have been landfill and incineration. To boost waste recycling rate, ChipMOS has been actively seeking ways of disposing and recycling waste molding compound since 2018. By entrusting the molding compounds generated as by-products of our processes to legally compliant RDF service provider, we are able to turn such wastes into reusable products. As of 2022, as much as 74.14% of ChipMOS' molding compound have already been recycled into plastic brick products. In 2023, we will continue to work with our recyclers and strive to bring our recycling rate up to 80%.

Reusable Products

- Refuse derived fuel (RDF-5) | It can be added to the coals as auxiliary fuel for broiler combustion. Most recyclers of RDF have been distributing this product to textile factories and paper mills
- Plastic bricks | It distributed to stone providers for applications such as pedestrian paths or used as a construction material by private construction companies.



Case 2 100% recycling and reuse for inorganic sludge

Due to the specific characteristics of our production, inorganic sludge is produced during the treatment of waste/sewage water at Tainan fab. and Zhubei fab. It is created by adding chemical coagulants into wastewater so that floc, suspended particles or specific soluble pollutants will clump together. In order to ensure sustainable reuse of relevant resources, ChipMOS has decided to no longer dispose inorganic sludge by means of solidification or landfill. Instead, we have commissioned authorized disposal service providers to perform relevant physical/thermal processes on the sludge produced at our fabs for 100% recycling, creating an end-product that can be used as raw material, material, fuel, construction filling, land improvement or an additive in mixed concrete, civil engineering mix material or low-strength pre-mixed concrete.

Waste Management

In order to ensure that the wastes generated under the operation of ChipMOS comply with the environmental, safety and health treatment procedures, in addition to its own operation activities, ChipMOS also inspects the waste related impacts caused by upstream / downstream activities of the value chain, and comprehensively grasps the impact on the environment. Based on the ISO 14001 Environmental Management System, ChipMOS conducts environmental impact assessment and response management every year from the perspective of product life cycle, including raw material supply, in-fab production and manufacturing, and waste disposal.

The wastes generated in the upstream and downstream stages of ChipMOS have relatively low environmental impacts. For the upstream (raw material stage), ChipMOS adopts green materials to make the products free of environmentally harmful substances (refer to the Chapter Green Products for details); for the downstream (waste treatment), ChipMOS entrusts qualified manufacturers to handle it according to law and conducts regular audit and supervision. The hazardous waste generated by the production and manufacturing in the fab has relatively high environmental impacts. We further develop risk / opportunity and action measures or target management projects to minimize the impacts on the environment.

From the 2022 statistics on wastes handling and disposal, the ratio of incinerated wastes has fallen from 51.44% in 2021 to 46.33% in 2022, while the percentage of non-hazardous waste out of all wastes has been increased to 66.59%; as for recycling rate, it has grown from 34.70% in 2021 to 37.80 in 2022; in the past five years, the intensity of our non-hazardous wastes has shown gradual decrease over the years, while the intensity for hazardous waste remained at below 0.05.

Methods of Waste Disposal in 2022

Unit: Ton

Classification	Biological Treatment	Recycling / Reuse	Chemical / Physical / Curing	Incineration / Heat Treatment	Overseas / Landfill	Total	Reuse Rate
Nonhazardous	125.04	871.58	139.04	568.72	0.00	1,704.38	51.14%
Hazardous	0.00	95.85	142.24	617.02	0.00	855.12	11.21%
Total	125.04	967.43	281.28	1,185.75	0.00	2,559.50	-
Waste Proportion	4.88%	37.80%	10.99%	46.33%	0.00%	100.00%	37.80%

Note 1: The waste disposal conforms to the "Waste Disposal Law" and the qualified scavenger / processor is entrusted to dispose of the waste off the site. ChipMOS regularly audits the joint declaration, monitoring system and final disposal flow of the scavenger / processor.

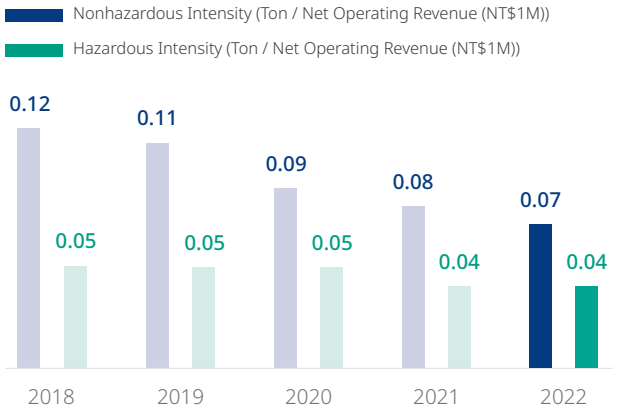
Note 2: Overseas / Landfill:

(1) Landfill (nonhazardous): waste dust/ash is processed by landfill.

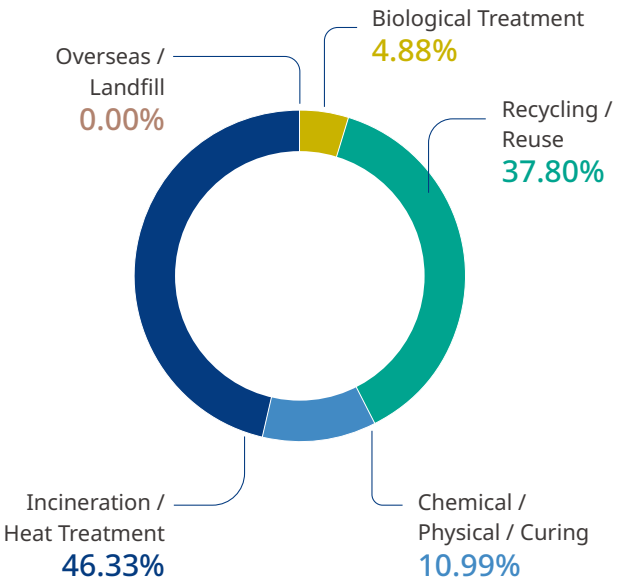
(2) Overseas treatment (hazardous): parts and components (waste printed circuit boards) and waste electronic parts and components' leftover products and defective products (IC/Wafer). The export of wastes shall be subject to the application for the Consent of Export of Goods, Post Export Shipping Order, Network Copy, andReceiving Records of the treatment plant in accordance with the Basel Convention.

Note 3: The scopes of waste statistics in the table covers all fabs of ChipMOS (Hsinchu fab. / Zhubei fab. / Zhubei fab. 2 / Hukou fab. / Tainan fab./ Tainan fab. 2)

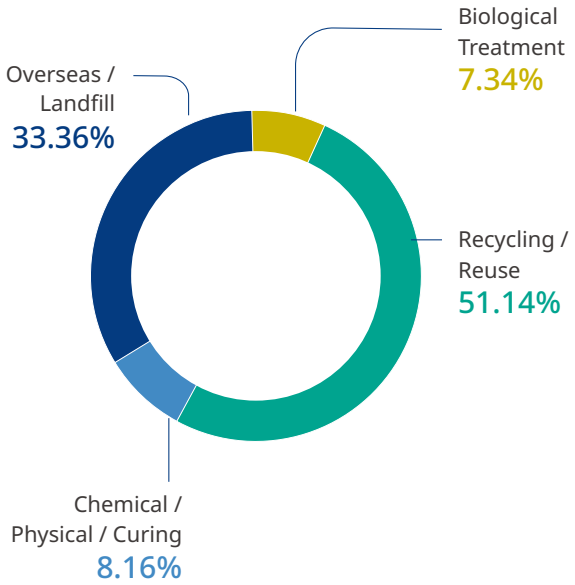
Waste Intensity in 2022



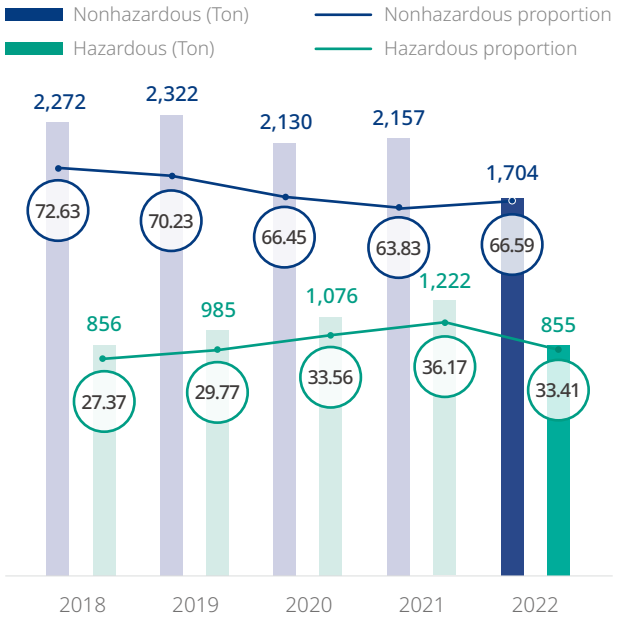
Waste Disposal Proportion in 2022



Nonhazardous Waste Disposal Proportion in 2022



Weight and proportion of waste over the years



Featured Cases of Waste Reduction and Improvement in 2022

Introduced laser mold cleaning machine to reduce the production of resin residue

Subject Matter: Reduction of resin residue by 10% ▶ Results: Reduction of resin residue by 52.5%

Reduction of waste cutter

Subject Matter: Reduced the usage of uSD cutter by 36 units ▶ Results: Reduced 72 units

Reduction of AIR BLOW waste parts

Subject Matter: Waste parts reduction by 30% ▶ Results: After the annual improvement, the failure rate dropped to 0% and waste parts has been reduced by100%

Decrease in total pallet clearing

Subject Matter: The annual disposal rate for wooden pallets has been less than 5% of that in 2021 ▶ Results: The total volume of wooden pallets disposed in 2022 has fallen by 36% compared to that of 2021

Inorganic sludge reduction

Subject Matter: Sludge water content has been reduced from 85% to 70% ▶ Results: Sludge water content has been reduced to 69.7%

Recycle and reuse of red label TRAY improvement solution

Subject Matter: Recycled and reused BJ-E266 red label TRAY to reduce the usage of new TRAY by 15% ▶ Results: With the production lines increasing their use of red label TRAY over the months, the collection and use of new TRAY fell significantly. Compared to that of 2021, the collection and use of new TRAY fell by 256%

Label card and adhesive tape reduction solution

Subject Matter: Reduction of 50% in the monthly use of label cards and adhesive tapes ▶ Results: The monthly average usage rates of paper (for label card making) and zebra adhesive tape have been effectively reduced by over 53%.

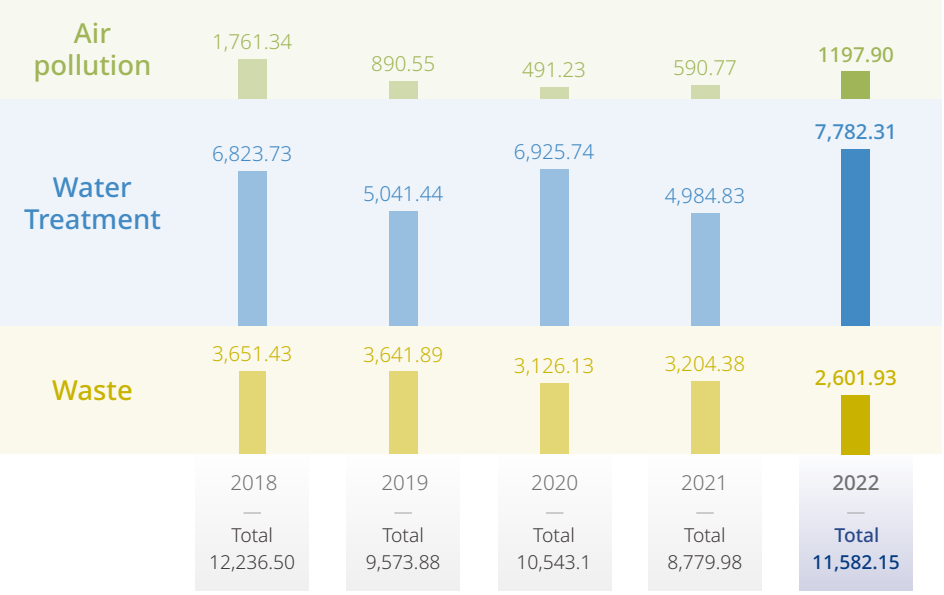
Note: This Form describes the waste reduction plan proposed by relevant production units of the Company and the actual achievements.

4.4.4 Environmental Protection Expenditure and Investment

Regular tracking and analysis of the environmental protection expenditure help us to evaluate the implementation efficiency of environmental measures and internal cost-benefit analysis. ChipMOS annually compiles the environmental protection cost to invest in the software and hardware equipment related to the environment, including improving and upgrading air pollution control, water treatment and waste treatment, and committing to reducing environmental impact.

Environmental protection expenditure and investment in 2022, including environmental protection operation, environmental protection prevention (control) equipment and maintenance expenditure, came to a total cost of approximately NT$115,821,500.

Environmental Protection Expenditure and Investment (in NT$10,000)



Note 1: due to the installation of process water recycling equipment at Tainan fab. and Zhubei fab. in 2020 and 2022 respectively, the costs for water treatment have increased as a result.
Note 2: due to the maintenance of VOCs pollution control equipment RTO combustion chamber and installation of noise-damping equipment at the fabs in 2022, air pollution fee has increased significantly.
Note 3: Figures presented in this table are reported as pre-tax amounts

4.5 Green Products

TC-SC-440a.1

4.5.1 Policies, Commitments and Objectives

In order to protect manufacturers, users and the earth's environment, ChipMOS sets strict standards for raw materials used in products. These standards are stricter than the provisions of pertinent domestic laws. With the goal of complying with international standards, ChipMOS also conducts annual appraisal through a third-party impartial organization to ensure the effectiveness of ChipMOS' hazardous substance management mechanism and that all its products are safe and harmless for the planet and all its inhabitants. ChipMOS introduces green materials to make its products free of environmental hazardous substances and enhance their green competitiveness. We promise to:

- **Complying with hazardous substances related laws, regulations and customer requirement. And to provide the products which meet the hazardous substances free requirements.**
- **Establish the hazardous substances management system, and promote hazardous substances free consciousness for ChipMOS employees.**

In accordance with the green product policy, the achievement performance of the annual objectives shall be counted at the end of each year, and the management items and objectives for the next year shall be discussed and formulated at the beginning of the next year. The target performance of green products is regularly reported to the management during management review meetings to ensure consistent and effective management. In view of the goal of safe material management, we set that in the next three years, there will be no more than 0 customer complaints of abnormal product hazardous substances, and the compliance of material management regulations will be fully in line with international regulations. In 2022, ChipMOS received zero customer complaints relating to hazardous substances in products, thus meeting our goal.

4.5.2 GPM Green Product Management System

In order to ensure that the products we provide to customers comply with the laws and regulations related to green products, we have always been meticulous and prudent when it comes to the management of raw material sources. By establishing our Green Product Management System (GPM), we are able to effectively manage the composition and analysis report of the vendors' materials, continuously adjust the internal relevant purchase requisition and acceptance process, and integrate the data with the green product management system into the automatic inspection mechanism to ensure that the raw materials that do not meet the green product requirements will not be purchased or accepted.



4.5.3 Safety Material Management Process

ChipMOS defines the control items of prohibited and restricted hazardous substances according to the regulations on hazardous substances of customers and the requirements of relevant international environmental protection laws and regulations, and then controls them through the Advanced Product Quality Planning (APQP), new product introduction, process change and vendor management of hazardous substance control. We also conduct routine monitoring, including internal audit, third-party verification/audit, incoming material inspection, sampling inspection for incoming material and shipping of end products using X-ray Fluorescence Spectrometer (XRF) along with effective green management during relevant manufacturing processes. In the event of any noncompliance or anomaly, the issue shall be handled in accordance with our hazardous substance anomaly handling procedure. In addition, the vendors shall submit the questionnaire of relevant hazardous substances, Material Composition Declaration (MCD), Guarantee letter and other relevant verification materials through ChipMOS GPM system.

Control Scope of Hazardous Substances

EU Directive on the Restriction of Hazardous Substances (EU RoHS)

Lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls, Polybrominated Diphenls, bis (2-ethylhexyl phthalate) (DEHP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), di-isobutyl phthalate (DIBP) and so forth. (Please refer to EU website)

International Environment Regulations

California Proposition 65, China RoHS, Directive for Packaging Materials, U.S. Toxic Substances Control Act (TSCA)

Halogen-Free Requirements of Products

Bromine, Chlorinate

EU REACH

Annex XVII, SVHC (Please refer to EU website)

Customer Standards

ChipMOS Customer Requirements

Perfluorooctane sulfonate (PFOS) Perfluorooctanoate (PFOA)

4.5.4 IECQ QC 080000 Third Party Verification

The materials, products, packaging, parts and components (collectively referred to as "products") produced by ChipMOS and related vendors and outsourcers shall comply with the RoHS directives, ChipMOS specifications for prohibition / restriction of hazardous substances and customer requirements. We endeavor to pay attention to the latest update of international regulations on hazardous substances in products at all times to ensure continuous compliance.

ChipMOS Taiwan fabs has obtained third-party verification according to the IECQ QC 080000:2017 Management System standards for the following facilities: Hsinchu fab., Zhubei fab., Hukou fab., Zhubei fab. 2 and Tainan fab. (Tainan fab. 2 included). These efforts also enabled us to eliminate toxic substances from the manufacturing and recycling process, not only protecting employees and operators, but also avoiding land, air, water and environmental pollution. We strive to realize and advance sustainable global environmental ecology.



CHAPTER

05 Customer Service and Sustainable Supply Chain



12 RESPONSIBLE CONSUMPTION AND PRODUCTION

17 PARTNERSHIPS FOR THE GOALS

Highlight of the year's notable achievements

Customers' Recognitions in 2022

A major customer awarded its "Engineering Technology Award" to ChipMOS in 2022 as a way to acknowledge the technologies, quality and service capabilities the Company offers and it inspires us to keep striving for greater heights so that we can remain as a trustworthy long-term partner for our customers.





Summary of Recognition

Technical Capabilities	Proactively supported the introduction of new products (completed 6 automotive specification verification) and promotion of factory information flow automation (achievement rate for 2022 reached 95%)
Quality capabilities	Promoted intelligent inspection and introduced 100% AOI equipment at relevant stations
Service capabilities	Actively responded to customers' needs, such as offering immediate production and manufacturing information to the customers

Management Policy

Policy	To perceive our customers and suppliers as long-term collaboration partners and adhere to the spirit of serving customers and continual improvement as we provide comprehensive product services; to abide by the RBA Code of Conduct as the guideline for our supplier management policy so that we can grow and achieve sustainable management
Commitment	We commit to deliver competitive products and services to customers to accommodate their needs in a prompt and timely manner; we shall establish comprehensive supplier management and guide our suppliers to abide by the RBA Code of Conduct so as to achieve ESG sustainable actions
Resources	▪ ESG Committee ▪ Supplier Management Committee
Specific Actions	▪ Customer Problem Handling Mechanism ▪ Fab-wide Continuous Improvement Proposal Activities ▪ Selection of New Suppliers ▪ Supplier Evaluation, Audit, Continuous Coaching Improvement ▪ Drive suppliers to procure 100% of non-conflict materials
Evaluation Mechanism	▪ Customer Satisfaction Survey ▪ Supplier RBA Audit, Customer audit ▪ Declaration and Reporting of Conflict Minerals ▪ Sustainability evaluation by investment institutions

5.1 Customer Service

GRI 418-1

Master customer needs and achieve service satisfaction	
Instant information	Not only an outsourcer, but also a customer's fab and trusted partner
Effective measures	Effective measures can solve problems and meet requirements at one time
Immediate implementation	Immediate / punctual implementation of customer requirements and specifications
All year round	365 days, 24 hours, uninterrupted provision of customer products and services
Comprehensive thinking	Consider customer needs from the customer's point of view

5.1.1 Multi-dimensional communication pipelines, ensuring real-time and accurate reply

ChipMOS attaches importance to customer feedback and suggestions, and provides multiple channels to receive customer feedback as an important basis for internal growth and refinement. Keep a smooth communication channel with customers, listen to customers' voices and exact needs, take immediate inspection, evaluation and analysis for customers' opinions and suggestions, and provide customers with specific improvement plans. According to the customer satisfaction survey results in recent three years (on a scale of 5), all evaluation items have reached the 2022 target, and the overall satisfaction level has reached more than 3.5 points. In the spirit of sustainable development, we will actively understand customer needs to improve customer satisfaction. We will also gradually increase the target score for the medium and long term in view of the customer satisfaction goal, so as to achieve the sustainable operation and growth of the Company.

Customer Communication Channels

Customer Meetings

Regular meetings with customers

- Purpose: specifically understand customer needs and idea
- Frequency: set the frequency of regular meetings according to the attributes of each division and customer, and communicate with customers

Field Visit

Visit customer and actively communicate

- Purpose: listen to customers' voices and understand their exact needs. However, due to the pandemic in 2022, most customers mainly used video or telephone connection.
- Frequency: visit customers irregularly

Evaluation of Outsourcers

Evaluation data from customers

- Purpose: understand customer feedback and suggestions
- Frequency: monthly / quarterly

Customer Satisfaction Survey

It was actively sent by ChipMOS, mainly by the top three customers of each division. In 2022, 22 copies were distributed and 22 copies were returned.

Frequency	annually
Contents	"Quality Level", "Technical Capability", "Hazardous Substance Management", "Lead Time Achievement" and "Service Satisfaction".
Purpose	fully understand the customer's satisfaction in respect of various operations
Action	divide the feedback results into short-term and long-term improvement items: ▪ The short-term improvement projects will be reported at the weekly and monthly meetings of the production line. The relevant responsible units will put forward improvement plans for projects with customer feedback and lower than 3 points, and formally reply to the customers. ▪ For long-term improvement projects, relevant plans are put forward and tracked in regular weekly and monthly meetings with customers, in order to truly handle and master customer needs.

Customer Satisfaction Survey Results in Recent 5 Years

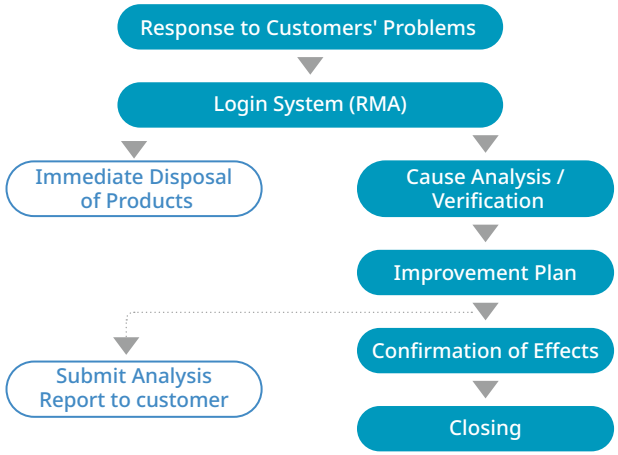
Item / Year	2018	2019	2020	2021	2022
Quality Level	3.87	3.97	4.15	3.99	**4.01**
Technical Capability	3.9	3.95	4.24	3.99	**4.02**
Hazardous Substance Management	4.45	4.41	4.53	4.60	**4.65**
Lead Time Achievement	3.96	4.00	4.06	3.92	**4.03**
Service Satisfaction	4	4.04	4.18	4.17	**4.17**
Overall Scores	3.87	3.81	4.12	4.02	**4.04**



5.1.2 Customer Problem Handling Mechanism

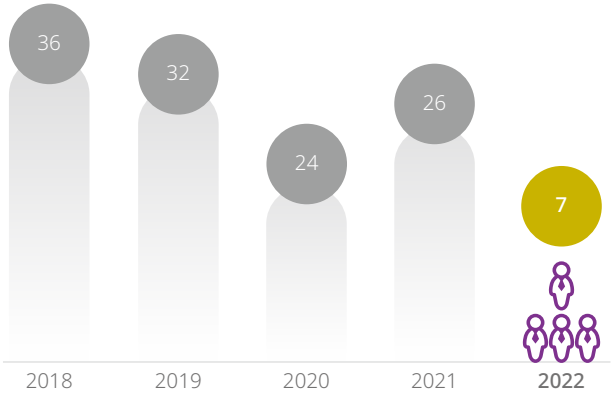
In order to effectively deal with customer complaints, ChipMOS has established a clear customer complaint handling process for the feedback of abnormal customer quality. The quality service function serves as the main responsible unit between the customer and the fab. When the quality service window of ChipMOS receives the customer's quality problem feedback, it will immediately log in to the system and conduct impact batch investigation, then implement isolation and marking, and further convey the customer information to the relevant responsible units for the real cause investigation and verification. Put forward improvement measures according to the special needs of customers or standard 8D analysis methods, and track the implementation results of follow-up improvement measures. For customer complaints, the investigation of abnormal causes must be completed within 5 days after the formal registration of the case. Effective countermeasures must be put forward, so as to carefully and timely solve customer problems. Other non-quality oriented opinions are effectively communicated through the diversified communication channels provided by the Company, in order to meet customer needs and comprehensively improve customer satisfaction in respect of product quality, yield, technology, delivery date and service.

Customer Problem Handling Procedure



ChipMOS is committed to improving customer satisfaction performance. With the diversification of products and the growth of shipment volume year by year, we continue improving product quality, actively strengthen internal education and training, and improve customer service processing capacity. As a result, the customer complaints are declining year by year, the closing rate is also reaching 100%. ChipMOS also actively investigates the real causes of customer complaints, strengthens preventive measures to thoroughly solve customer complaints, consolidates customer cooperation and trust, and creates win-win results.

Number of Customer Complaints in Recent 5 Years



5.1.3 Customer Privacy and Information Protection



ChipMOS attaches importance to customer privacy and intellectual property rights. Any information related to customers is treated as confidential documents for control. We have set up an electronic data leakage protection system to protect customer data. All customer confidential documents are protected by the TrustView. All internal documents of the Company have been written in the form of customer codes to avoid exposing customer names. Through quarterly vulnerability scanning, we can effectively deal with high-risk events.

In addition, ChipMOS has actively built an information security management mechanism. All fabs have passed the third-party verification of ISO/IEC 27001:2013 Information Security Management System. There have been no customer complaints related to customer information leakage in the past five years.

5.2 Product Quality

"ChipMOS promises that the products and services delivered to customers can meet customer needs, and have market competitiveness and timeliness."

ChipMOS Quality Policy

- Product Quality — meet customer's request
- Product Cost — competitive in the market
- Product Delivery — on time delivery

5.2.1 The quality system has passed the third-party quality verification

ChipMOS fabs have passed ISO 9001 Quality Management System, IATF 16949 Quality Management System for Automotive Industry and ISO 26262 Road Vehicles - Functional Safety Certification. In addition, the electrical property testing field, electric quantity and temperature correction field and chemical analysis field of the Quality Laboratory (at both Tainan fab. and Zhubei fab.) have also passed the certification of the Taiwan Accreditation Foundation (TAF) ISO/IEC 17025 respectively. The product quality and production of ChipMOS meet a number of international standard quality specifications and requirements.

Passing Ratio of each fab 100%

- ISO 9001 Quality Management System
- IATF 16949 Quality Management System for Automotive Industry
- ISO 26262 Road Vehicles - Functional Safety Certification
- ISO/IEC 17025 Laboratory Quality Management Systems

Note: Hsinchu fab., Tainan fab. (Tainan fab. 2 included), Zhubei fab., Zhubei fab. 2, Hukou fab.

Note 2: The ISO/IEC 17025 Laboratory Quality Management System is verified only for the facilities with laboratories at ChipMOS, which would be the Zhubei and Tainan fabs.

Reliability System

In an effort to improve product quality and reliability, ChipMOS has established a manufacturing quality control system that can maintain product reliability and high yield, and has the most advanced instruments to monitor and control product manufacturing quality and reliability, including:

Reliability Analysis, including: temperature cycling tester, pressure cooking tester and highly accelerated stress tester
Physical Failure Analysis, including: scanning acoustic tomography and scanning electron microscope
Electrical Failure Analysis, including: semi-automatic probe instrument, curve measuring instrument and DC testing machine
Chemical Analysis, including: atomic absorption spectrometer, inductively coupled plasma emission spectrometer and automatic potentiometric titrator

Inculcate intelligent production to improve quality protection.

Since 2018, the Company has been proactively pushing to create its automatic intelligence factory. According to the products and environment, ChipMOS introduces big data, automatic program control, AI, automatic loading and unloading devices, laser mold cleaning machine and etc. By integrating product logistics, information flow and talent flow, combines software and hardware technologies, and specifically improves production efficiency and product quality. For many years, we have continued to strive to promote automation projects in various product lines, maintain ChipMOS' professional technical competitiveness, and strive to provide customers with high specifications, high quality and high services.

5.2.2 Establish the correct quality awareness of employees to improve quality

"In order to effectively improve product quality and customer satisfaction, we take the initiative to monitor, warn and prevent, so as to achieve quality management with risk thinking, thus minimizing product risks."

Monitoring

monitor quality indicators, strengthen internal audit mechanism, and implement improvement cycle

Warning

earlier warning, level deviation and shutdown

Prevention

strengthen data analysis to achieve effective and immediate quality management

ChipMOS has proactively responded to climate change issues and implemented relevant energy conservation and carbon reduction policies. In 2022, we leveraged our ID BOX proposal platform and added a new category of "Energy Conservation and Carbon Reduction" along with the setting of specific proposal targets for relevant business units. Through our proposal incentive mechanism, we aim to encourage all employees to brainstorm and offer their creative ideas so as to inspire novel thinking on carbon reduction that could lead to concrete changes, thus enabling us to work together and mitigate the impacts of climate change.

Benefit **NT$17.64 Million**

PIT Proposals **58** in total

Technological development and improvement	System flow improvement
41 proposals	**17** proposals

ID BOX Proposals **438** in total

Engineering improvement	Process improvement
169 proposals	**269** proposals

* For more details on the performance and results of our energy conservation and carbon reduction proposals, please see CH4 Environmental Friendly

Action 1 | Quality Awareness Publicity Activity

In order to implement the ChipMOS quality policy and ensure that it is effectively communicated to all ChipMOS employees, we have taken positive and positive actions. Since 2018, we have promoted quality awareness publicity activity, and continuously promoted the concept of quality awareness to employees in the form of physical and electronic bulletin boards through the Quality Concept Announcement and Automotive Quality Promotion and Sharing, thus ensuring that ChipMOS quality policies and concepts are deeply rooted in the hearts of the staff, and ChipMOS' determination to create high quality is clearly expressed to all stakeholders.

Action 2 | Reward for proposals to jointly improve product quality

In order to ensure that the policies and objectives can be effectively and continuously improved, a set of continuous improvement mechanisms and activities are established to enable all employees to participate in quality management activities. In addition, we provide proposal incentives to encourage colleagues to put forward effective solutions, strengthen the Company's quality culture, and continuously improve product quality and production efficiency. Two important quality control functions are: the Process Improvement Team (PIT) and the IDEA BOX (ID BOX). Through the proposal system and cross functional teams, we implement and promote the continuous improvement of the whole fab.

In 2022, there were 58 PIT proposals across all whole fabs, along with 438 ID BOX proposals. The benefits derived from the combination of the two amounted to NT$17.64 Million, of which the achievement rate of the PIT proposals exceeded 100% for consecutive years. In the future, we will continue taking incentive measures, such as proposal incentives, to encourage colleagues to communicate and brainstorm across departments, stimulate innovative idea and improve problem-solving ability, and continue improving ChipMOS' high-quality green competitive advantages, and create a win-win situation with customers.

Achievement of PIT & ID BOX Proposals over the Years

Item	Proposal Activities	2020	2021	2022
Targeted [Note 1]	PIT	33	32	**32**
	ID BOX	170	146	**140**
Total Proposals	PIT	46	66	**58**
	ID BOX	511	426	**438**
Achievement Rate (%)[Note 2]	PIT	139	206	**181**
	ID BOX	301	292	**313**
Benefits[Note 3] (NT$ 10,000/Year)	PIT & ID BOX	2,388	6,632	**1,764**

Note 1: The PIT & ID BOX set targets for the number of proposals annually, and count the performance of the number of proposals every month.
Note 2: Achievement Rate = number of proposals / targeted number x 100%
Note 3: The benefits (NT$/year) are the costs saved after the improvement of the proposal.



5.3 Supply Chain Management

GRI 2-6, 204-1, 308-1, 308-2, 414-1, 414-2

Structure of Value Chain

Upstream | Midstream | Downstream

Order Taking → Suppliers → ChipMOS → Transportation → Modules/Customers/ Product Applications

Environment and Human Right Management Guidelines: Compliant with the RBA Code of Conduct

- Direct Materials: Major Raw Materials, Chemicals,Target Materials
- Indirect Materials: Packaging Materials



IC Assembly



IC Testing



Wafer Bumping

- Automotive Electronics
- Consumer Electronics
- Computers and Peripherals
- Cloud-based Servers
- Network Communication Equipment

Management Issues

Environmental Issues

Climate Change Management, GHG Emissions, Energy and Resources Efficiency...

Social Issues

Healthy and Safety, Human Right, Equality and Inclusion, Social Welfare and Environment Conservation...

Governance Issues

Risk Management, Product Quality, Sustainable Supply Chain, Customer Service..

For the details, please refer to: 2.2.3.3 Analysis Results of Material Topics

5.3.1 Sustainable Supply Chain

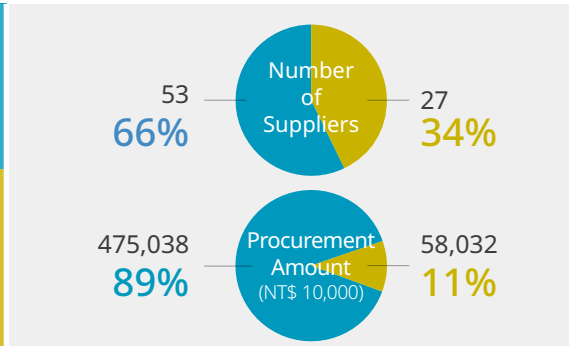
The production and operating activities of ChipMOS, not only create the direct economic values, more importantly, help the up- and downstream industrial chain to create the indirect economic values via the technology cooperation. By following the RBA code of conducts as the policy guidelines for the supplier management, it is committed to promote the local sourcing strategy and supplier coaching, seeking to improve the overall competitiveness and create the win-win situation.

The major procurement items of ChipMOS include the raw materials, machine and equipment, parts and component, plant affair facilities, information devices, among other things. Currently, the suppliers with long-term relationship are more than 900; of which, the raw material suppliers are essential to the Company's daily operations, including production and quality of shipped products, and accounting for 41% of the total annual procurement amount in 2022; which is most influential and direct to the production and operation, so it is listed as the key item for the supplier management. ChipMOS is committed to enhance the Company' s competitiveness and partnerships in the supply chains. The key material supplier barrier is established based on the annual procurement amount (greater than NT$5 million) and feature (the only supply source or unreplaceable), and control and coach these key suppliers, to achieve the goal of effective management and continuous improvement.

For the management of the key raw material supply chain, the key materials for the Company's products include auric potassium cyanide (KAu(CN)2), substrates, gold wires, lead frames, molding compounds, among other things. By insisting the principle of good faith, the relationships with suppliers are maintained; the operation and financial position evaluations for key suppliers' are done, to ensure the stability of supplies. While establishing good partnership with suppliers, other alternative materials and suppliers are being developed, to increase the flexibility of supply sources. In 2022, there had no shortage of key raw materials.

Overview of Key Raw Materials Suppliers

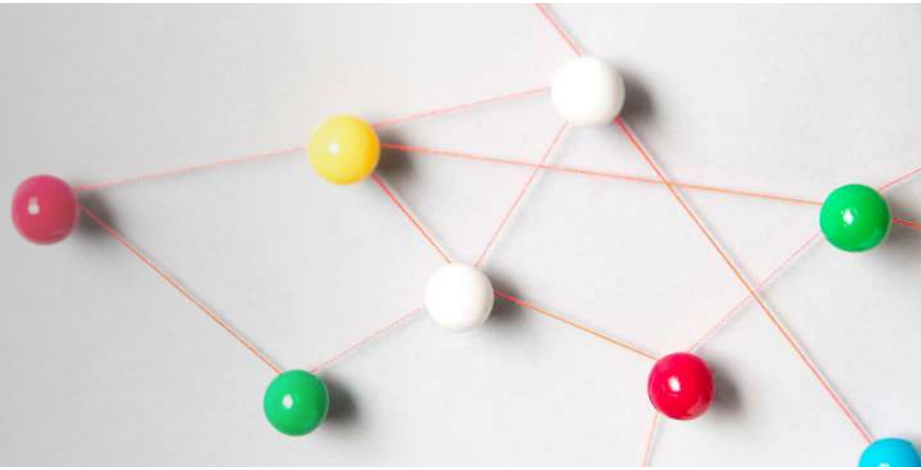
Key Suppliers (direct materials)	Target of supplier appraisal and transacted quantities reaching the evaluation criteria
Level One Suppliers (indirect materials and packaging materials)	Materials not directly applied on the products





5.3.2 Local sourcing strategy

"For the material procurement strategy, our first choice is the the local suppliers and coach them; this approach not only reduces the carbon emission from transportation, but also supports the stable development of local economy, and creates jobs."



By enhancing the local sourcing strategy, ChipMOS reduces the supply chain risks, as well as the carbon emssion in the overall supply chain and creates the local jobs. The term "local supplier" refers to the manufacturing plants of suppliers locate at the same area as the production bases of ChipMOS. For instance, if a manufacturing plant of a supplier locates in Taiwan, this is a local supplier to ChipMOS' plants in Taiwan. In 2022, the proportion of our local suppliers came to 57%, which showed a slight decline in our local sourcing percentage in the past two years. Due to the impact of global recession and shortened product delivery schedules in the second half of 2022, ChipMOS had to significantly cut down its purchase of substrates and reduce its inventory. Incidentally, as most of our substrate suppliers are based in Taiwan, that would account for the decline of our local sourcing.

Looking to the future, we will insist the local sourcing strategy and spirit, to select quality suppliers in Taiwan, and increase the proportion of local sourcing, while expecting to bring more jobs to Taiwan, and further enhance the development of overall local industries.

Local Sourcing Trend in the Most Recent 5 Years

Location of supplier	2018	2019	2020	2021	2022
In Taiwan	51%	53%	62%	60%	**57%**
Out of Taiwan	49%	47%	38%	40%	**43%**

Note: Calculation targets are the key raw material suppliers

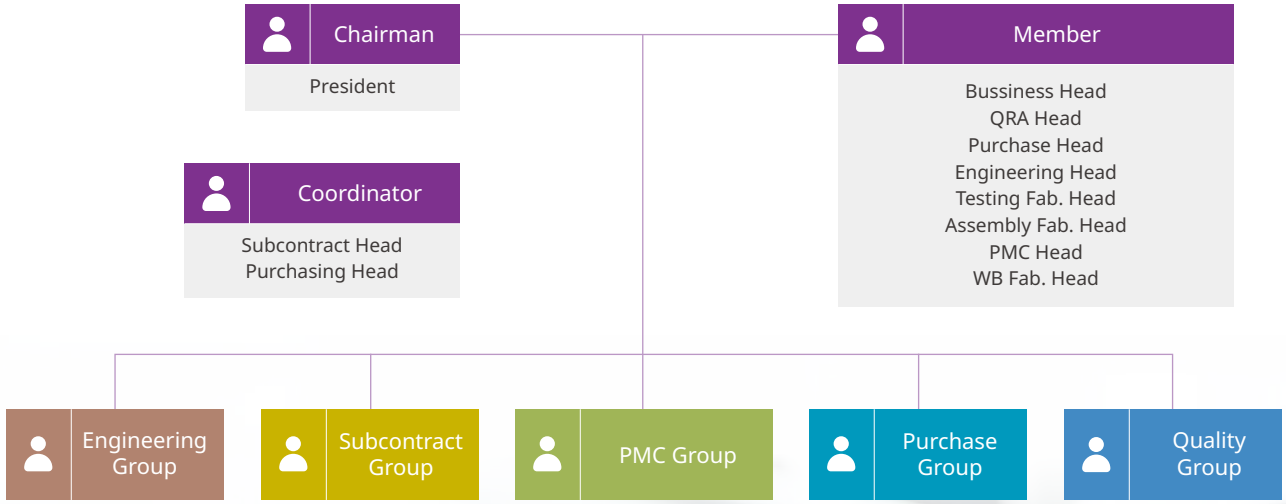


5.3.3 Supplier Management Committee

ChipMOS complies with the code of conducts of the Responsible Business Alliance (RBA) and applies such as the policy and guidelines to manage the suppliers in terms of environment and human rights, and clearly specifies the five management scopes for suppliers, including labor, health and safety, environment, professional ethics and management system.

ChipMOS has established the "Supplier Management Committee" consisting of five panels, namely construction, outsourcing, production and material management, procurement, and quality. The Committee works in a cross-function way to implement the supplier management scopes together, including supplier selection, supplier audit, and supplier appraisals, to be committed to conform to the standards of RBA's code of conducts, and work with the suppliers to grow together, and operate sustainably.

Supplier Management Committee Organization and Duties



Standards for Suppliers to Comply with

Supplier Integrity Policy

To ensure that suppliers understand that ChipMOS insists the principles of ethic and integrity when conducting all business activities, when entering procurement contracts with the suppliers, the terms of Regulations Governing Professional Moral Conduct are required; whenever any employee of ChipMOS or related supplier is found being unethical, the whistleblowing email: Audit_Committee@chipmos.com may be used. ChipMOS will handle the whistleblowing pursuant to the procedures, and keep strictly confidential of the whistle blower's information, be it an entity or individual; proper protective measures are taken pursuant to laws and regulations, and ChipMOS shares the responsibility of complying with the Regulations Governing Professional Moral Conduct with suppliers.

Suppliers Sign the Declaration of Corporate Social Responsibility

Since 2014, ChipMOS have been asking its suppliers of raw materials, equipment and specific services (including human resource agencies, janitors, security personnel, resident employees of vendors, catering personnel and so forth) to sign the Declaration of Corporate Social Responsibility, which clearly requires the partners in the supply chain to fulfill the corporate social responsibilities together. Untill 2022, a total of 265 suppliers have signed the Declaration of Corporate Social Responsibility; the signature reply rate is 100%.

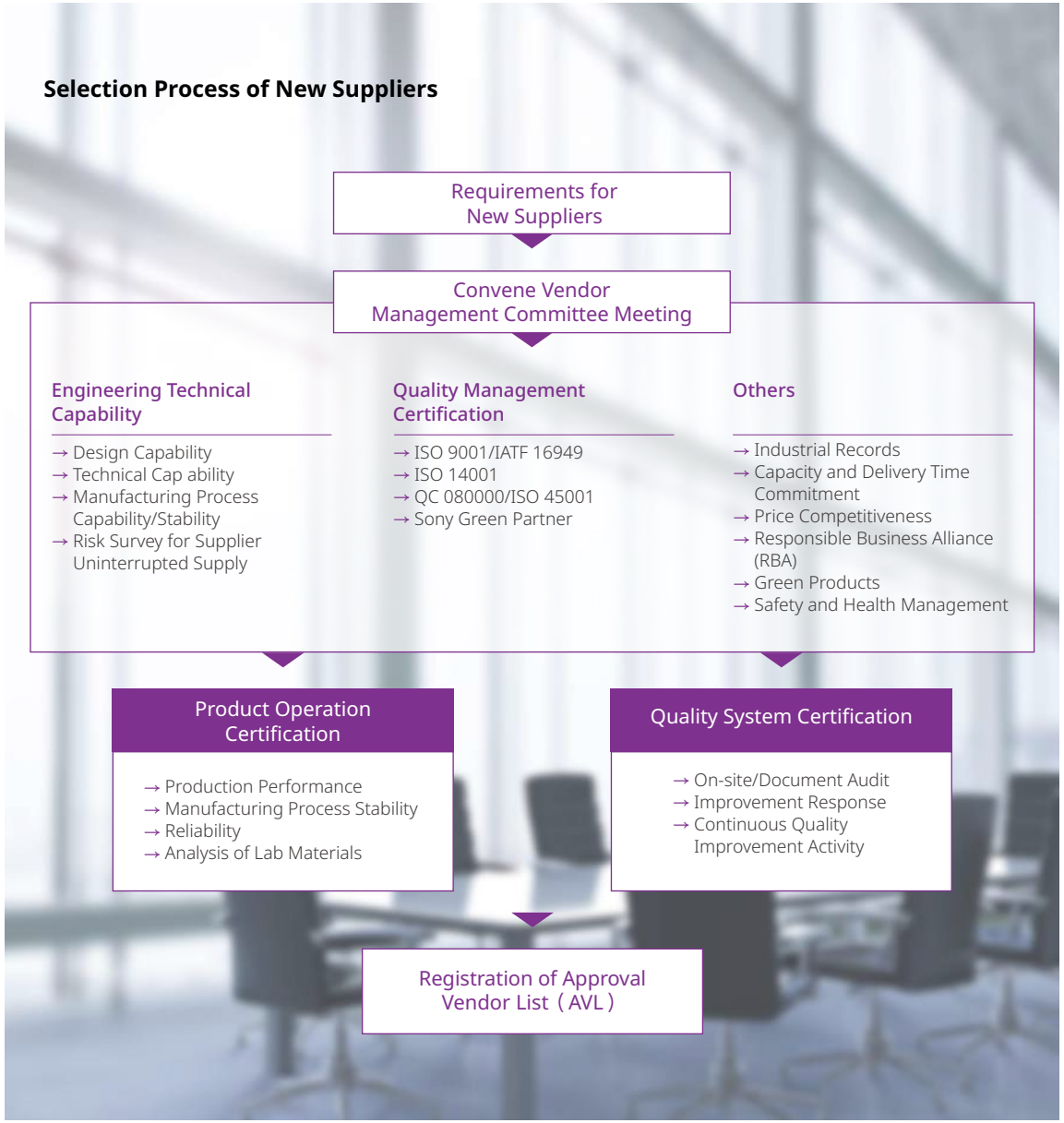
5.3.4 Selection of New Suppliers

When evaluating new suppliers, the Company complies with the RBA purpose and related codes, to investigate if the candidates insist the philosophy of environmental protection, occupational health and safety, and corporate responsibilities, and fulfill their responsibilities as corporate citizens, and if they have any past record of affecting environment, occupational health and safety and/or society. Any candidate with related records will be required to provide the report and improvement result, and the current practical implementation will be verified. Based on this, ChipMOS has built a set of new supplier selection process. When the unit in need request for new suppliers, the Supplier Management Committee will evaluate, including for major dimensions: construction technical ability, quality management system, price, service (including capacity and promise of delivery time), as well as the industrial history from the candidate's existing customers, to evaluate the risks of introducing the candidate in a holistic manner.

ChipMOS expects suppliers to agree with our philosophy of sustainable operations and the requirement of ensuring product quality. We adopt the highest standards for the evaluation; for the new suppliers of the key materials, their certifications of international quality systems are verified, e.g. ISO 9001, ISO 14001, IATF 16949, QC 080000/ISO 45001; implementation of the process management, green product, Responsible Business Alliance (RBA) and health and safety management are reviewed, to ensure the suppliers meeting the requirements in terms of environment and labor practices, including product quality, prohibition of hazardous substances, and employee protection.

The selection process of new suppliers is as the following figure. These who pass the evaluation will be registered in ChipMOS' Approval Vendor List ("AVL") for subsequent daily management. To be more flexible in terms of deploying supply sources and coping with customers' demands, 3 new suppliers were added in 2023. All of them 100% passed4 the evaluation, conforming to the ChipMOS' requirements for quality, environment and social sustainability practices.

Selection Process of New Suppliers



5.3.5 Supplier Appraisal

Supplier Appraisal

To ensure the normal operation of quality system in every supplier, ChipMOS schedules the audit plan for next year in every Q4 based on the appraisal scores from Q4 of last year to Q3 this year (frequency of audit is once a year). In 2022, quarterly appraisal result of each supplier of ChipMOS have reached B or higher (total 62 suppliers). The standards will be insisted with, to improve with the suppliers.

Appraisal time	Quarterly
Targets	Qualified suppliers of direct and indirect materials who have transaction during the quarter. ▪ The suppliers obtain A as the appraisal with certification of IATF 16949 or ISO 9001, or these who are not appraised but with certification of IATF 16949 or ISO 9001, may be audited via the quality system questionnaire. ▪ These who are appraised under B for any quarter (and scores between 70-90 points), or with any material irregularity and more than two of incidents are RMA/QAR related to materials that interrupt the product lines, or the irregularity is requested by customers for on-site audit, will be targets for the audit plans of next year. ▪ The audit definitions of the automotive suppliers with IATF 16949 are as below: The appraisal result is A, and the audit is conducted every three year
Appraisal Item	Quality 40% / Delivery 20% / Engineering Capability 20% / Price 20%
Approach	The treatments and measures are categorized for A, B, C, and D four levels, to meet the expectation of society and ChipMOS ▪ Level A (appraisal scores more than 90 points): the quality of the supplied materials, construction ability, delivery time and price are all deemed outstanding ▪ Leve B (appraisal scores 70 - 90 points): the quality of the supplied materials, construction ability, delivery time and price are all deemed normal ▪ In case of level C (appraisal scores 60 - 69 points), the suppliers shall furnish the corrective measures within seven days, and will be re-audited by the Supplier Management Committee ▪ Being scored as level C twice in row will be disqualified from AVL. ▪ In case of level D (appraisal scores lower than 60 points), the suppliers are disqualified from AVL directly

Supplier Audit

Pursuant to ChipMOS' "Management Procedures for Suppliers," the audit plans are formulated every year, to audit and review each details of suppliers under the major dimensions of RBA, and to clearly define the evaluation time of each suppliers via the audit plants, as well as explain the key points covered in the audit. In 2022, document review has been conducted for a total of 91 suppliers and the RBA audit compliance rate of all suppliers for the whole Company reached 98%, and the audit compliance results in the recent four years have been improving year by year, maintaining at an ideal level (>95%). In addition, on-site evaluations were conducted for 24 key direct material suppliers. The audit results revealed that 8 suppliers had a total of 55 non-conformities, including quality and RBA-related issues. All 55 identified improvement items have been addressed and closed, resulting in a **100% closure rate**.

Appraisal time	Annually
Targets	Key material suppliers
Approach	▪ Document review ▪ Onsite evaluation for suppliers is conducted regularly ▪ For any disqualified suppliers or any defect need to be rectified, the active coaching and training will be provided for improvement.

2022 Conformity of Supplier RBA Audit

Labor	Occupational Health and Safety	Environment	Management System	Occupational Ethics	Average
100%	**99%**	**97%**	**98%**	**100%**	**98%**

The Average Conformity of Supplier Audit Results in the Recent Five Years

2018	2019	2020	2021	**2022**
96%	98%	98%	99%	**98%**

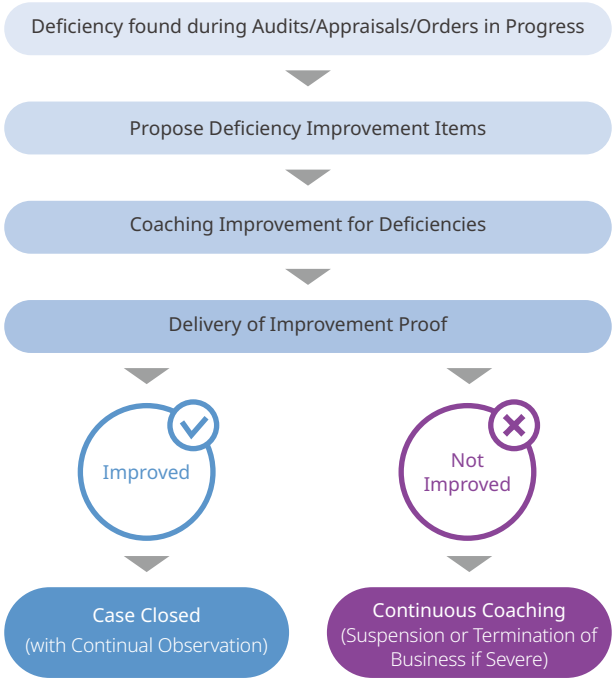
Note: Calculation targets are 91 key material suppliers (30 in the north area and 61 in the south area)

Coaching and training suppliers

Eencouraging suppliers to obtain the international certifications

By correcting the defects found during the appraisal and audit, ChipMOS insists a positive and open attitude to discuss with the suppliers, plus promotions and training from various aspects, to learn from each other while growing together, and ensuring no recurrence of defects. If suppliers obtain certification of international standards, it is a plus for audit and evaluation. ChipMOS will keep on coaching suppliers to obtain various certification of international standards.

Process of Coaching Suppliers to Improve



Suppliers Obtaining Certification of International Standards in 2022

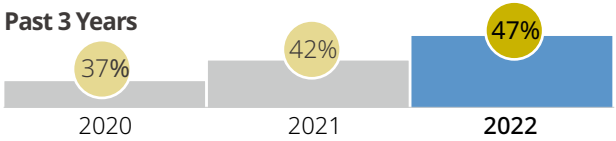
ISO 9001	ISO 14001	ISO 45001	IATF 16949
99%	82%	45%	47%

Note 1: Calculation targets are 91 key material suppliers (30 in the north area and 61 in the south area)
Note 2: ISO 45001 is the certification related to occupational health and safety; IATF 16949 is the certification for automotive products; the two certifications are relative difficult to obtain, but ChipMOS is actively coaching suppliers to push for compliant management practices

Actively coaching supply chain partners to pass automotive specification verification

In recent years, our suppliers have shown improvements in their accreditations to relevant international standards and specifications. In light of our customers' demands for automotive application products in 2022, ChipMOS has not only obtained IATF16949 certification in 2022, the Company has also enforced more stringent standards in the control of relevant suppliers' production quality. Apart from requiring suppliers to incorporate relevant automotive specification components in their annual supplier audit quality questionnaire, we have also implemented stricter assessment and evaluation for automotive product suppliers pursuant to Germany's VDA 6.3 Process Audit. Through the process of supplier coaching and audits, we hope to help suppliers better understand the requirements of pertinent automotive specifications so that they can obtain relevant certifications. The percentage of ChipMOS' suppliers that have obtained IATF 16949 certification has grown from 42% in 2021 to 47% in 2022. Not only that, the percentage of suppliers that have obtained the certification in the past three years has grown by 10%, reflecting a significant increase in the quality and competitiveness of our suppliers.

IATF 16949 Accreditation Status for Suppliers in the Past 3 Years



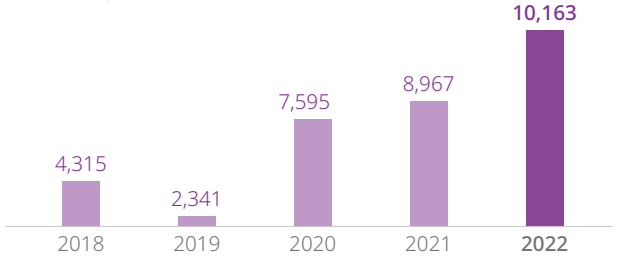
5.3.6 Green Procurement



To promote the green procurement and consumption, ChipMOS's goal is to procure the materials and equipment lowering the environmental burdens and meeting the quality requirements, and procures the products with international and domestic environmental labels recognized by the Green Procurement Program of the Environmental Protection Administration. With the active promotion of the Company, from 2018 to 2022, for consecutive five years, the Company has been awarded as the "Outperforming Green Procurement Enterprise," recognized by the Hsinchu County Government and Tainan City Government.

Statistics of Green Procurement Amounts

Unit: NT$10,000



Note 1: The data of procurement amounts are based on the Company's filing to the Environmental Protection Administration for the disclosure on the "Private Enterprise and Organization Green Procurement Reporting Platform"
Note 2: In 2019, no green building material was procured, so the green procurement amount is relatively lower

5.4 Conflict Mineral Management

TC-SC-440a.1

Conflict minerals refer to the minerals mined by the criminal groups with armed conflicts an violating human rights, in particular gold, tin, tantalum, and tungsten (commonly known as 3TG in short) mined in Democratic Republic of the Congo and neighboring countries. The harvest and trading of such minerals have caused many social and environmental issues such as the violation of human rights and armed conflicts, resulting in significant regional bloodshed and international disputes.

For the corporate social responsibility and implementation of international justice, while being aligned with Dodd-Frank Act of 2010，H.R. 4173 passed by the U.S. Congress, and complying with the due diligence guides of Organisation for Economic Cooperation and Development (OECD), ChipMOS does not purchase the conflict minerals from the high-risk areas (Note 1), and oversees the supply chain to ensure the sources of materials, to avoid the conflict minerals are used in raw materials or during the production process. Our goal is to fully procure non-conflict mineral raw materials. Meanwhile, ChipMOS has made the following statement, to express the concern about the conflict mineral issues; to fully communicate the conflict mineral management requirements of ChipMOS, the statement is publicly disclosed on ChipMOS website:

- **ChipMOS fully supports and responses to the boycott of conflict minerals, undertakes to comply with Non-Used Conflict minerals Policy in the RBA code of conduct, does not accept conflict minerals (such as gold (Au), tantalum (Ta), tin (Sn), tungsten (W)) from the Democratic Republic of Congo and its neighboring countries which to be used directly or indirectly to subsidize armed conflicts.**

- **ChipMOS clearly communicated to its supplier and is committed to require suppliers to inform ChipMOS immediately upon knowledge of using conflict minerals in the products. ChipMOS's suppliers are required to execute "RBA Conflict Minerals Reporting Template (CMRT)" and "Non-Used Of Conflict Minerals Guarantee Letter.**

Note 1: Information of the conflict-affected and high-risk areas (CAHRA) of OECD (https://www.cahraslist.net)

For the suppliers of the materials possibly containing conflict minerals, ChipMOS complies with CMRT for investigation. The key points of the investigation report are as following:

- **In 2022 investigation to the raw material suppliers, the suppliers under the scope of conflict mineral management were 37 suppliers in Taiwan.**
- **Among the raw material suppliers related to the conflict minerals, of which the number of used chain smelter Q'ty: 83 (Au: 34, Ta: 3, W: 6, Sn: 40).**
- **The sources of metals contained in materials: Au major from Japan, China; Tin major from Indonesia, Brazil; W major from China; Ta from Japan; none of the metal was from the illegaal smelters in Democratic Republic of the Congo and neighboring countries.**



Comforming to the annual filing procedure of the U.S. Securities and Securities and Exchange Commission

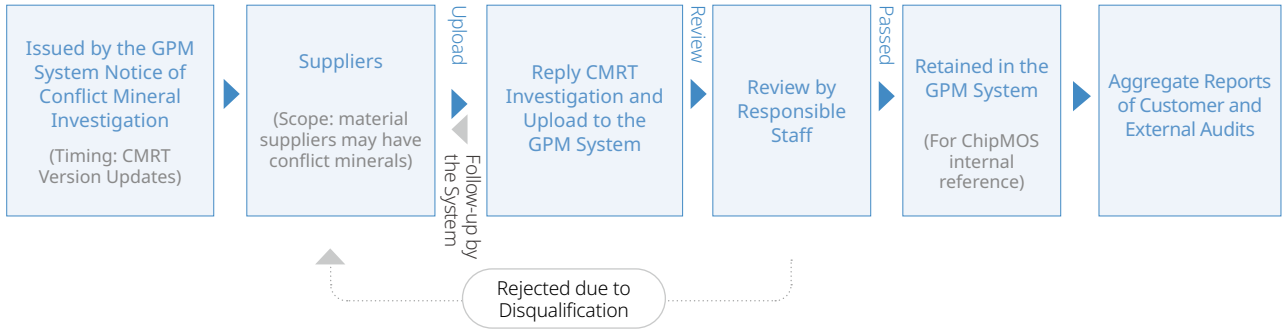
Requirements of the conflict minerals are the U.S. regulations, and mandatory to all public listed companies in the U.S. Since 2014, ChipMOS has included the filing of the conflict minerals in the annual financial reports filed to the SEC, clearly stating the survey process and the outcomes. Our SEC report and relevant data are available on ChipMOS website .

Drive suppliers to procure 100% of non-conflict minerals

ChipMOS respects and continues monitor the international human right issues, while leading our supplier partners to investigate the sources of metals used in the products in detail and faithfully, to ensure the sources of gold, tin, tantalum, and tungsten are not from mines in the areas impacted by the conflicts and high-risk areas For the replies from the suppliers, ChipMOS conducts due diligence, to ensure the smelters are all 100% smelters and refineries in the qualified list of the Responsible Minerals Initiative (RMI), and the RMI qualifications of these smelters and refineries are verified quarterly.

Quarterly Confirmation of RMI Compliance of Smelters or Refiners

Note: Conflict Minerals Reporting Template, or CMRT



Sources of minerals are 100% conforming to the non-conflict mineral program.

All the sources of the materials and minerals from ChipMOS' supply chain have been 100% conforming to the non-conflict mineral policy from 2014 to 2022. All smelters have participated and passed the responsible procurement procedure verification by the Conflict-free Smelter Program (CFSP). Looking to the future, ChipMOS will continue to encourage suppliers to implement the participation of CFSP.



CHAPTER

06 Inclusive Workplace

ChipMOS x Southern Taiwan University of Science and Technology, to foster the young talents



3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

8 DECENT WORK AND ECONOMIC GROWTH

11 SUSTAINABLE CITIES AND COMMUNITIES

Mid- and Long-term ESG Goals

Social Aspect

	Mid-term (2025)	Long-term (2030)	Outcomes (2022)
Friendly Workplace	The average employee approval rating came to 90% In regards to aspects such as new employee cultural identity, employee learning and growth, work-life balance activities, and health protection.	95%	93%
Talent development and training	▪ 60% internal talent promotion rate ▪ 60% success rate for internal transfer coordination	70% 70%	46% 61%
Environmental Public Welfare and Social Assistance	80% participation in social engagement initiatives	85%	88%

* For more details on our social engagement, please refer to 2.3 Sustainability Objective Management and SDGs
* For details on the concrete actions taken and outcomes on each issue, please refer to the contents of this chapter

Management Policy

Policy	To comply with the domestic and international labor regulations, implement the human rights protection, committed to a diverse, inclusive, employee growth, and health-friendly workplace environment.
Commitment	Value and take care of employees, establish a good salary and benefit system, talent cultivation program, implement work-family balance, and create a happy and harmonious workplace.
Resources	▪ ESG Committee ▪ Environmental Safety, Health, and Energy Management Committee ▪ Responsible Unit for Human Resource Management
Concrete Actions	▪ Diverse and fair mechanism for talent recruitment ▪ Competitive overall bonus program and long-term incentives ▪ Talent cultivation and diverse channels of independent learning ▪ Comprehensive health management and safety protection
Evaluation Mechanism	▪ RBA audit, Customer audit, Internal audit ▪ Sustainability evaluation by investment institutions

6.1 Attraction and Retention of Talents

TC-SC-330a.1

GRI 2-7, 202-1, 202-2, 401-1, 405-1

6.1.1 An Equal Employment Environment

"We emphasize the human rights at work and the equal remunerations; there is no difference between females and males. Fair and open opportunities are provided to the employees, and no difference due to race, gender, age, mental and physical disability, religion, or ethnicity."

Adhering to our principle of "Professional Respect", ChipMOS has always evaluated employee competence solely on their professional capabilities and work experience. We comply with pertinent gender equality laws and basic human rights as outlined in international standards to ensure zero discrepancies in employee treatment and benefits regardless of their gender, race, age, marital status, political affiliation, religious beliefs or nationality. With due respect for employees' professional skills and insistence on equal opportunities and inclusiveness, the Company is committed to creating a healthy and trustworthy working environment.



Workforce Structure

In 2021, the recovery of the semi-conductor sector has propelled strong market demands, which in turn led to substantial increase in the need for human resources. As numerous companies aggressively recruited and scouted for talents, ChipMOS also proactively recruited new employees to address the pressing demand for additional manpower whilst creating diverse channels in preparation for talent cultivation in the long run; as for 2022, the Company continued its expansion of driver IC and memory packaging/testing capacities in order to maintain its momentum for future operational growth. Even though the growth of global semi-conductor sector slowed down in the second half of 2022, ChipMOS has endeavored for more improvements through the promotion of automated intelligence factory and the development and expansion of core technologies in the hopes of driving relevant demands for manpower, thereby creating more quality job opportunities for 2023.

As of December 31, 2022, full-time employees in Taiwan and the overseas subsidiary came to 5,302; 5,295 are employees in Taiwan, accounting for 99.87%; seven employees in the overseas subsidiary, accounting for 0.13%. In the following sections, the statistic boundary is limited to the employees in Taiwan.

For the age structure of employees, ChipMOS complies with the regulatory and statutory requirements, not hiring child labor. The average age is 39.34 years old, and the major workforce consists of people in their youth and middle age. The group of people aged 31-50 years old accounts for 78.62% of all employees; 13.67% is under 30 years old, and 7.71% is 51 years old or older. Since the Company's major revenue comes from the production lines of packaging and testing plants, the majority of employees are operators, accounting for 53.09%; followed by technicians, accounting for 32.46%; managers account for 7.25% and administrative clerks are 7.20%.

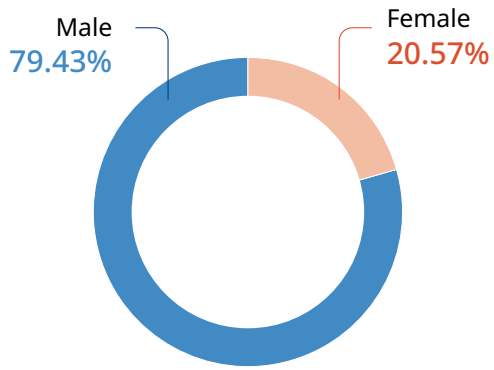
ChipMOS also periodically reviews the composition of its workforce in order to formulate effective strategies to recruit excellent talents, to hire competent professionals to maintain its industrial competitiveness. In 2022, the percentage of masters and PhDs hired was 13.90%, and 60.95% was bachelors, to adapt to the feature of the semiconductor industry that the technologies have been continuous improving.

Distribution of Employee Demographic in 2022

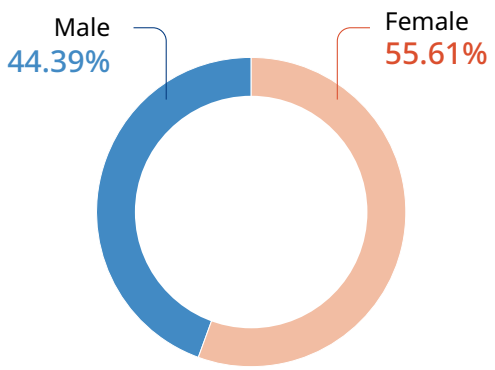
Employment Category			Male	Proportion	Female	Proportion	Total	Proportion
Full-time employees	Full-time employees	Formal employees	2,299	92.52%	1,951	69.43%	4,250	80.26%
	Temporary employees	Foreign labors	8	0.32%	4	0.14%	12	0.23%
		Contract employees	178	7.16%	855	30.43%	1,033	19.51%
Part-time employees			0	0%	0	0%	0	0%
Total			2,485	100%	2,810	100%	5,295	100%
Type of Position	Managers		305	12.27%	79	2.81%	384	7.25%
	Technicians		1,387	55.82%	332	11.81%	1,719	32.46%
	Administrative clerks		218	8.77%	163	5.80%	381	7.20%
	Operators		575	23.14%	2,236	79.58%	2,811	53.09%
	Total		2,485	100%	2,810	100%	5,295	100%
Age	30 years old and under		309	12.43%	415	14.77%	724	13.67%
	31-50 years old		1,988	80%	2,175	77.40%	4,163	78.62%
	51 years old and over		188	7.57%	220	7.83%	408	7.71%
	Total		2,485	100%	2,810	100%	5,295	100%

Note 1: The base date of data is the in-service workforce on December 31, 2022.
Note 2: Temporary employees refer to personnels who have entered into fixed-term or temporary employment contract with the Company.
Note 3: Managerial personnel refer to managers at or above the department level, excluding technical and project-specific managers.

2022 Proportion of management by gender



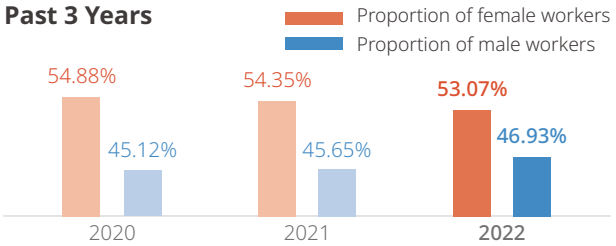
2022 Proportion of non-management by gender



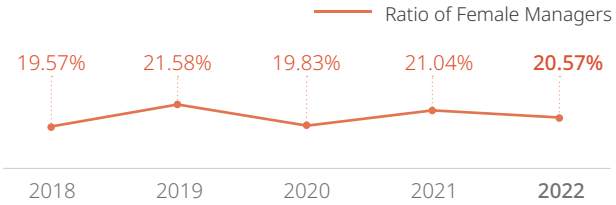
Female Workers

The Company strives to create a diverse and inclusive work environment, and as of 2022, the ratio of our female employees out of all employees came to 53.07%, with a male-female employee ratio close to 1:1; the percentage of female managers at ChipMOS is at 20.57%, and it has been growing in the past few years. The Company has made an effort to keep the gender ratio of workers, be it entry-level employees or managerial staff at a specific balance over the years and offered equal treatment and job security without any discrepancy in talent recruiting or promotion due to gender biases. We will continue to monitor the issues of female employees in the future and while respecting the pursuit of each employee's goals, we will also continue to optimize relevant benefit systems, so that more female employees will stay for longer, to continuously exert their personal values and make contributions to the Company and society.

Proportion of Male and Female Workers in the Past 3 Years



Ratio of Female Managers



6.1.2 Diversity and Inclusion TC-SC-330a.1

Diversity Policy for Employment

With regards to the nationality distribution of ChipMOS employees, there are a total of 4,251 employees (constituting 80.28%) of Taiwanese nationality and 1,044 employees (19.72%) of foreign nationalities(Note 1), mainly Filipino. As for the management, most managers consist of local residents in the respective region of operation, with a local hiring rate at 100%.

We take pride in offering proper care for our foreign employees and their renewal rate has stayed consistently over 75% between 2020~2022; as of the end of 2022, 54% of our foreign workers have stayed at ChipMOS for more than five years, and it reflects the fact our foreign workers are able to enjoy security and stability whilst working at the Company. Due to COVID-19 and the three-year quarantine measures, most of the foreign employees were unable to return to their home country to visit their families. With relevant regulations finally laxed, more contract employees have chosen to return to their home countries to stay with their family when their contract expired. Consequently, the renewal rate for foreign employees had fallen slightly from 83.7% in 2021 to 75.6% in 2022. Apart from our foreign workers, due to the impact of the COVID-19 pandemic on the talent market in 2021, the Company started to hire foreign spouses to promote the employment rate, regardless of nationality, to provide foreign spouses with learning opportunities and enable them to acquire skills, while also reducing the Company's shortage of workforce, and thus a win-win situation is achieved.

Note 1: Foreign employees refer to migrant workers, Filipino employees and spouses of Chinese nationality.

Actions of Diversity and Inclusion

Principles of Foreign Employee Care

Legal Compliance	Meeting to Voice Views	Zero-Fee Policy	Freedom of Choosing Employment
The brokers comply with laws and regulations, and ChipMOS conducts audits regulary	We strive to provide a channel for foregin employees' voice to be heard along with detailed meeting minutes and relevant announcements Note1	100% implementation of zero-fee policy for foreign employees	Before foreign workers come to Taiwan, briefings are held to inform them about their rights in detail to ensure their human rights protection

Note 1: Due to the impact of COVID-19 in 2022, open meetings have been temporarily halted. Nonetheless, foreign employees could still bring up specific issues and provide feedback through means such as their agents or human resources unit.

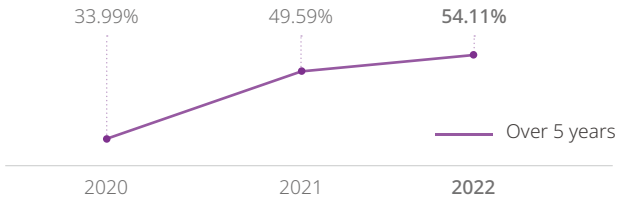
Concrete Measures

- ChipMOS offers various assistances for foreign employees to acclimatize to the life in Taiwan and their work. Such measures include orientation to working culture in Taiwan and introduction to various systems at the Company
- The Company sporadically organizes various festive celebrations and strives to care for foreign employees by helping them to enjoy the local festivals and experience Taiwanese culture
- In 2022, the Company prepared and published an e-newsletter titled "Communicating with Filipino Colleagues" as a way for local employees to gain rudimentary understanding of their mother tongue so as to close the gap between employees of different nationalities
- The 2022 Company introduced a contract renewal bonus as an incentive for foreign employees to stay at ChipMOS upon the expiration of their employment contract

Highlight of Outcomes

- Renewal rate for foreign employees stayed at 75% or higher between 2020~2022
- In 2022, as much as 54% of foreign employees have stayed at ChipMOS for over 5 years

Percentage of foreign employees who have stayed at ChipMOS for over 5 years between 2020~2022



The Proportion of Local Residents Employed as General Staff and Regular Employees in 2022

Category	Local	Non-local	Subtotal	Proportion of local resident
Hsinchu fab.	505	116	621	81.32%
Zhubei fab.	618	185	803	76.96%
Zhubei fab. 2	210	37	247	85.02%
Hukou fab.	178	49	227	78.41%
Tainan fab.	2,067	596	2,663	77.62%
Tainan fab. 2	289	61	350	82.57%
Total	**3,867**	**1,044**	**4,911**	**78.75%**

Note: Local residents refers to the Taiwanese employees

Proportion of Local Residents Employed as General Staff

Category	Local	Non-local	Subtotal	Proportion of local resident
Hsinchu fab.	71	0	71	100%
Zhubei fab.	92	0	92	100%
Zhubei fab. 2	17	0	17	100%
Hukou fab.	10	0	10	100%
Tainan fab.	180	0	180	100%
Tainan fab. 2	14	0	14	100%
Total	**384**	**0**	**384**	**100%**

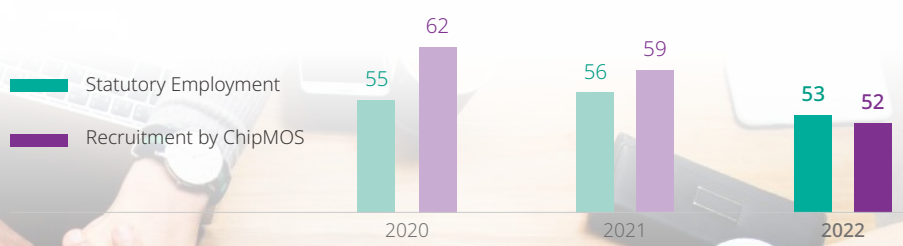
Note: Managerial personnel refer to managers at or above the department level, excluding technical and project-specific managers

Promoting Employment Opportunities for the Disabled

ChipMOS is committed to creating an inclusive and friendly working environment. In an effort to promote employment for the disabled, the Company continued to collaborate with the associations for the visually and hearing impaired. In 2022, 42.31% of the disabled employees at ChipMOS came from our collaboration with disadvantaged minority groups. In fact, the Company endeavored to promote relevant assistive measures for improved accessibility for our hearing-impaired employees, including communication aids for them to adapt to the workplace successfully; their jobs are also appropriately adjusted depending on their learning progress; meanwhile, visually impaired massage therapists are employed in the plants to provide services. The guide dogs are permitted to enter the plants to accompany them to work and assist the visually impaired to walk safely. We will continue to provide and manage our diverse employment channels, for providing suitable job positions for the disabled, and create a barrier-free and friendly working environment.

As of the end of December 2022, the Company has hired 35 disabled employees (equivalent to 52 disabled employees in total). However, due to the rapid decline of the semi-conductor industry, the demand for manpower has also fallen. In December 2022, our employment of disabled employees did not meet the statutory standards[(Note 1)] and the Company shall cover the subsidies as prescribed by the law. In the near future, the Company shall offer more positions for disabled workers.

Headcounts for Disabled Employees



Note 1: The number of disabled headcounts to be hired for 2022 is based on the 5,344 insured of the labor insurance as of December 1, 2022. We are shy of 1 employee (1% of all employees on payroll) as required by law.

6.1.3 Talent Operation

"Talent" has always been a critical factor and edge in the arena of corporate competition. In the face of an ever-changing market and mounting challenges, businesses have to be able to respond promptly and operate in accordance with its organizational strategies and development in order to attract suitable talents. ChipMOS has actively kept up with the latest trends in human resources so that it is always in a position to adjust its strategies whenever necessary in order to maintain abundant human resource capitals for the organization. Due to the slow growth of the global semi-conductor industry in 2022, the demand for human resources from the sector has also gradually waned. And as such, ChipMOS has promptly reviewed its manpower and adjusted its recruitment strategy to limit hiring to crucial positions so as to accommodate the need for talents in future deployments. In preparation for long-term human resource capital, the Company continues to offer a variety of recruitment channels, including job bank, ChipMOS website, employment service center, employee recommendations, R&D Substitute Military Service and so forth. Not only that, ChipMOS has also adopted unconventional versatile working models and recruited a total of 53 short-term contracted workers and part-time workers in 2022. ChipMOS has also been actively cultivating its connections with campuses and promoted relevant industrial-academic collaborations, as well as actively working with relevant government employment programs such as the "The Youth's Employment Ultimate Program" and "Secure Employment Program" in the hopes of reaching out to more talents seeking job opportunities through public promotional channels to achieve better employment matchmaking. In 2022, the Company took the initiative to collaborate with the Labor Affairs Bureau of Tainan City Government in the organization of a talent recruitment event and offered numerous positions including engineers, technicians, summer part-time workers and so forth. The event led to an initial matching rate of over 50%.

In 2022, ChipMOS recruited 525 new comers, accounting for 9.92% of the total number of employees. Among them, 425 employees were hired through digital media channels, accounting for 80.95% of total number of new comers. In addition, 47.62% were young adults under 30 years old, who continue to bring vitality and enthusiasm into ChipMOS.

Number of New Recruits in 2022

	Male		Female		Total	
Age	Number of people	Proportion	Number of people	Proportion	Number of people	Proportion
30 years old and under	131	45.17%	119	50.64%	250	47.62%
31-50 years old	156	53.79%	114	48.51%	270	51.43%
51 years old and over	3	1.03%	2	0.85%	5	0.95%
Total	290	100%	235	100%	525	100%

Note: Ratio = Number of new employees in each age group / Total number of new employees X 100%



■ **Diverse Recruitment Channels**



■ **The Youth's Employment Ultimate Program**

Starting from 2018 ChipMOS has been participating in the "The Youth's Employment Ultimate Program" planned by the Workforce Development Agency, MOL. The purpose is to integrate the resources from industries, schools, and training, to enhance the willingness of hiring youth, and to provide practical vocational training to youth workers, increasing employment opportunities for young people aged 15-29 years old. A total of 53 people were admitted to this program as of 2022. Excluding those who resigned early, more than 60% of the participants completed their training and thus making this program a remarkable success.

■ **Secure Employment Program**

Affected by the COVID-19 pandemic in 2021, the unemployment rate rose. ChipMOS actively participates in various government employment benefit measures, to assist and stabilize the employment of citizens. Since September 2021, the Company has participated in the government's Secure Employment Program, to provide high-quality jobs and increase the willingness of the people to work; as of December 2022, a total of 42 people applied for this program and have been successfully hired.

6.1.4 Cultivation in Campus and Recruitment for Young Students

ChipMOS has always been committed to academic research and technological innovation in the field of semiconductor packaging and testing over the years. By insisting on our primary intention of cultivating outstanding talent, with the exchange of academic technologies and industrial practice, students experience the real workplace before entering the society so that they could better understand relevant trends in the sector while vindicating to what they've learned in school, thereby enhancing their competitiveness in the workplace and giving them greater room to pursue their dreams. Furthermore, it promotes the concept of corporate culture and job vacancies, and encourages young students to accept the embrace of the semiconductor industry.

Each year, the Company would go to various college campuses to recruit potential talents and in 2022, we were involved in 9 sessions of campus recruitment; with regards to industrial-academia collaboration, we have witnessed substantial growth in the number of applicants for relevant collaborations, which reflected the great start we have made in the promotion of new faculties and diverse internship programs in 2021. In the near future, we will reach out to work with more academic institutions so that we can work with these schools in the promotion of our "applying school contents in work and seamless transition from school to employment" internship opportunities.

Highlight in 2022

Donated Semi-Conductor Equipment to promote practical courses

- Conducted an industrial-academic collaboration agreement with the Southern Taiwan University of Science and Technology and integrated the donated equipments with the school's programs to shorten the learning-use gap.

<For more details, please refer to ChipMOS website : ChipMOS x Southern Taiwan University of Science and Technology, to foster the young talents>

New Partner Schools and Faculties for Industrial-Academic Collaboration

- Collaborated with National Formosa University by signing internships and scholarships and grant programs

Senior executives serving as corporate trainers

- ChipMOS Managers as students' coaches to help them know more about the workplace and explore career interests at an early stage.

<For more external talent cultivation, please refer to 6.3.3 Talent Cultivation Rooted in Professional Fields>

Industrial-Academic Collaboration Projects

Diverse Internship Programs	Description To provide diverse summer/semester/annual internship programs designed to help students gain practical experiences and training. Collaborating Schools Chung Yuan Christian University, National University of Kaohsiung, Minghsin University of Science and Technology, China University of Science and Technology, Kun Shan University of Science and Technology, Southern Taiwan University of Science and Technology, National Formosa University	Total Number of Participants 93 Retention Rate Note 1 48.39%
Scholarships and grants	Description To encourage outstanding students by providing scholarships and relevant programs so as to assist and incubate professional talent in the semiconductor field. Collaborating Schools Chung Yuan Christian University, Minghsin University of Science and Technology, China University of Science and Technology, Kun Shan University of Science and Technology, Southern Taiwan University of Science and Technology, National Formosa University	Total Number of Participants Note 2 50 Retention Rate 84%
Industrial-academic classes	Description To bridge academic expertise to industrial practice so that students can achieve the integration of learning and application through on-site practice and machine operations. Collaborating Schools TransWorld University, Far East University, Kao Yuan University, Kun Shan University of Science and Technology	Total Number of Participants Note 3 40 Retention Rate 45%
Employment-oriented program	Description To realize the philosophy of talent incubation including industrial-academic links and integration of learning and applications. Through relevant courses and seminars, we hope to help nurture promising talents needed by enterprises. Collaborating Schools Chung Yuan Christian University, Kun Shan University of Science and Technology, Southern Taiwan University of Science and Technology	Cumulative Number of Participants 1,093 No. of ChipMOS Corporate Trainers in 2022 10 No. of Trainings offered in 2022 19

Note 1: Retention ratio = number of retained employees/total number of project participants * 100%
Note 2: To capture more precise data on retention rate for scholarship recipients, their retention rate has been redefined in 2022 as "applicants who have been awarded scholarships and graduated from their programs"
Note 3: The statistics of the industrial-academic classes are from 2015 to 2018. We have continued to sign collaborations with colleges, but the classes failed to be organized due to the impact of the COVID-19 pandemic; we will continue to seek opportunities of collaboration in the future.

6.1.5 Activating the Organization and Trigger Potentials in Employees

"Talent" is the most important asset we value. By striving to provide an excellent working environment, competitive benefits, complete education and training, and a healthy working environment, not only employees are willing to stay in their jobs, but also willing to recommend the Company to others, and thus forge closer partnerships with the Company.

In order to facilitate better flow and transfer of internal talents so that our employees may benefit from more opportunities of development, the Company has worked tirelessly to create a sound internal job transfer system along with ensuring internal job vacancy information transparency. Apart from ensuring suitable positions for employees of corresponding talents and broadening their career horizons, these measures also help to tap into the potentials of our employees and invigorate the whole organization. In 2022, ChipMOS continued to promote its incentive mechanism to encourage talent recommendation designed to spur employees to recommend outstanding external talents and inspire them to transfer to other positions to tackle new responsibilities. This will enable employees to cultivate diverse competence and bolster their vocational skills. In 2022, our success rate for internal transfer coordination came to 61.03%.

ChipMOS values and cherishes every talent, and regularly reviews and enhances the talent retention measures. In the first half of 2022, due to a shortage of talents in the semi-conductor industry, many competitors have offered preferential policies, which in turn became a powerful reason for our employees to take on the offers from other companies. In 2022, our employee monthly turnover rate came to 1.14, a slight increase compared to that of 2021. For the resigned employees, the line manager and the HR department conducted resignation interviews to understand the reasons of the resignation, provide assistance as much as possible or adjust their job descriptions while offering internal job transfer opportunities in a timely manner.

Despite the allure of competitive offers from the external market, ChipMOS continues to actively develop various talent retention solutions and incentive mechanisms. For instance, the Company has increased its overall wage adjustment margins in 2022 compared to the past, offered special bonus packages for returning employees and urged outstanding employees to return. As for foreign employees, the Company has offered new bonus for contract renewal as a way to encourage foreign employees to stay with the Company after their contract expires. Additionally, we are constantly improving our talent pool system. Apart from analyzing our manpower data to actively identify the unique strengths of our employees so that we can proactively offer them opportunities to challenge themselves and showcase their abilities. Through the ChipMOS Talent Pool, we are able to identify suitable candidates for future positions and customize our employee competency training plans so as to prepare for long-term talent needs.

Resigned Employees in 2022

Age	Male		Female		Total	
	Number of people	Proportion	Number of people	Proportion	Number of people	Proportion
30 years old and under	118	35.65%	113	27.70%	231	31.26%
31-50 years old	200	60.42%	289	70.83%	489	66.17%
51 years old and over	13	3.93%	6	1.47%	19	2.57%
Total	**331**	**100%**	**408**	**100%**	**739**	**100%**

2020~2022 Monthly Turnover Rate statistics

2020	2021	2022
0.75%	1.12%	**1.14%**

Note: Monthly Turnover rate = number of people resigned in the current year ÷ average number of people in service of the year [(Number of employee at the beginning of the year + number of employee at the end of the year)/2] x 100% ÷ 12



6.2 Employee Incentives and Benefits

GRI 201-3, 401-2, 401-3, 405-2

6.2.1 Remuneration Policy and Systems

"Being in the fiercely-competitive semi-conductor industry, the key to leading the pack is having a pool of outstanding talents"

Comprehensive Remuneration System

At ChipMOS, we highly value our employees' salary and benefits. We also firmly believe in creating a workplace that promotes happiness, well-being and equality. To achieve this, we have developed a robust compensation system and cultivated a positive working environment. Our comprehensive compensation package encompasses base salary, allowances, bonuses and incentives.

Overall Remuneration that is Competitive and Fair Within and Beyond the Organization

We regularly participate in external salary surveys to gain insights into market trends and competitive benchmarks; based on ChipMOS' operational objectives, we utilize a performance management system to design suitable overall compensation plans. Our goal is to provide motivating rewards that attract, retain, motivate, and cultivate high-quality talents within our organization.

Introduction of Job Level and Relevant Systems

In order to foster a thorough understanding among our employees of the connection between rewards and job responsibilities, and to motivate them to take on more challenging roles, we have implemented a comprehensive compensation policy that integrates market benchmarks and competency-based considerations. By aligning our company's operational needs with individual performance, we establish annual salary adjustments, incentive bonuses, and other rewards. This approach encourages our employees to strive for exceptional performance.

Allocation of Profit

When the company makes a profit in the year, 10% will be allocated as employee compensation to share the Company's stable growth with employees.



Implement equal pay for equal work and an inclusive and fair wage policy

The Company insists on implementing inclusive and fair treatment for all employees and we are firmly against discriminations of any form. To ensure that all employees receive fair and equitable compensation, we have established a standardized compensation policy that applies across all operational locations. We continuously monitor and enforce fair compensation practices, and individual salary principles are based on job performance and responsibilities. Therefore, employees of both genders holding the same positions are evaluated using consistent compensation criteria, regardless of gender, race, religion, age, marital status, or workplace location.

Remuneration and Benefits

Unit: NT$ 100 million

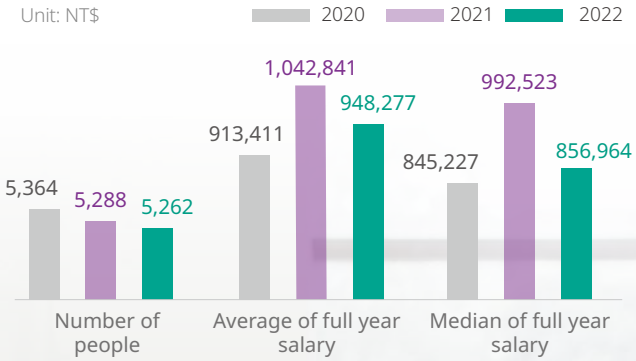
Description	2020	2021	2022
Employee salary expenses	49.7	56.7	**53.3**
Other benefit expenses	10.4	10.9	**11.4**

ChipMOS ensures legal protection of employee rights. In 2022, the standard salary for male and female frontline personnel complies with basic wage in Taiwan, set at NT$25,250. When assessing remuneration ratios based on job categories, the ratio for indirect personnel is 1:1.1, while for direct personnel, it is 1:1.13. The discrepancy is primarily influenced by factors such as educational background, job performance, and job responsibilities, with no correlation to gender.

Description	2021	2022
Basic wage	24,000	**25,250**
The ratio of standard salary to wage of frontline personnel	1.23	**1.18**

The remuneration ratio is calculated on the permanent employees in-service on December 31, 2022, and received full amount of salaries and bonuses in 2022.

The number of full-time employees in non-managerial positions over the past three years, along with the differences in average salary and median salary are disclosed as follows. In 2022, the total number of full-time employees in non-managerial positions was 5,262. The average salary was NT$948,277, which decreased by 9.07% compared to the previous year. The median salary came to NT$856,964, showing a decrease of 13.66% compared to the previous year. These differences can mainly be attributed to the impact of the economic conditions in 2022, which resulted in a relative decline in the data compared to the previous year.



6.2.2 Long-Term Incentive Measures

ChipMOS acknowledges the crucial role that talent and specialized skills play in driving the company's long-term success. The collective performance of our organization is a direct result of the individual capabilities and contributions of our entire workforce. Therefore, we cherish and appreciate the value of each and every employee. To retain and develop exceptional talent, and to encourage employees to deliver outstanding performance, we have been optimizing a range of long-term retention measures so as to foster a stable workforce committed to ChipMOS. In order to strengthen our talent retention efforts, we have implemented a higher overall salary adjustment rate for the year 2022, aiming to incentivize outstanding performers. Despite the continued challenges posed by Covid-19, we are committed to providing a stable work environment by offering incentives for epidemic prevention measures and vaccine administration. Our priority is to ensure the health and safety of all employees.

Salary Adjustment and Rewards

- In the last five years, the salary adjustment has been about 3% to 5%, to maintain the Company's overall competitiveness
- The Company's operating results are linked to employee performance, to distribute incentive bonuses and employee remuneration as timely encouragement

Patent rewards

- Encourage employees to brainstorm and stimulate their creativity

Double-track promotion system

- Based on their capabilities and performance, employees are promoted to managerial or project/technical positions.

Proposal rewards

- Acknowledge employees for their suggestions on improving existing working processes, technologies or systems
- Enhance technologies, improve process capabilities, for a good internal cycle

Service bonus

- Improve competitive advantages; employ and develop outstanding talent

Seniority award and annual role model employees

- Acknowledge employees for their long-term commitment to the organization and contribution of value
- Commend outstanding employees for their performance and motivate them to become role models for the team

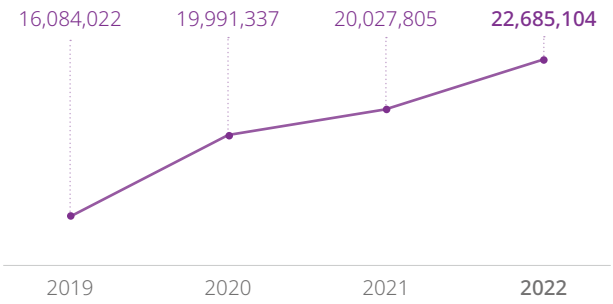
All-Encompassing Insurance Plans

We prioritize safeguarding employee rights in accordance with legal regulations. In addition, we strive to enhance the healthcare coverage for our employees by offering a comprehensive group insurance plan that also extends to their dependents. The Company covers the full premium cost, which includes life insurance, accident insurance, medical insurance, and cancer insurance. Furthermore, we offer an enhanced group insurance program for employees' dependents, providing them with additional coverage options and ensuring diversified care. For employees traveling abroad on business, we also provide travel insurance coverage to ensure peace of mind during their business trips.

We have dedicated personnel to provide our colleagues with face-to-face consultations and claims handling, allowing employees to gain in-depth understanding of group insurance benefits and improve the efficiency of application processes. Our utmost priority is to assist employees in caring for their families and demonstrate our genuine concern for both employees and their dependents.

Premiums paid by the company

Unit: NT$



A Robust Retirement System

To ensure our colleagues can adequately plan for their post-retirement lives, the Company has established employee retirement procedures in compliance with relevant regulations. At the same time, in order to protect the rights and interests of employees to claim pensions in the future, in addition to the actuarial calculation of the retirement reserves through professional accounting consultants every year, the Pension Supervision Committee also regularly reviews the special pension accounts and discusses retirement-related topics.

In addition, we appreciate the hard work and contribution from senior employees during their service at ChipMOS, and we provide "preferential retirement" conditions that are superior to that stipulated by the law, so that senior employees can apply for their own needs. With such a well-rounded retirement system, our employees can have no worries about life after retirement.

	Labor Standards Act	Labor Pension Act
Retirement Conditions	Statutory retirement: ▪ Those who have worked for more than 15 years and are over the age of 55 ▪ Those who have worked for more than 25 years ▪ Those who have worked for more than 10 years and are over the age of 60 Preferential retirement: ▪ Those who have worked for more than 10 years, and the seniority plus age is 58 or more	-
Pension System	Old system pension - company pension account	New system pension - individual pension account
Implementation	▪ Established the "Retirement Reserve Supervision Committee" ▪ Contribution to pension in accordance with the law ▪ As of 2022, the amount of the old-styled retirement reserve came to approximately NT$ 500 million	▪ Contributed amount equal to 6% of the employee's monthly salary ▪ Employees who took up their jobs before June 30, 2005 (inclusive) can freely choose to be eligible for the new pension system, and opt to use the new pension system instead
Retirement allowance as a percentage of salary	Employer: 2% Employee: 0%	Employer: 6% Employees: 0%~6%
Proportion of employees participating in the pension system	100%	100%

6.2.3 Encouragement for childbirth

ChipMOS values the contributions of its employees in the workplace and actively strives to create an environment of equality and respect. We also recognize the issue of declining birth rates in Taiwan and are committed to providing necessary assistance to our employees during the process of childbirth and raising children.

Maternal Health Protection

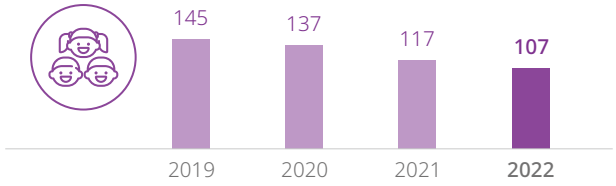
ChipMOS actively protects maternal health, and establishes a "maternal health protection system" to report and control cases. For female employees who are pregnant, less than 1 year after giving birth, and still breastfeeding after 1 year, we conduct health risk assessment and hazard confirmation, and then based on risk classification management improvement suggestions or work adjustment, we implement case-by-case protection to maintain the health balance of mothers and babies, and ensure the health of all female employees. In 2022, a total of 60 pregnant women were assisted in conducting health risk assessments and hazard confirmations. The assessment results indicated that all 60 cases were classified under the tier-1 management. I.e. employees' work or health issues do not pose any harm to the health of mothers, fetuses, or infants.

Childbirth Subsidies and Measures

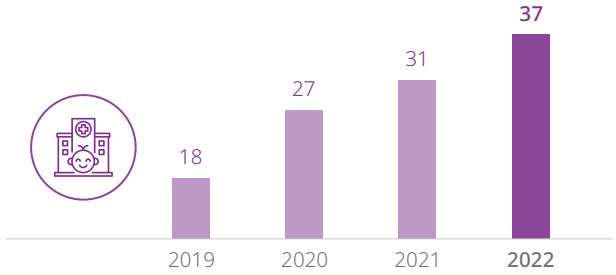
Childbirth subsidy	Provide a maternity subsidy of NT$5,000 per employee/spouse, with a proportional increase for twins or more **NT$1,860,000** Subsidy for the past three years, **361** beneficiaries in the past three years
Daycare Measures	Actively develop contracted organizations such as postpartum care homes, childcare centers and kindergartens and provide employees with a secure childcare resource from birth, childcare to kindergarten **37** No. of relevant contracted organizations in 2022, gradually increasing over the years
Breastfeeding Room	*We provide employees with lactation (milk collection) breaks as required by law **7** locations. *All our fabs are equipped with milk collection rooms, medical-grade breast pumps and sterilization equipment to ensure high-quality facilities for employees in the workplace
Designated parking spaces for pregnant women	Reserved parking spaces are allocated for pregnant women to create a supportive work environment that prioritizes their needs **Reserved for employees with special needs.** In consideration of the needs of pregnant colleagues, priority is given to reserving parking spaces to maintain a supportive and family-friendly environment for child-rearing

In recent years, Taiwan's birth rate has been declining to record lows. Analyzing the age structure of our company, we have observed that most of the newly hired employees are young professionals. As a result, the number of employees applying for maternity or paternity benefits has been decreasing year by year. Nevertheless, the Company will continue to support the government's policy to encourage childbirth by implementing measures related to maternity benefits, such as actively collaborating with postnatal care and childcare institutions by signing contracts to provide employees with more favorable benefits and incentives related to childbirth. Our aim is to create a supportive environment for employees who are starting or expanding their families.

No. of applicants for childbirth subsidy



No. of contracted institutions for postnatal care and childcare services



Parental leave

ChipMOS is committed to promoting work-life balance and creating an equal and friendly work environment. In line with government initiatives and regulations, we are committed to strengthening the financial support for employees during their parental leave and encouraging shared responsibility among parents in caring for their children. Both male and female employees are eligible to request parental leave after completing six months of employment. We also provide assistance and information regarding labor insurance benefits to ensure the protection of our employees' rights. To safeguard the reemployment rights of our colleagues, we actively engage with employees on leave, confirm their interest in returning to work, and facilitate a smooth transition back into their roles. Once they are back, we offer comprehensive training and support to help them quickly readjust and resume their responsibilities effectively.

Based on relevant analysis, there were a total of 73 employees who applied for parental leave in 2022. It is noteworthy that the application rate among male employees has more than doubled compared to that of 2021, indicating that more fathers are actively sharing the responsibility of caring for their children. The retention rate for male employees who returned to work after parental leave and completed one year of service in 2021 was 100%, while the retention rate for female employees was 75%. In 2022, the reemployment rate was 33.82%. The main factor contributing to this rate is that many employees who did not return to work chose to forgo reemployment due to ongoing family caregiving responsibilities, even after their parental leave period had ended.

Statistics of Parental Leave in the Past Three Years

Item	Male			Female			Subtotal		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
[A] No. of eligible applicants for parental leave	251	148	184	170	106	108	421	254	292
[B] No. of actual applicants applying for parental leave	12	6	14	60	59	59	72	65	73
[C] No. of employees expected for reinstatement during the year	15	8	5	61	37	38	76	45	43
[D] Actual number of employees reinstated during the year	6	3	3	29	25	20	35	28	23
[E] Number of employees actually reinstated during the previous year	6	6	3	39	29	25	45	35	28
[F] No. of employees reinstated during the previous year and completed one year of work	5	5	3	35	24	19	40	29	22
Application Rate [B/A]	4.78%	4.05%	7.61%	35.29%	55.66%	54.63%	17.10%	25.59%	25.00%
Reinstatement Rate% [D/C]	40.00%	37.50%	60.00%	47.54%	67.57%	52.63%	46.05%	62.22%	53.49%
Retention Rate% [F/E]	83.33%	83.33%	100.00%	89.74%	82.76%	76.00%	88.89%	82.86%	78.57%

Note 1: Calculation formula: application rate=[B]÷[A] X 100%, reinstatement rate=[D]÷[C] X 100%, retention rate=[F]÷[E] X 100%

Note 2: To accurately reflect the situation of employee reinstatement, "No. of employees expected for reinstatement during the year" and "Actual number of employees reinstated during the year" have been adjusted so that employees who have their reinstatement extended would not be counted more than once. The number of employees who have their reinstatement extended would be calculated based on their actual year of reinstatement

6.2.4 Cares for Employees

"In the post-pandemic era of 2022, as ChipMOS celebrates its 25th anniversary, we prioritize building strong connections among our employees and promoting a healthy work-life balance. We combine the values of community service and environmental education, encouraging our employees to explore the outdoors with their loved ones. We value and cherish the quality time spent together, creating meaningful and memorable experiences."



ChipMOS places a strong emphasis on employee welfare activities centered around three key pillars: "Team Cohesion", "Family Enjoyment", and "Healthy Living." These pillars serve as the guiding principles for organizing a range of events and initiatives that foster team unity, create memorable experiences for families, and promote a healthy and balanced lifestyle among our employees. In commemoration of ChipMOS' 25th anniversary in 2022, we have increased the proportion of team-building activities to 25%, aiming to enhance employee morale and unity. To foster stronger interaction between our employees and their, to achieve a balance between working and family we have planned activities promoting a 31% work-life balance, with a participation ratio of 1:1.4 for employees and their family members. This means that, on average, each employee could bring along 1 to 2 family members to company events, fostering stronger emotional bonds and strengthening the sense of belonging within ChipMOS. In 2022, ChipMOS had invested a total of more than NT$ 71.09 million in employee welfare. The sources of funds include the company's turnover allocation and employee salary allocation. At the same time, the funds will be used in diversified welfare activities, so that more employees can enjoy the company's welfare and improve happiness and job satisfaction.

Ratio of Employee Welfare Activities in 2022

Fulfillment of Public Welfare	Work-family Balance	Healthy Living	Team Cohesion
38%	31%	6%	25%

Team Cohesion

Anniversary Celebration Activities

- We organized a series of events to commemorate our 25th anniversary, including large-scale decorations throughout the factory and the distribution of commemorative gifts (i.e. jackets and stickers). These initiatives aimed to foster a sense of unity and strengthen the emotional bond among our employees.

Team Contests

- We encourage team unity and boosted team morale by organizing team competitions that fostered cooperation and strategic analysis. These activities aimed to create a strong sense of belonging and cohesion among team members.

Sports Club

- We encourage employees to participate in various club activities and offer club subsidies on a quarterly basis. The total subsidy in 2022 came to NT$168,000.

Departmental Dinner

- We provide a subsidize departmental dinner expenses once every six months, where supervisors lead their team members in coming together over a meal to strengthen the bond and camaraderie within the department.

Department Outing

- Employees participate in the itinerary planning together, and can be held across units and departments to promote mutual interaction and affection.

Family Enjoyment

A Lesson on Food & Farming - One-Day Farmer with Fruit Picking Experience

- We partnered with a local organic farm to create a unique experience for our employees and their loved ones. They had the opportunity to engage in hands-on farming and planting activities, while also participating in informative beekeeping sessions that highlighted the interconnectedness of bees and local agriculture. We also organized a fun DIY activity where they learned to make delicious taro cakes, fostering a closer connection with nature and making their leisure time more meaningful.

Experiencing traditional local culture - Rice Noodles DIY in Hsinchu

- We have partnered with local leisure farms to offer employees and their families a unique opportunity to delve into the local rice food culture. They can explore the history and evolution of rice noodles, witness the process of rice noodle steaming, and participate in traditional food preparation. This immersive experience allows them to enjoy and learn about our rich cultural heritage in a fun and engaging way.

Local Traditional Cultural Experience - Craft Experience at Lu Ban School

- Through a collaboration with a local wood industry museum, we offer our employees and their family members the opportunity to visit our factory and gain a deeper understanding of the impact and contribution of the wood industry to Taiwan's local culture. They can explore the fascinating history of wooden furniture and its evolution, while also participating in engaging woodworking DIY activities to create their own one-of-a-kind wooden lifestyle products.

Cheering for the Home Team - ChipMOS Baseball Carnival with the Lion Roar Cheerleaders

- We led our employees and their families to gather at Tainan Baseball Stadium, where we cheered together for our local baseball team. It was an opportunity to rally our employees' support for local sports events and enjoy thrilling performances by cheerleaders and other entertainers. The event left our employees and their families with unforgettable memories, making it a wonderful and exhilarating holiday experience.

Beach Cleaning, Reducing Plastic Waste and Caring for Our Earth

- ChipMOS has been actively involved in adopting the coastline in the Tainan area for a long time. We gathered 100 employees and their families to participate in a beach cleaning activity, where we collected approximately 196 kilograms of trash. Through this initiative, we aimed to educate the younger generation about the importance of environmental conservation and fostering a love for our planet.

Healthy Living

Daily Leisure Activities

- Friendly Measures
  - Resident convenience store, non-profit coffee machine
  - Breastfeeding Room, reading room, billiard room, table tennis room
  - Exclusive outdoor smoking area
- Convenient Life
  - Food: All fabs are equipped with an employee cafeteria where meals are available for our staff; night shift employees also enjoy the privilege of late-night snacks and breakfast
  - Lodging: We provide a dormitory for employees
  - Transportation: For technicians, foreign employees and employees residing in Kaohsiung area, we provide free shuttle bus services
  - Free motorcycle parking spots, reserved parking spaces intended specifically for pregnant women and employees with special needs

Health Promotion

- Free health examination (once per year)
- Monthly on-site medical services provided by contracted physicians

Benefits System

- Gift certificate/cash gift: Birthdays/festivals/year-end gratitude
- Bonuses: Full attendance/Performance/Discretionary incentive bonus
- Other: Wedding celebratory/Funeral condolence allowance/free group insurance for employees

Mental Stress Relief

- Employee Assistance Program (EAP)
- Free massage by the visually impaired therapists

Experiences of Life

- Festive DIYs/Cultural and artistic experiences/Exploring local cultural activities
- Discount at contracted merchandisers (624 merchandiser in total)



6.3 Talent Development

GRI 404-1, 404-3

6.3.1 Strategic Talent Development Creating Talents and Demonstrating Diverse Values

Talent is the core driving force behind sustainable business growth. Recognizing the shifting dynamics of talent supply and demand in the industry, ChipMOS adheres to its core values of "Respect for Expertise, Value Enhancement, Boundary Breaking, and Achievement of Results" as the guiding principles for its operations. We integrate talent development with strategic planning, focusing on nurturing and reshaping employees' professional skills and cultivating the next generation of leaders. By doing so, we enable agile responses to market needs and ensure continuous success.

ChipMOS has established a comprehensive talent development system that integrates internal and external resources. We provide various learning opportunities in leadership and management, engineering and technical skills, work efficiency, quality management, and onboarding programs for new employees. These initiatives aim to empower our employees to showcase their diverse strengths and potentials, allowing them to explore new possibilities and advance in their careers. In 2022, we have invested about NT$ 3,463,523 in the learning and development of employees. Each employee had an average of about 105.64 hours of learning and training courses, and the course satisfaction is 4.7 points (out of 5 points).

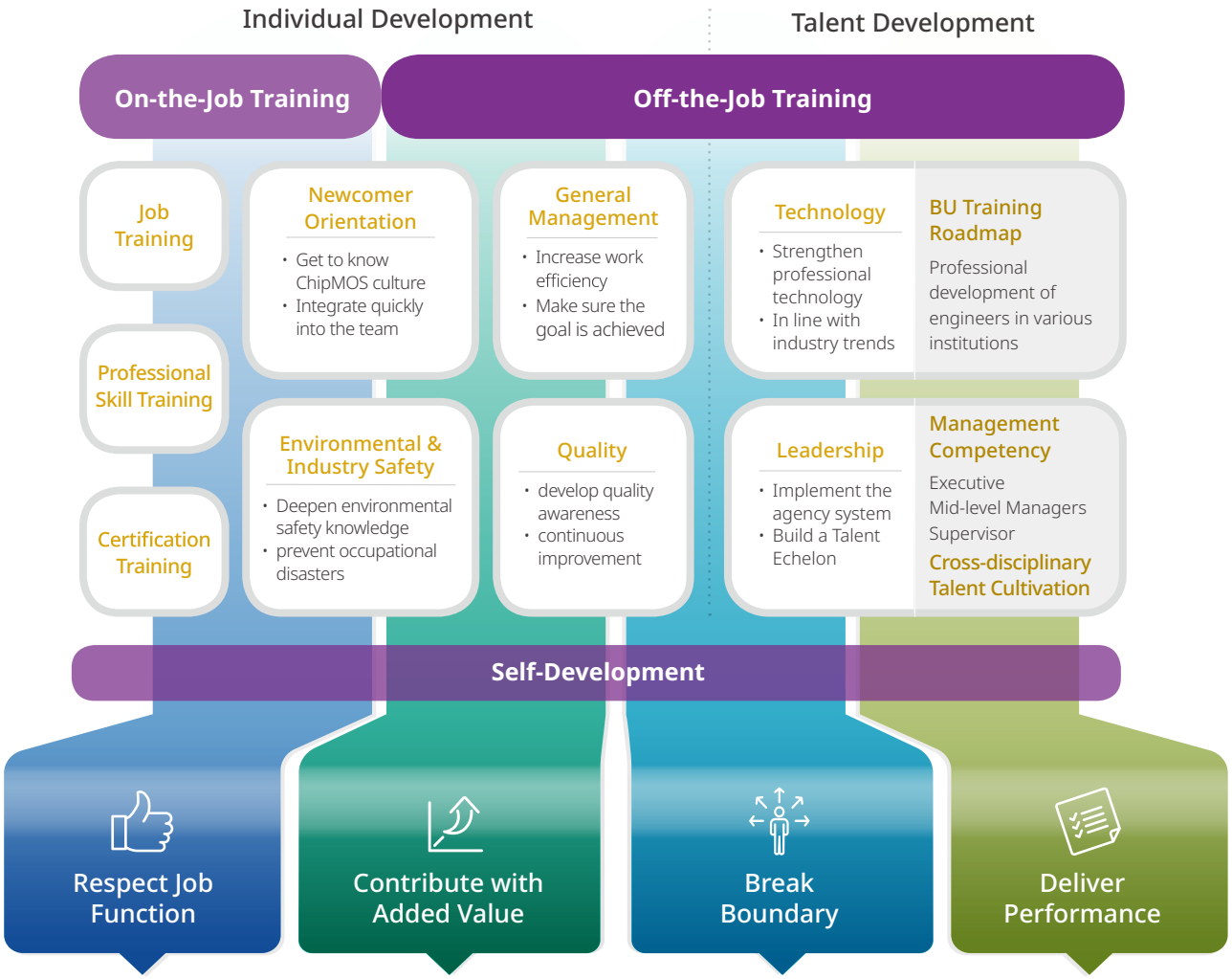
The average number of training hours for each category of employees

		Male	Female	Subtotal
Managers	Actual number of people	79	305	384
	Training hours	10,766.08	36,749.12	47,515.20
	Average training hours	136.28	120.49	123.74
Technicians	Actual number of people	331	1,387	1,718
	Training hours	31,535.61	177,686.11	209,221.72
	Average training hours	95.27	128.11	121.78
Administrative clerks	Actual number of people	160	210	370
	Training hours	18,195.60	26,711.40	44,907.00
	Average training hours	113.72	127.20	121.37
Operators	Actual number of people	2,236	575	2,811
	Training hours	221,326.68	35,116.97	256,443.65
	Average training hours	98.98	61.07	91.23
Total number of employees participated in training	Number of people	2,806	2,477	5,283
	Hours	281,823.97	276,263.60	558,087.57
Average hours of training per employee	Hours	100.44	111.53	105.64

Note 1: The number of employees involved in education and training does not include the 12 contract employees



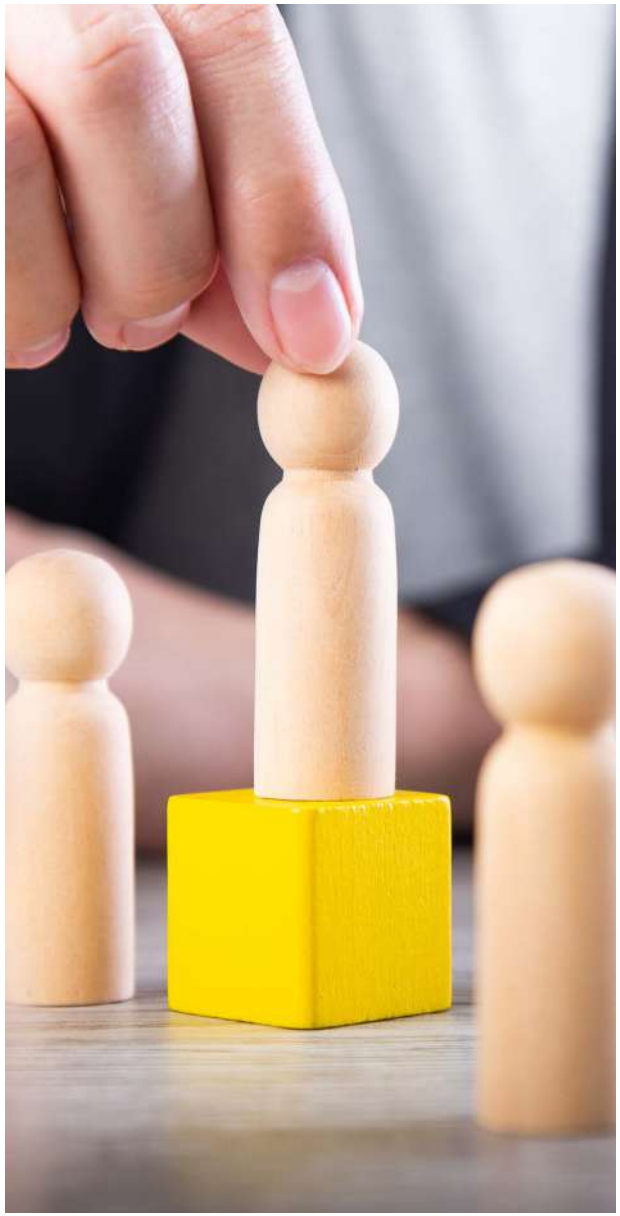
ChipMOS Training System





6.3.2 Cultivation of Leadership for Management

In response to the overall talent shortage and the need for succession management and cultural continuity, ChipMOS is actively cultivating management talents at all levels within the organization. We customize training programs based on strategic needs to proactively deploy the required talents within the organization. In 2022, 46% of the supervisory positions were filled by internal employees who transitioned into these roles. This achievement accelerates employee empowerment and contributes to the sustainable development of talents, fostering organizational diversity and resilience.



Key Training Solution

New manager development	
Description	▪ Highly experienced senior managers, who have undergone internal instructor certification, lead the training sessions, creating an environment where learning and teaching go hand in hand ▪ Emphasis on the role and responsibilities of a manager
Benefits and Outcomes	▪ A total of 211 newly appointed managers have undergone training and development programs at various levels ▪ The Q&A sessions of the training courses have been compiled into management guidebooks, serving as a knowledge transfer tool for newly appointed managers
Manager Competence Project	
Description	▪ By engaging in offline practical case studies and online microlearning courses, we enhance the managerial skills of our supervisors ▪ Through post-training practical exercises, our managers are able to apply what they have learned to their work and quickly align with their job responsibilities
Benefits and Outcomes	▪ A total of 61 individuals participated, with an average increase in job competency of 23%. ▪ Generated 45 practical case studies, leveraging the benefits of knowledge transfer
Key manager development	
Description	▪ Tailored personal development plans based on specific individual traits and required competencies, including competency training courses, case studies, and job task experiences ▪ High-level executives as coaches, and provide 12-week one-on-one coaching
Benefits and Outcomes	▪ Completed the training and preparation of 10 key managers ▪ Overall improvement in competence by 25%
Potential talent development	
Description	▪ Through talent pools, high-potential candidates are identified, and their individual traits and work motivations are assessed to tailor personalized development plan ▪ The training program focuses on developing foundational management skills and communication techniques. After each session, participants engage in case-based exercises where department-level managers provide feedback and comments to enhance the learning effectiveness of the participants
Benefits and Outcomes	▪ Out of 103 candidates, 37 potential individuals were selected, with a completion rate of 95%

Remark: Competency raised proportion=(score of after assessment - score of pre-assessment) / score of after assessment

6.3.3 Talent Cultivation Rooted in Professional Fields

Internal talent development: Deepening and expanding their on-the-job competence

ChipMOS implements the BU Curriculum Blueprint and prioritizes talent development through the Education and Training Committee, led by senior executives. This underscores our senior management's emphasis and commitment to talent development. The BU Curriculum fosters a common language and systematic learning, cultivating key skills and nurturing exceptional talents within the organization. In 2022, a total of 281 sessions of professional courses were offered, accounting for 53% of internal training programs. This initiative successfully trained 3,334 employees as BU professional engineers.

In 2022, as part of our intelligent manufacturing and digital transformation initiatives, we collaborated with the Industrial Bureau's Smart Electronics Academy and Southern Taiwan University of Science and Technology to launch a specialized training program on AI-enabled smart manufacturing applications. The training curriculum covered fundamental programming logic to advanced topics like deep learning. Additionally, participants had the opportunity to engage in hands-on experiences at the university's smart robotics laboratory, allowing them to apply their knowledge in practical settings. **In the very first industry-government-academia collaboration**, ChipMOS successfully nurtured 42 professional talents. Moving forward, we shall commit to investing in AI-related projects to accelerate the implementation of intelligent operations in our fabs and achieve our goals in smart manufacturing and AI-driven development.



Internal trainers are key contributors to the transmission of technical expertise

ChipMOS has a comprehensive internal trainer development program, and as of 2022, we have trained a total of 389 internal trainers. The purpose of this program is to pass on our core values and build internal knowledge and expertise, cultivating professional talents and ensuring that key technologies and skills are deeply rooted within the organization. The training content includes offline teaching skills and digital instructional material creation Additionally, in line with the digital age, ChipMOS actively encourages and supports internal instructors in digitizing their courses and instructional materials, creating a more user-friendly and flexible learning experience.

Internal trainers play a crucial role in talent development within the ChipMOS organization. They bring together their expertise and personal experiences to apply them within the Company. And that's why in 2022, internal trainers accounted for 81% of the total internal training sessions, highlighting their significance. The BU programs prioritize internal trainers (280 sessions) for course delivery, with only 1 session conducted by external trainers. This approach ensures a stable talent supply and enhances the quality of our workforce, effectively achieving our talent optimization goals.

389	81%	99%
Internal trainers	Proportion of internal trainers teaching in 2022	Proportion of BU programs were covered by internal trainers

External talent development: Bridging the last-mile gap between learning and application

ChipMOS actively promotes industry-academia cooperation and fosters industry development by providing internship opportunities and project collaborations. We aim to cultivate young students by helping them integrate into the industry in advance and enhance their workplace readiness skills. Internship students at ChipMOS receive comprehensive professional guidance from their assigned senior colleagues. They are provided with clear scopes of work for practical tasks, enabling them to have well-defined goals and practical experiences. This approach aims to minimize the gap between academic knowledge and practical application, allowing internship students to make the most of their learning experience.

Beginning in 2013, ChipMOS has embarked on a continuous collaboration with the Mechanical Engineering Department at Chung Yuan Christian University, focusing on a semiconductor program. This partnership was further expanded in 2022 to include Southern Taiwan University of Science and Technology and Kun Shan University. By bringing in lecturers from the industry to teach in these institutions, ChipMOS is providing the younger generation with valuable exposure to the semiconductor industry from a technical standpoint. This initiative aligns with their commitment to fostering industry-academia collaborations and upholding social responsibility. In particular, the Southern Taiwan University of Science and Technology, equipped with machines donated by ChipMOS, offers a comprehensive and rich curriculum. In addition to offering classes on professional theory, they have also designed practical courses on machine operation. With the guidance of industry experts, students have the opportunity to operate these machines themselves. We have also arranged field visits for students at ChipMOS' facilities to allow them to actually see the operations at our production lines and the company environment. Such exposure helps students to smooth out the transition from school to employment and provide opportunities for them to apply the knowledge they have learned. In 2022, we helped to train a total of 710 students, who provided positive feedback for their participation. Their overall training satisfaction came to 4.76 (out of a full score of 5).



Integrate into the industry in advance X Enhance their workplace readiness skills X Integrating knowledge and application X Hired upon graduation



6.3.4 Diverse Learning Channels and Rich and Autonomous Learning Resources

In response to the digital age and changes in learning models, ChipMOS is continually promoting digital learning. Employees can share knowledge through internal learning groups, and utilize online learning platforms for self-directed learning at any time. This approach facilitates the dissemination of learning throughout the organization. In the annual plan for 2022, 60% of the courses were designed to incorporate self-guided learning, including a variety of formats such as online classes, e-newsletters, videos, podcasts, application guides, and project tasks. This allows employees to learn anytime and apply what they have learned to their work, helping to achieve the organization's goals. With such diverse learning experiences, our employees scored their overall learning satisfaction 4.4. We published a total of 66 e-newsletters, with an average perusal rate at 89% in 2022. In 2022, the ratio of our digital courses to physical courses was approximately 6:4. A total of 232 online courses were offered, 30% of which were newly recorded. Overall, online resources increased by 9% compared to 2021.

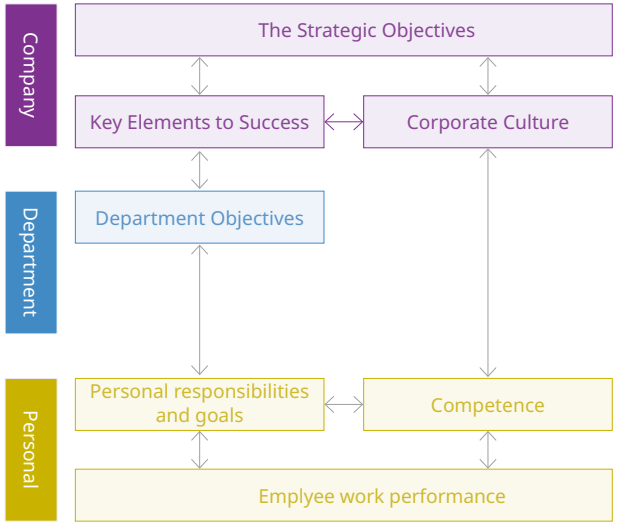
Autonomous learning and design of materials





6.3.5 Performance Management and Development

To ensure that the Company's operational goals are effectively implemented at every level in a top-down manner, we strive to connect organizational objectives, individual goals, and personal development. This includes talent development, promotion rotations, and rewards planning. We also conduct regular performance evaluations for all full-time employees to align their contributions with our company's mission. The annual performance management cycle involves several key steps. At the beginning of the cycle, supervisors and employees collaborate to clarify job responsibilities and establish goal management and development plans. Midway through the cycle, progress is reviewed to allow supervisors and employees to make any necessary adjustments to achieve their performance and outcome goals. At the end of the cycle, performance evaluations are conducted based on the annual work performance



Plan at the beginning: setting up goals	Interim followup: review and adjustment	Ending Appraisal: Result evaluations
The performance plan encompasses ⇨ Primary scope of performance ⇨ Objectives ⇨ Competence/Conduct ⇨ Personal development plan Reaching consensus with managers	Employee ⇨ Objective follow-up ⇨ Review ⇨ Adjustment Manager ⇨ Feedback on the status of target execution ⇨ Communicate	⇨ Performance interview ⇨ Employees' self-evaluation ⇨ Managers' feedback
Planning	Follow-up, review and adjustment	Appraisal
Develop corresponding objectives in accordance with each primary scope of performance to ensure that the objectives established are relevant and aligned to key job descriptions and the Company's key success factors	Managers shall review employees' status of work and in the event of changes in employees' scope of work/ objectives during the interim, employees' performance plan can also be adjusted during interim-review	Conduct performance interviews; managers will objectively summarize employees' status of work for the current year and give a score for their performance

Implementation results

The regular employees of ChipMOS and those who meet the performance appraisal methods during their employment are all subject to regular performance appraisals. In 2022, a total of 5,120 employees went through regular performance evaluation, accounting for 96.69% of the Company's total. Divided by gender, 2,415 male employees went through regular performance evaluation, accounting for 97.18% of the total male employees at the end of the reporting period. 2,705 female employees went through regular performance evaluation, accounting for 96.26% of the total female employees at the end of the reporting period.

	Male			Female			Subtotal		
Types of Employees	Total number of employees at the end of reporting period A	Number of employees to be reviewed for performance B	Percentage (%) C=B/A	Total number of employees at the end of reporting period D	Number of employees to be reviewed for performance E	Percentage (%) F=E/D	Total number of employees at the end of reporting period G=A+D	Number of employees to be reviewed for performance H=B+E	Percentage (%) I=H/G
Operators	305	305	100%	79	79	100%	384	384	100%
Administrative clerks	1,387	1,331	95.96%	332	327	98.49%	1,719	1,658	96.45%
Technicians	218	210	96.33%	163	160	98.16%	381	370	97.11%
Managers	575	569	98.96%	2,236	2,139	95.66%	2,811	2,708	96.34%
Subtotal	**2,485**	**2,415**	**97.18%**	**2,810**	**2,705**	**96.26%**	**5,295**	**5,120**	**96.69%**

Note 1: The annual performance appraisal period is from January 1st to December 31st of the current year
Note 2: Indirect employees who have been on the job for less than 3 months and direct employees who have been on the job for less than 1 month are not required to undergo performance evaluation.
Note 3: The total number of employees at the end of the reporting period does not include part-time employees, dispatched employees, and term personnel

6.4 Safeguarding Human Rights

GRI 2-23~2-26, 2-30, 402-1, 406-1, 408-1, 409-1

"Following the international labor and human rights standards of the Labor Standards Act and the RBA Responsible Business Alliance Code of Conduct, and committed to protecting the rights and interests of all employees and all personnel in the supply chain"

Policy and Management Guidelines

ChipMOS adheres to the core principles of the United Nations Global Compact (UNGC), the Universal Declaration of Human Rights, the standards of the International Labour Organization (ILO), and the guidelines for multinational enterprises of the Organization for Economic Co-operation and Development (OECD). We have developed relevant management procedures that explicitly declare our commitment to protecting the human rights of our employees. This includes compliance with legal requirements, ensuring employment freedom, providing humane treatment, preventing discrimination and harassment, and safeguarding employee feedback. We also comply with legal regulations regarding the shortest notice period for operational changes. Aside from protecting the human rights of employees, it also extends the influence to suppliers to protect the interests of all personnel in the supply chain.



Human Rights Risk Management

ChipMOS conducts an annual risk assessment of labor rights and ethics to ensure that human rights risks in the entire plant are effectively controlled and to reduce or eliminate various labor rights and ethical risks Since 2016, we have conducted annual self-assessment questionnaires (SAQs) based on the Responsible Business Alliance (RBA) Code of Conduct, as well as internal audits, to assess human rights risks. Through proactive self-evaluation, we ensure effective management and mitigation of human rights risks throughout our fabs. Our aim is to reduce or eliminate various risks related to labor rights and ethics. This process enables us to identify and implement specific measures to improve human rights practices and foster an inclusive and equal working environment. According to the RBA 7.1.1 SAQ criteria, the assessment results are scored on a scale of 0 to 100. They are then categorized into three risk levels: (1) ≥ 85 indicates low-risk, (2)≥ 65 and ≤ 85 indicates moderate-risk and (3) < 65 indicates high-risk. According to the assessment results, all our fabs scored ≥85, indicating them to be low-risk facilities. These include our Hsinchu fab., Zhubei fab., Zhubei fab. 2, Hukou fab. and Tainan fab. (including Tainan fab. 2).

Since 2015, ChipMOS Tainan Plant has actively applied for the RBA Validated Audit Program (VAP), through the official third-party audit certification designated by RBA, to evaluate the implementation and performance of the environmental and social sustainable management mechanism, the result of VAP was 187.1 points. In 2022, ChipMOS successfully extended the RBA VAP (Responsible Business Alliance Validated Assessment Program) to its Hsinchu fab. and Zhubei fab., with audit scores of 187 and 187.1, respectively. This is a statement of our ongoing commitment to managing human rights issues and promoting sustainable development.

Note: SAQ assessment risk level: (1)≥85 is classified as low risk, (2)≥65 points and ≤85 as medium risk, (3)<65 as high risk
VAP assessment risk level: (1) >200 is classified as platinum level, (2) 180~200 is classified as gold level, (3) <180 is classified as silver level

ChipMOS' Human Rights Risk Assessment and Response

Human Rights Risk Issues	Description of Risk Items	Rules and Regulations	Outcome of Risk Assessment	Response Measures
Anti-forced labor	Hiring of non-voluntary labor	Procedure Manual for Preventing the Use of Forced and Prison Labor	Low-risk	• Zero Fee Policy; employees are not required to pay any fees in order to secure employment. • Before workers leave their home country, they are provided with an employment agreement written in their native language, which describes the terms and conditions of employment. • Employees' ID and original copies of their personal documentations are not retained by the Company and any intermediaries. • Employees may choose to resign after giving reasonable notice, without facing any penalties or repercussions.
No Child Labor	Hiring of child labor under the age of 16	Procedure Manual for Child and Youth Labor Management	Low-risk	• Develop policies and procedures to effectively protect young workers, student workers, interns, apprentices • Strictly enforce not to employ children under the age of 16 • Young workers between the ages of 16 and under 18 may not perform work that may endanger their health or safety, including night duty or overtime
Reasonable Work Hours	Failure to comply with pertinent regulations on work hours	Management Procedure on Overtime Work	Low-risk	• Work schedules are predetermined and effectively managed to ensure that colleagues' working hours comply with the legal requirement of one day off for every seven workdays.
Humane Treatment	Subjecting employees to sexual harassment, physical punishment, psychological or verbal abuse	1. Management Procedure on Anti-Discrimination and Anti-Harassment 2. Management Procedure on Prevention of Punitive Management 3. Management Procedure on Suggestion Box Operations	Low-risk	• Develop and communicate to all employees and other stakeholders policies and procedures prohibiting inhumane management of employees • Manage in accordance with personnel rules and regulations, and there shall be no disciplinary deduction of wages • The company shall not force labor, punish employees and deprive employees of their basic rights and interests for various reasons
Anti-Discrimination and Anti-Harassment	Any discrimination against or harassment of employees in recruitment and actual work (i.e. wages, promotions, rewards or training opportunities) by the Company	1. Management Procedure on Anti-Discrimination and Anti-Harassment 2. Management Procedure on Suggestion Box Operations	Low-risk	• Respect every worker, prohibit discrimination in the recruitment process, and prevent any harassment from happening • Implement equal pay for equal work and gender equality wage policy • Carry out hazard identification and risk assessment investigation of illegal workplace violations, and educate employees to prevent discrimination and harassment
Freedom of Association	The Company prohibits employees from freely associating or limits open communication between labor and management	Organization Regulations for the Employee Welfare Committee	Low-risk	• The Company regularly holds labor-management meetings, in which employee-elected worker representatives participate and provide feedback

Note: The risk assessment is conducted by multiplying the likelihood of occurrence with the impact level, resulting in three risk levels: low-risk, moderate-risk, and high-risk. When an assessment identifies an item as high-risk, it will be classified as a significant risk issue. In such cases, a comprehensive risk control and improvement plan will be formulated to mitigate the risk to an acceptable level. For items assessed as low or moderate risk, continued monitoring and effective management of the existing response measures will be maintained instead.

Human rights related education and training

To protect employees' interests and fulfill the corporate social responsibilities, ChipMOS has promised to conform to RBA 7.0 code of conducts, to ensure employees fully understand their own interests, healthy and safe working fields, environmentally protective actions, Regulations Governing Professional Moral Conduct of the Company, and the implementation of human right education and corporate social responsibilities in the management system. All employees must receive the human rights education and trainings when they come onboard. In 2022, a total of 3,186 new employees received RBA and other on-the-job human rights courses, completing a combined total of 1,151.3 hours of training, which translated to 60% of all employee training hours.

Diverse Communications and Appealing Mechanism

ChipMOS has established diverse and open channels of communication and committed to the promotion of labor-management communication and friendly management of human rights. At the same time, we have established a comprehensive internal and external complaint mechanism, which includes meetings, employee suggestion boxes, audit committee mailboxes, Information Security Management System(ISMS) suggestion boxes, chairman's mailboxes, communication hotlines/interviews, and more. Through these channels, complainants can raise concerns about potential or actual negative impacts caused by the company and seek assistance. This ensures the protection of the rights and interests of all employees and stakeholders. The responsible departments handle these matters with complete confidentiality and anonymity, aiming to facilitate open communication and effectively address relevant issues. We use the response rate of various communication channels as a tracking indicator. In 2022, the communication channel response rate was 100%.

We also attach great importance to the freedom of assembly and association of employees with an open management style. Although there is no trade union, all regular employees are protected by labor contracts. According to the rights of employees, employees can decide their own freedom of association. Regarding freedom of association, the company does not interfere.

ChipMOS holds quarterly "labor-management meetings" in compliance with the law. These meetings provide a platform for elected labor representatives from each of our fabs to report on the latest labor-related updates. These reports cover topics such as the Company's workforce status, personnel training and development, employee welfare activities and so forth. The purpose of these meetings is to strengthen communication between labor and management, as well as encourage employee participation in decision-making and discussions.

ChipMOS adheres to the spirit of the Responsible Business Alliance (RBA) Code of Conduct. If employees have concerns about policies or wish to provide practical suggestions, the Company encourages them to approach the audit department or the appropriate responsible unit with their proposals and improvement ideas, fostering a spirit of collaboration for the common good. When stakeholders have concerns about the Company's business activities, such as illegal or improper incidents, or situations that may harm their own interests, they can report them through the Audit Committee mailbox or directly approach the Legal Department and Audit Department. This ensures the protection of the rights of all individuals involved.

There will are no labor disputes in 2022; in 2022, a total of 40 related opinions and responses from employees were received, and all feedback was responded to and processed immediately. The acceptance and closing rate is 100%, and there are no special cases[Note 1], and there is no delay or accumulated cases. If there is a complaint of sexual harassment, it will be investigated and trialed by the handling committee, and it will be coordinated and completed in accordance with laws and regulations; the medical office will also share articles related to gender relations from time to time, and in accordance with the regulations of Article 6 of the Occupational Safety and Health Law, to carry out the the risk identification and assessment survey of illegal workplace violations to educate employees on preventing gender discrimination incidents.

Note 1: Evaluate whether it is a special case according to the actual situation of the case, such as violation of national laws, company regulations or cases that may affect the operation of the company



Communication Channels

Communication Channels	Meetings	Communication Platform				Communication hotline/other			Others
	Meetings (in-person/online)	Employee suggestion box (electronic/physical)	Chairman's mailbox	Audit Committee Mailbox	Information Security Suggestion Box	Contact in person/ via phone calls - HR	Employee Interviews	EAP Hotlines	Grievances referred by external entities
Level responsible	Tier-1 Managers	Division-level Managers	Chairman	Department Head, Independent Director or Audit Committee (depending on the accused)	Management Representatives of Information Security Management Committee	Division-level Managers	Division-level Managers	Outsource a management consulting company, and notify the company if the circumstances are serious (such as suicide, violence, etc.)	Division-level Managers
No. of case	8	16	0	0	0	7	5	3	1
Email /Phone number	-	HR_Hsinchu@chipmos.com HR_Tainan@chipmos.com	Chairman@chipmos.com	Audit_committee@chipmos.com	ISMS@chipmos.com	-	-	0800-025-008	-
Response rate for all communication channels **100%**									

Note 1: Meetings including the 47 sessions of labor-management meetings, production line meetings and Welfare Committee meetings held

Note 2: A total of 751 employees were interviewed in 2021; Interviews with new recruits: interviews for direct staff after 2 weeks of work and 2 months for indirect staff; Transfer interview: the transfer personnel will be interviewed after 2 months of work; Project interviews: interviews for key talents or special cases

ChipMOS's unique communication channel

Chairman's Speech

It is held from time to time every year, and a total of 4 sessions were held in 2022. In addition to face-to-face communication with employees, the Company's future operating strategies and policies are also shared, giving employees more support and positive energy for their work.

Foremen Luncheon

To get closer to the low-level managers and get to further know issues at work, foremen/employee luncheons have been held irregularly. Through the luncheons of the chairman and the foremen/employees, the voices of employees are listened to, and provide encouragement and assistance.

Company Publication – ChipMOS Quarterly

Since its establishment in 2001, a total of 84 issues have been published over 22 years. Selected articles are published every quarter, including important company policies, interviews with executives, ESG columns, patented technologies, event sharing and so forth.

6.5 Healthy and Safe Workplace

GRI 2-8, 403-1~403-10 TC-SC-320a.1

ChipMOS is committed to creating a safe and friendly work environment, ensuring the well-being of its employees. We prioritize safety and health by implementing our comprehensive "Safety and Hygiene Policies" to prevent accidents and maintain a sustainable and healthy workplace as part of our long-term commitment.

6.5.1 Safe Working Place with Continuous Improvements

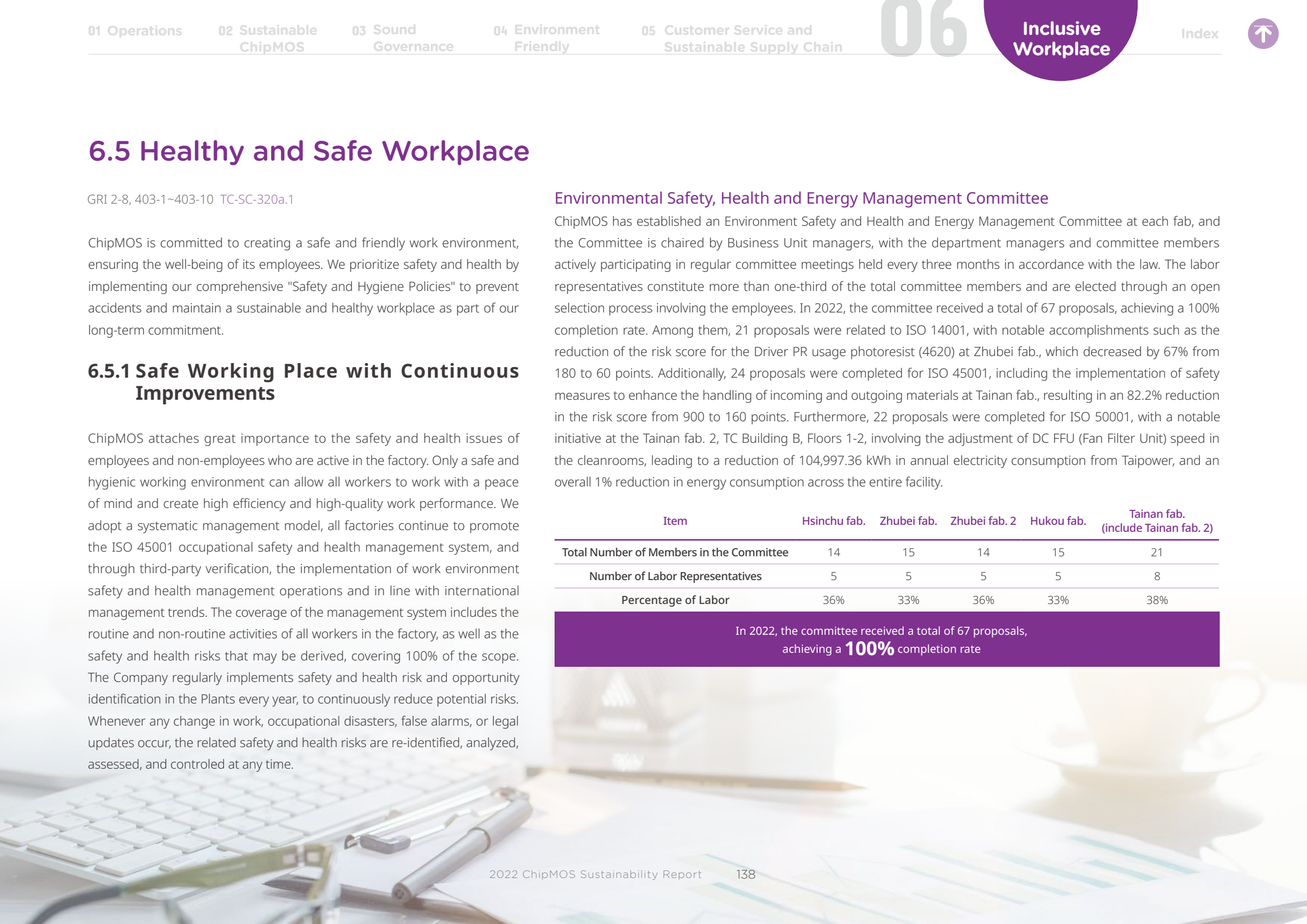
ChipMOS attaches great importance to the safety and health issues of employees and non-employees who are active in the factory. Only a safe and hygienic working environment can allow all workers to work with a peace of mind and create high efficiency and high-quality work performance. We adopt a systematic management model, all factories continue to promote the ISO 45001 occupational safety and health management system, and through third-party verification, the implementation of work environment safety and health management operations and in line with international management trends. The coverage of the management system includes the routine and non-routine activities of all workers in the factory, as well as the safety and health risks that may be derived, covering 100% of the scope. The Company regularly implements safety and health risk and opportunity identification in the Plants every year, to continuously reduce potential risks. Whenever any change in work, occupational disasters, false alarms, or legal updates occur, the related safety and health risks are re-identified, analyzed, assessed, and controled at any time.

Environmental Safety, Health and Energy Management Committee

ChipMOS has established an Environment Safety and Health and Energy Management Committee at each fab, and the Committee is chaired by Business Unit managers, with the department managers and committee members actively participating in regular committee meetings held every three months in accordance with the law. The labor representatives constitute more than one-third of the total committee members and are elected through an open selection process involving the employees. In 2022, the committee received a total of 67 proposals, achieving a 100% completion rate. Among them, 21 proposals were related to ISO 14001, with notable accomplishments such as the reduction of the risk score for the Driver PR usage photoresist (4620) at Zhubei fab., which decreased by 67% from 180 to 60 points. Additionally, 24 proposals were completed for ISO 45001, including the implementation of safety measures to enhance the handling of incoming and outgoing materials at Tainan fab., resulting in an 82.2% reduction in the risk score from 900 to 160 points. Furthermore, 22 proposals were completed for ISO 50001, with a notable initiative at the Tainan fab. 2, TC Building B, Floors 1-2, involving the adjustment of DC FFU (Fan Filter Unit) speed in the cleanrooms, leading to a reduction of 104,997.36 kWh in annual electricity consumption from Taipower, and an overall 1% reduction in energy consumption across the entire facility.

Item	Hsinchu fab.	Zhubei fab.	Zhubei fab. 2	Hukou fab.	Tainan fab. (include Tainan fab. 2)
Total Number of Members in the Committee	14	15	14	15	21
Number of Labor Representatives	5	5	5	5	8
Percentage of Labor	36%	33%	36%	33%	38%

In 2022, the committee received a total of 67 proposals, achieving a **100%** completion rate



Ensuring Occupational Safety For All Employees



In 2022, ChipMOS' safety and health management was planned towards the direction of full participation, under the promotion model of enhancing worker participation, consultation and communication, including review of procedure documents, participation in monitoring operating environment, joint incident investigation and hazard identification, while building a management system including the communication of opinions.

Pursuant to the prescribed Environmental Safety, Health and Energy Communication Management Procedures, employees may raise opinions related to occupational safety and health, communicate and consult with managers or accountable units, or raise opinions to the labor representatives of the Environmental Safety, Health and Energy Management Committee via phone, e-mail, and various meetings, and propose discussion in the meetings of Safety Committee at each fab. For the communication of relevant occupational safety and health laws and regulations in the fabs, employees may inquire about the announcement on the Company's electronic bulletin board, or refer to the publications, education and trainings, or announcements issued in-house, for safety and health information. Meanwhile, for the communication and promotion to various stakeholders, diverse communication channels (promotional seminars, emails, phone calls, and orders) are also applied, or reply to the stakeholders about the situation handling by recording the "Environmental Safety and health Communication and Opinion Form," while promoting the Company's safety, health and environmental policies to customers, contractors, suppliers and stakeholders, while preventing and reducing negative impacts on occupational safety and health.



In order to build the occupational safety of all employees, and improve the safety awareness, ChipMOS has prescribed the Instructions of Environmental, Safety and Health Education and Training, as the basis of the annual occupational safety and health education and training plans. The trainings are conducted by the nature of workers; other than the general safety and health education, the education and trainings also provided for occupational safety and health supervisors/ managers, operators of dangerous machine or equipment, special operators, and occupational health nurses. For the occupational safety and health education and training to contractors, it is handled pursuant to the Management Procedures for Contractor's Safety, Health and Environmental Protection, to implement the occupational safety and health education and training as enhancement of workers' safety and health awareness.

Moreover, activities such as praising excellent environmental safety and health units and personnel are promoted, to enhance the participation of all units. The Environmental Safety, Health and Energy Communication Management Procedures are prescribed to encourage employees to propose in terms of environmental safety, health and energy. Employees may raise their concerns to managers, or consult with the Safety and Environmental Office or Factory Service, without worrying that the Company will act against the employees. The Company does not impose disciplinary actions against employees who report hazardous conditions in the fabs, and expects to encourage the employees to actively propose improvements regarding daily business and the environment through the in-house proposal incentive system, to prevent disasters. Through activities, the safety and health awareness of employees are enhanced, and the sense of honor is stimulated via praises, to achieve the objective of improving the safe and healthy working environment.

Hazard Identification, Risk Management, and Incident Investigations

Through the preventive mode of risk management and autonomous training in each fabs of ChipMOS, each employee's awareness of work safety and health is improved. Based on the established safety and health risk identification and assessment procedures, with the implementation of ISO 45001 system training courses by employees in every fab every year, the probability of risks and severity level are identified via the elements including hazard severity, frequency of occurrence and accident probability by conducting hazard identification and risk assessment procedures for each routine and non-routine operations from the five aspects, namely personnel, machinery, materials, engineering methods and the environment, to analyze the resulting major occupational safety and health risks, and find out the improvable hazard points, plan and propose corresponding control methods, corrective measures and goals/management plans for reducing risks and avoid accidents. In 2022, based on major occupational safety and health risks, 24 improvement plans were proposed and all were completed as scheduled.

Item	Hsinchu fab.	Zhubei fab.	Zhubei fab. 2	Hukou fab.	Tainan fab.	Tainan fab. 2	Total
Items of Hazard Identification	875	808	358	629	2,115	423	5,208
Number of Unacceptable Risk (item)	2	2	3	3	6	2	18
Number of Established Management Programs	3 Note 1	4 Note 2	2 Note 3	3	9 Note 4	3 Note 5	24
Numbers of Completed Management Programs	3	4	2	3	9	3	24
Completion Percentage	100%	100%	100%	100%	100%	100%	100%

Note 1: In addition to rejecting two unacceptable risk items, Hsinchu fab. implemented one additional continuous improvement management plan.
Note 2: In addition to rejecting two unacceptable risk items, Zhubei fab. implemented two additional continuous improvement management plans.
Note 3: Three unacceptable risk items were identified at Zhubei fab. 2. Among them, two of the risks involved potential incidents of slippage, tipping, or injury caused by material transport carts. These two risks were consolidated into a single management plan and implemented accordingly.
Note 4: In addition to rejecting six unacceptable risk items, Tainan fab. implemented three additional continuous improvement management plans.
Note 5: In addition to rejecting two unacceptable risk items, Tainan fab. 2 implemented an additional continuous improvement management plan.

If the workplace is concerned with imminent danger, workers may stop work and retreat to a safe place on their own without endangering the safety of other workers, and the Company will not impose disciplinary actions. For incidents, investigations and improvements are conducted pursuant to each corresponding procedure set forth in the "Instructions for Work Injury Management and Incident Investigation," and reviews are conducted in the meetings of the Environmental Safety, Health and Energy Management Committee, to avoid similar incidents from re-occurrence.

Continue the 5 major occupational safety management and prevention tasks

To enhance the safety and health management of the fabs, ChipMOS has corresponding management mechanisms for chemicals, procurement, machinery equipment, contractors and contingency drills, explained as below:



Chemical Safety Management

All chemicals in the fabs shall be submitted for review procedures, to ensure compliance with regulations and ChipMOS's internal standards. Establish a complete list of use for all chemicals in Chinese and English, and provide appropriate protective equipment and personal protective equipment (PPE) to protect the health of employees.

For places where chemicals are stored, set up leakage-proof facilities; where solvents and gases are stored in the fabs, set up independent compartments and strictly limit the amount to be taken and storage methods. Moreover, pursuant to Article 11 of the Occupational Safety and Health Act, the risk levels of total 375 chemicals are assessed based on the health hazards, dispersion status, and consumption, and the classification management measures are adopted. Based on different risk levels, the Company takes control measures, include isolation (pipeline supply) or engineering control (local exhaust/closed operation, overall ventilation), to reduce risks. We shall continuously promote the chemical classification management system, reviews the safety protection measures for the storage and use of chemicals in the fabs, and improves the work safety of employees in a holistic manner.

Machinery Equipment Safety

Before introducing of various machines and equipment to the fabs, an evaluation application form must be submitted. Hazard identification and safety protection (such as emergency stop buttons and safety interlocks) should be inspected at each stage, including introduction, installation, and acceptance. During installation, equipment manufacturers are required to comply with contractor’ s safety management matters, procedures for various safety management measures are prescribed to comply with operational safety and health requirements; the hazard signs in both Chinese and English are posted on machine undergoing maintenance and services, for the domestic and foreign employees to understand the hazards of the machine and take appropriate safety protection measures. In response to the employee pinching incidents in 2022, we implemented various measures to enhance safety protection. These included conducting a comprehensive review of the existing SOPs to incorporate more detailed instructions, increasing the display of warning signs regarding crushing hazards, and launching awareness campaigns to educate employees about accidents. Furthermore, we took steps to improve the physical environment by increasing the distance between the machine cover and potential hand contact areas (i.e. ensuring it has clearance exceeding fingers laying flat). Additionally, we installed machine-specific anti-pinch buffer devices. These engineering improvements were aimed at optimizing safety protection and minimizing the risk of accidents.

Contractor Management

ChipMOS places great importance on contractor management. In addition to establishing a comprehensive system for evaluating and managing contractors, which includes assessing their qualifications, providing training, and implementing on-site supervision, we have developed a specific set of procedures for managing construction safety and health for high-risk operations such as hot work, elevated work, lifting operations, forklift operations, and confined spaces. We require contractors to comply with pre-construction, during-construction, and post-construction safety regulations to prevent accidents and ensure a safe working environment. We have a robust contractor rating system in place to evaluate the performance of contractors working within our organization. This system assesses their performance in areas such as quality, delivery, safety, cooperation, and discipline. By implementing this system, we can effectively manage our contractors and minimize any associated risks. I'm pleased to report that in 2022, there were no occupational health and safety incidents involving contractor personnel across all our facilities.

Item		Total
Number of Contractors in 202		465
2022 Assessment Rating	Class A (excellent, retained)	19
	Class B (good, retained)	446
	Class C (three-month suspension)	0
	Class D (disqualified)	0

Procurement Safety Management

ChipMOS has established a set of procurement safety management procedures, requiring the contracting and procurement procedures for engineering or services to include the "safety and health requirements," including purchasing/leasing machines, tools, equipment, materials, raw materials, and personal protective equipment. When signing the contract, executing and accepting, these requirements serve as the basis for requirements, confirmation and delivery of results, to meet the safety and health requirements and ensure that all operations are operated safely.

Contingency Drills

ChipMOS is committed to improving employees' awareness of safety and health. The passive training requirements in the past have been effectively transformed into a training mode of autonomous management and autonomous training by us, and trainings at all levels are expanded for improving the adaptability, to implement the goal of occupational safety for all employees. In addition to the education and training for employees pursuant laws, to avoid the management risks of contractors, relevant education and training are required to be conducted, as well as the requirements for safety and health training and toolbox safety meetings before entering the fabs are also reinforced.

In terms of contingency drills, based on the risk assessment results, for the possible types of incidents such as fires, earthquakes, typhoons and chemical disasters, we all take actions through the three indicators of "prevention", "prior alert" and "contingency;" ChipMOS conducts autonomous department drills, or works with relevant governmental agencies to implement large-scale drills. Through scenario simulation and practice, the employees' awareness of hazards and their contingency capabilities are improved, and greatly reduce disasters and losses. At the same time, members of the contingency team should conduct contingency education and training at least once every 6 months, to improve the contingency capabilities of the contingency team members.

Type of Fab	Hsinchu fab.	Zhubei fab.	Zhubei fab. 2	Hukou fab.	Tainan fab.	Tainan fab. 2
Times of Drills	4	8	5	4	15	7

Remarks: As the Tainan fabs (including Tainan fab. 2) have more employees, and the plant is a packaging and testing fab, with risks different from the testing fabs, the number of drills is more than other fabs.



Chemical leakage drills



Fire drills



Emergency aid drill







Emergency evacuation drill at each fab (day/night)

Operating Environment Monitoring

Pursuant to the "Enforcement Procedures for Labor Operation Environment Measurement," ChipMOS conducts labor operation environment monitoring every six months periodically. Before the monitoring is conducted, the persons in charge of the operating venues are called for a meeting, to discuss the type of work exposure, identify and analyze hazards, and collect data. Based on the analysis results, the "Operating Environment Monitoring (Including Sampling Strategy) Plan" is drafted to ensure that all hazard exposure factors are included in the monitoring. The monitoring results are managed according to the type of assessment as follows, and published throughout the fabs to inform all employees.

2022 Environment Monitoring Outcomes

Monitoring Item/ Fab	Hsinchu fab.	Zhubei fab.	Zhubei fab. 2	Hukou fab.	Tainan fab.	Tainan fab. 2
CO_2	●	●	●	●	●	●
Illuminance	●	●	●	●	●	●
Noise (person)	●	●	●	●	●	●
Noise (environment)	▲	▲	●	●	▲	▲
Organic	-	●	●	●	●	●
Specialty chemical	-	●	-	-	●	●
Dust	-	●	-	-	●	-

Remarks

1. ●: means tested and meeting the standard; ▲means tested but failing to meet the standard. - stands for not applicable/not tested for the item
2. Explanation of failure to meet the standard and preventive measure: Hsinchu fab.: one location in the air compressor room (noise > 90 decibels); Zhubei fab.: three locations in the air conditioning room and B1 fire pump room (noise > 90 decibels); Tainan fab. & Tainan fab. 2: three locations in the TA1F/TB1F facility management room air compressor area and TC1F CUB area (noise > 90 decibels).
   Preventive measures: The air compressor/air-conditioning/fire pump/CUB rooms are not a normal work area for employees. As required by laws, "noise area signs are posted" outside the concerned machine rooms and "protective equipment (earplugs) are provided"

Occupational Disaster Management

Under the effective operation of the safety and health management mechanism and system, in 2022, there was no death due to work injury for either employees and non-employees[Note 1] in ChipMOS. The severe employee occupational injury incidents in fabs [Note 2] were 5 cases, 0 case for non-employees; the total recordable occupational injuries [Note 3] were 5 cases; there was no amount of monetary loss due to any lawsuit related to employees' health or safety violations. The "Frequency-Severity Indicator (FSI)," "Disabling Injury Severity Rate (SR)," and "Disabling Injury Frequency Rate (FR)" of all employees of the Company are superior to other electronic parts and component manufacturers. The Company will continue to enhance the ability of colleagues to recognize hazards, and create the company safety culture in the future, so that every ChipMOS employee goes to work happily and goes home safely.

Note 1: The common types of non-employee workers include contracted workers for cleaning, security, and catering services. The total number of such workers came to 1,227 person/year, which shows no significant fluctuation compared to the number of non-employee workers in 2021.
Note 2: Serious occupational injury incidents refer to disabling injury incidents (excluding commuting to and from work) reportable to the competent authority as required by law.
Note 3: Recordable occupational injuries = death cases + disabling injuries (excluding minor injuries)

The company-wide disabling injury statistics

ChipMOS FSI Target Value 0.17

Year	2019	2020	2021	2022
Disabling Injury Frequency Rate (FR)	0.51	0.35	0.54	**0.45**
Disabling Injury Severity Rate (SR)	26	5	9	**9**
Frequency-Severity Indicator (FSI)	0.12	0.04	0.07	**0.07**
Working Hours	11,859,733	11,276,088	11,167,944	**11,023,600**

Note 1: Formula of Disabling Injury Frequency Rate (FR) = (number of disabling injuries × 106)÷ total working hours experienced
Note 2: Formula of Disabling Injury Severity Rate (SR) = (days charged for disabling injuries × 106)÷ total working hours experienced
Note 3: Frequency-Severity Indicator(FSI) = (FR×SR÷1000)1/2
Note 4: The total working hours of employees in 2022 was 10,821,424 hours; the total working hours of non-employees was 202,176 hours
Note 5: The target value for the FSI, which is a comprehensive indicator of disabling injuries, is based on the average FSI of the "Other Electronic Component Manufacturing" industry from 2019 to 2021, as specified by the Occupational Safety and Health Administration under the Ministry of Labor.

Statistics on Work Injury and Days Charged for Disabling

Number of Work Injuries
5

Days Charged for Disabling
104

Note 1: Case of employee work injury incidents: Falls: 4 cases, Getting jammed: 1 case.
Note 2: Employees refer to those who are employed by the Company to work for wages and insured with the labor insurance by the Company; non-employees refer to those who engage in operational activities in the Company but not employees.
Note 3: The number of non-employee injuries and days of loss is 0 for each fab.

Corrective and Preventive Measures	In relation to occupational injury incidents, 4 cases involved falls, attributed to factors like slippery surfaces due to rain or accidentally tripping over objects along walking paths. To address this, comprehensive measures were implemented, including the installation of anti-slip measures, the removal of potential obstacles from walking paths, and the placement of mats to reduce the risk of employee falls. Additionally, 1 case involved a pinching injury caused by an employee accidentally striking his right index finger on the machine cover during operations. To prevent similar incidents, relevant measures were taken, such as creating more space between the machine cover and platform to avoid finger pinching, posting conspicuous warning signs about crush hazards on the machine, and promoting safety awareness for employees.

6.5.2 All-rounded Protection of Healthy Workplace

Safe and Healthy Workplace
diverse health examinations to protect employees' health

Safe and Suitable Workplace
holistic health management to reduce risk of disease

Comfortable Workplace
inspiring health awareness and improving autonomous health management

ChipMOS values the health of employees, and seeks to prevent any occupational diseases by preventive measures, and emphasizes on promoting health management and enhancement; a holistic health management program is planned by a dedicated medical team, to implement employee health management, risk management and care. Meanwhile, in order to ensure the health of non-employees working in the fabs, ChipMOS provides necessary medical consultation and medical resources for all workers to use. ChipMOS is committed to protecting the health interests of workers; it not only observes regulations related to medical personnel, but also specifies the relevant confidentiality obligation in the contract to keep the workers' health information confidential; we prescribe the "Labor Health Service Program" annually, report and review the implementation outcomes continuously creating a holistic healthy, suitable, and comfortable workplace.

Safe and Healthy Workplace

Diverse health examinations to protect employees' health

ChipMOS conducts the annual health examination for employees. For 20 years in row, the Company has planned a variety of screening programs and frequencies better than peers, continuously keep the health of employees in check, and achieve early detection and timely treatment. Similarly, we value the health of non-employee workers in the fabs; ChipMOS fulfills the responsibility of supervision and management, and requires outsourced vendors and contractors to implement the health examinations and care of their workers pursuant to laws and regulations, for moving towards to the goal of all workers' physical and mental health.

Employee Health Examination	**31** Screening Items **99.6%** Achievement Rate	Discuss with professional specialist annually to establish the examination items superior to regulatory requirements, such as additional examination items including hepatitis B/C, thyroid examination and so forth to ensure employee health.
Managers' Health Examination	**100%** Achievement Rate	The annual program with fixed-amount subsidy is adopted, with the evaluation done by the onsite physician for the individual's physical condition in advance, to provide recommended examination items; numerous major health examination packages are provided for managers to choose and combine flexibly, to achieve effective screening benefits.
Physical Check of New Recruits	**100%** Completed Before Onboard	The Company pays the employees to have a physical examination before onboard, and strictly requires that they must complete and confirm their health conditions before onboard, in order to reduce the risk of infectious diseases in the fabs and protect the health of the employees in the fabs.
Special Hazard Health Examination	**125** Participate in the Examination **100%** Completion Rate	As required by law, the examination are taken for these personnel operating with special hazards, such as dust operations, nickel operations, and n-hexane; in the recent five years, there has been no work-related irregularity comprehensively deemed as Level 3 or 4; for the Level 2 irregularities, all have completed with onsite physician's assessment, health instruction, re-examination tracking, and labor allotment measures, to reduce the risk of occupational diseases.
ChipMOS E-Health System	**100%** Report Conversion Completion Rate **100%** Complete Report Retention Rate	Since 2010, the online platform, "ChipMOS E-Health System" has been established, to completely retain the employee's health examination reports over the years, and provide employees to inquire their own health examination reports, health consultation and management for health service registration.
Health check-up report consultation	**143** Participated in the Examination	Qualified physicians from a medical examination hospital provide on-site consultation services during health check-up report consultations. They offer professional guidance and help address complex medical inquiries, providing advices and clarifications.

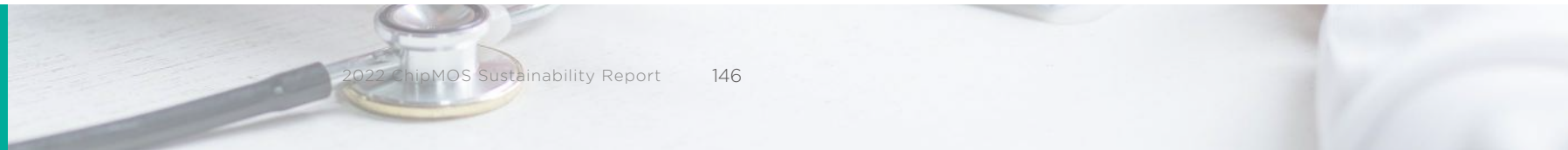
Safe and Suitable Workplace



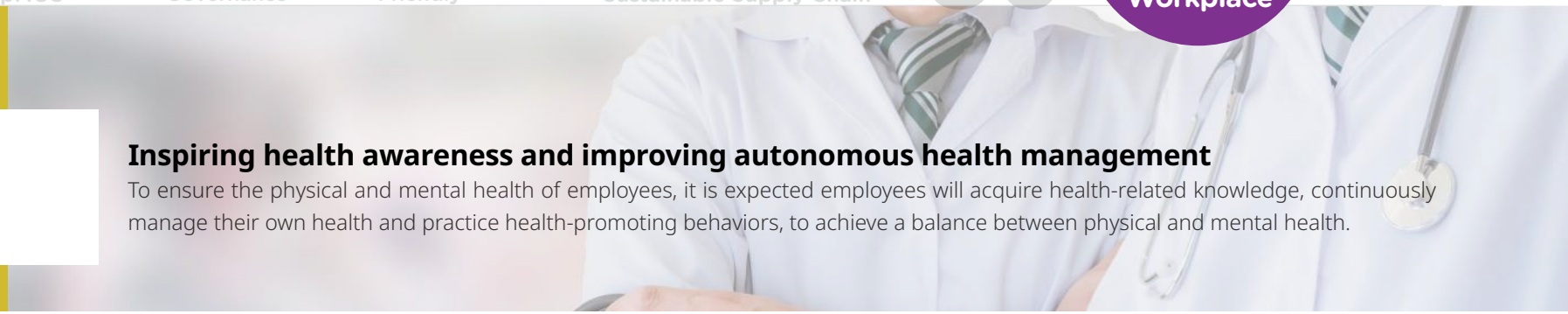
Holistic health management to reduce risk of disease

In order to maintain the safety and health of employees and prevent the occurrence of occupational diseases, the Instruction of Health Management Operation and the preventive plans for irregular workload-induced disease; new recruits complete physical examinations before onboard, and the examination results are classified for management and the cardiovascular disease risk is analyzed through evaluation tools; these who have high-risk are arranged with physician health guidance or fitness assessment, as an implementation of holistic health management.

Occupational Disease Risk Management	**35** Level 2 Management **0** Occupational Disease Cases	For employees working in workplaces of special hazardous operations, the annual health examinations and onsite environmental measurements are conducted to control potential health risk factors; while providing health management measures, including appropriate personal health instruction, re-examination follow-up, and suitable labor allotment, to achieve early detection and immediate treatment, for reducing the risk of occupational diseases.
Prevention of Irregular Workload-Induced Diseases	**3,977** Employees Assessed with Irregular Load, **100%** follow-upfor high-risk employees	The issue of employee overwork has been monitored continuously. Since 2014, high-risk employees have been screened out annually, and connected to the unit head for workload assessment; for which the onsite physician identifies the danger factors, to adjust their works, and complete the follow-up improvement tracking, to ensure that the concerned employees are physically and mentally healthy, and achieve work-life balance.
Irregularity Management of Health Examination	Managed **577** employees' health **100%** follow-up for high-risk employees	Establish a classification management mechanism for irregularities, and implement corresponding measures based the level of irregularity; follow-up and tracking are required with Level 5, the ones with high irregularity, a fitness assessment by physicians is arranged, with work adjustment suggestions; for Level 4, the ones with moderate irregularity, follow-up and tracking, or in-fab health consultancy is arranged.
Cardiovascular Disease Prevention	**5,353** Employees Analyzed for Risks **100%** follow-upfor high-risk employees	The employees with high risk of cardiovascular disease are analyzed through screening tools, and the physicians are arranged to offer health instructions and fitness assessment, to adjust their works, and complete the follow-up improvement tracking.
Healthcare for Middle-aged and Elderly Workers	**1,144** Employees Took ECG Examination **1,187** Employees Assessed with Work Fitness Questionnaire **7** Employees Passed the Work Fitness Assessment	Starting from 2008 onward, to ensure the safety and health of middle-aged and elderly workers in the fabs, a holistic ECG examination was conducted for employees over (and including) 45 years old, to screen for risks of heart disease. In 2021, the middle-aged and elderly workers' work fitness assessment process was planned for employees over (and including) the age of 45. The work fitness index level was analyzed, and those with a lower index were further assessed for the competency to ensure the protection of health for middle-aged and elderly workers. According to the results of work fitness assessments, middle-aged and older employees have rated their own job abilities positively, with nearly 90% achieving a good or higher Work Fitness score.
Reinstatement Evaluation for Work Injury	**47** Persons Work Injury Care **4** Employees' Work Adjusted	Reinstatement assessments are conducted in phases based on the severity of employees' injuries, through the onsite visiting of in-house labor health service physicians with occupational safety and health personnel and related departments, to provide the concerned employees with the job function evaluation, consultations and suggestions of job redesign or adjustment, to encourage early reinstatement, for accelerating physical and psychological recovery.
Respiratory Protection Equipment Evaluation	**58** Employees for Physiological Evaluation	Physiological evaluation and fit test are conducted for the employees' physiological condition and protection needs, to ensure the employees are capable of correctly using protective equipment and realize the effectiveness of protective gear to prevent injury.



Comfortable Workplace



Inspiring health awareness and improving autonomous health management

To ensure the physical and mental health of employees, it is expected employees will acquire health-related knowledge, continuously manage their own health and practice health-promoting behaviors, to achieve a balance between physical and mental health.

Inspire Health Awareness	**9** articles for Health Check-Up Guide **455** employees provided feedbacks **128** Attendees in Health Seminars **9.7** Points of Satisfaction (out of 10 points)	In 2022, we launched a special program called "Health Check-Up Guide" to provide comprehensive analysis of our employees' health examination results. This initiative was based on the feedback and rankings from our employee health consultations. Additionally, we implemented a feedback mechanism to assess the effectiveness of the information delivered and ensure our employees receive maximum benefit from the program. We continue to organize health seminars where we invite guest speakers such as Dr. Hsu Shih-Chieh from Chang Gung Hospital and Dr. Lee Yu-Sheng from Chi Mei Hospital to share their expertise on topics like "Managing Workplace Emotional Stress" and "Building Health Defense for Autumn and Winter."
Injury and Illness Management	**475** Employees for Nursing Services **6** Employees for Care to Disease/ Unpaid Leave	Implement the cares for injuries and illnesses, prescribe the caring mechanism for treatment of injuries and illnesses, as well as unpaid leave/ reinstatement due to injuries and illnesses along with the appointment of on-site medical personnel to attend to the individual cases continuously until the case is closed based on their circumstances; in the fabs, sufficient first-aid equipment are prepared, with automated External Defibrillator (AED) installed in each fab for emergencies of workers in the fabs, to treat immediately and reduce the risk of injury and illness.
Pandemic Containment Management	**1** Employees under Management of Notifiable Infectious Diseases **2,326** Employees under Management of High-Risk Personnel for Pandemic Containment RegularHome Screening	The current status of COVID-19 has been monitored, and individual pandemic containment tracking management is conducted for the employees with high-risk; continued to purchase rapid testing kits and perform on-site screening for employees with high-risk (coming back and forth from high-risk areas, business trips, new recruits, and contractors) in the fabs, for effective control, to maintain the operations and the health of all employees in the fabs.
Flu Vaccination	**267** Employees Vaccinated	Since 2010, the annual influenza vaccination event has been conducted. In recent years, the employees have been very willing to receive vaccine, demonstrating the effect of health awareness promotion.
Cancer Screening	**6** Screening **19** Employees for Oral Cancer Screening	The employee health examination program also covers various cancer screenings. In 2022, the examination items include oral cancer, colorectal cancer, liver cancer, lung cancer, prostate cancer and breast cancer. The cancer screening items better than the regulatory requirements are provided every year, by collaborating with the National Health Administration, to promote the early detection of precancerous lesions for appropriate treatment, and thus the occurrence of cancer is interrupted.
Employee Assistance Program	**484** Employees Promoted **3** Employees Counselled **3** Articles of Self-Motivation	Since 2011, the "Employee Assistance Program (EAP)," has been promoted by working with external professional counselling institutions. Every employee is entitled to three free counseling sessions per year. During new employee training, we promote and distribute EAP brochures and care cards to raise awareness. Our goal is to provide employees with professional resources to address various issues related to "work, family, interpersonal relationships, and mental well-being". This initiative aims to achieve "a healthy work-life balance" for our employees.
Health Clinics	**869** employees received health counseling advices	The presence of onsite physicians enables the provision of comprehensive health guidance, covering various aspects such as personal health management, managing abnormalities identified during physical/health examinations, and addressing issues related to excessive workloads. This dedicated approach ensures the holistic well-being of employees and effectively safeguards their health.
Health Promotion Label	All Fabs Have Obtained the Health Promotion Label	Since 2009, the Company has actively applied for the label every three years, with all fabs obtaining the autonomous certified health promotion labels; the Company is committed to the implementation of cigarette-free workplace and planned promotion of health promotion, to continuously create a healthy workplace.

6.6 Social Engagement

GRI 413-1

Total amount of social engagement investment	**NT$19,961,042**
Volunteer Workers	**7,697 people**
Input hours	**2,574 hours**
Beneficiaries	**1,324 people**

In the domain of social engagement, ChipMOS has adhered to the Sustainable Development Goals (SDGs) adopted by the United Nations and focused specifically on three SDGs (SDG 3, SDG 4 and SDG 11) while referring to the "Corporate Community Investment Assessment Mechanism" developed by London Benchmark Group for the management of time committed to social charities, costs, donation of physical materials and various expenditures. Given our two primary visions of "Environmental Sustainability" and "Fulfillment of Public Welfare", the Company has made long-term commitments in the four developmental aspects of "Environmental Friendliness ", "Community Feedback", "Care for the Disadvantaged" and "Talent Cultivation. Not only that, ChipMOS has also remained vigilant with its attention on local communities and disadvantaged minorities during Covid-19 while offering assistance through concrete actions.

Amidst the severe COVID-19 situation in Taiwan in 2022, ChipMOS adjusted its physical activities in accordance with the company's pandemic prevention policy. Nevertheless, we continued to actively engage in social participation through diverse approaches, including online adoption programs and philanthropic sponsorships. After more than two years of united efforts in combating COVID-19, the world is gradually returning to its previous track. ChipMOS, as a company driven by sustainable goals, envisage utilizing the power of business and undertaking tangible actions to make a greater charitable impact. We are committed to implementing sustainable development practices and actively giving back to society. Our aim is to strive towards the goal of having social engagement projects account for 80% of our overall activities by 2025, fostering enduring environmental and social development and creating mutually beneficial outcomes for all stakeholders.





Cultivating the next generation

- Improvement of Talents'Professional Skills
- Improvement of Talent' Employment Competitiveness

Do our best for the earth together

- Creation of Environmental Sustainability
- Increase in Friendliness to the Earth and Environmental Protection
- Promotion of Healthy Diets



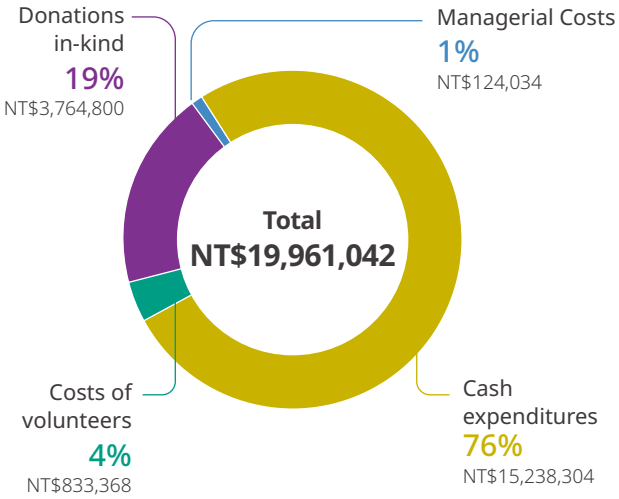
Deep cultivation and meet the demand

- Cultivation of Public Engagement
- Revival of Local Craft Industries
- Enhancing of Diverse Employment Opportunities

Lead employees to care for the society

- Enhancing of Medical Equipment and Environment
- Improvement of Local Security Resources
- Safeguarding of the Health of Local Residents

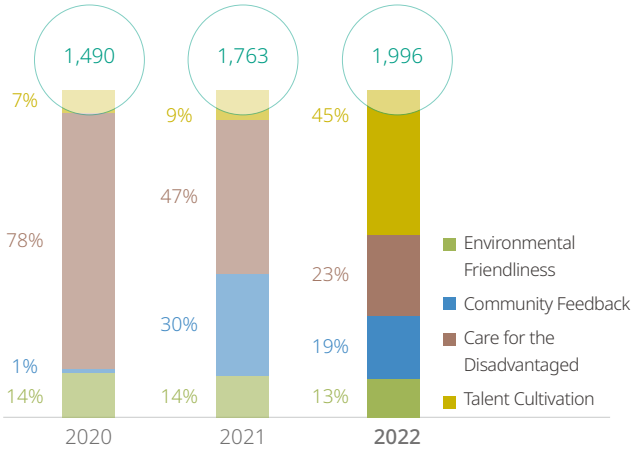
ChipMOS Social Engagement



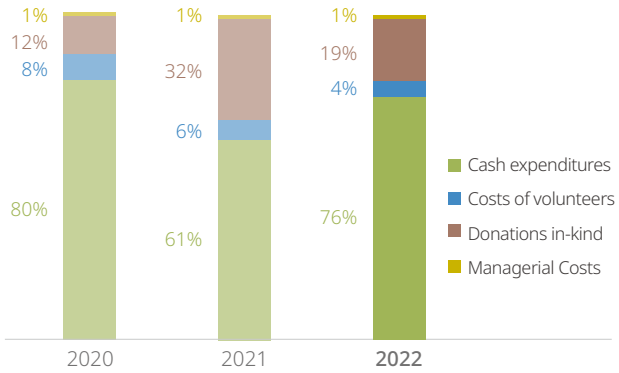
Remarks: The cost of volunteer input is estimated by the input time multiplied the average salary (hourly salary) of non-supervisors in ChipMOS in the current year. It's not the actual input amount.

Public Welfare Development Aspect

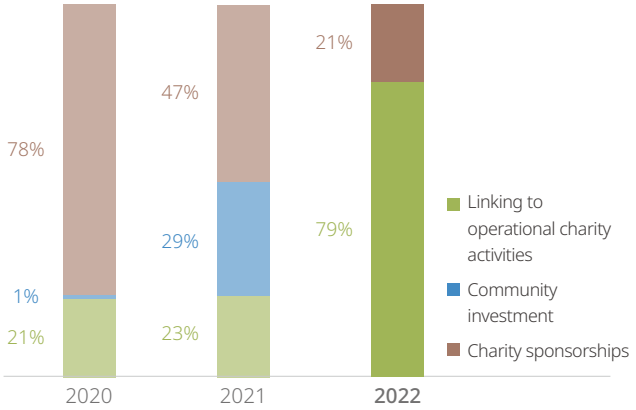
Unit: NT$ 10,000



Type of Investment



Application Aspect



Execution Benefits in 2022

Vision	Development Aspect	Projects	Corporate Benefits	Social Benefits
Environmental Sustainability	Environmental Friendliness	▪ Love the Earth, Starting from Love What's around You ▪ Supporting toxin-free local produce, fostering an eco-friendly Earth ▪ Support Taiwan's Agriculture with Actions with One-Day Farmer Experience ▪ Adoption of public welfare gifts; reducing the plastic in packaging without taking away the love	▪ Participation from 551 volunteers ▪ Enhanced Corporate Image, with One Award	▪ 219 Direct Beneficiaries ▪ 14 Beneficiary Organizations
	Community Feedback	▪ Safeguard the Local Community during COVID-19 Containment Period & Donation of Rapid Screening Test Kits ▪ Spreading Love during the COVID-19, Rolling up Sleeves for Public Welfare ▪ Participated in [Sports in Southern Science Park] and [Christmas in Southern Science Park	▪ Total 107 Volunteers Attended	▪ Total 1,498,250 CC Accumulated for Blood Donation for 22 consecutive years ▪ 17,025 Direct Beneficiaries in 2022 ▪ 8 Beneficiary Organizations
Fulfillment of Public Welfare	Care for the Disadvantaged	▪ Constant Care for Remote Township/Disadvantage Children/Stray Animals ▪ Diverse Employment Opportunities for the Physically Challenged ▪ Support for Local Craft/Traditional Industries	▪ 7,039 Volunteers Attended	▪ Directly Benefited 309 People ▪ 11 Beneficiary Organizations
	Talent Cultivation	▪ Industrial-Academic Collaboration	▪ Incubate Professional Talents of Semiconductors	▪ Supported 771 young students ▪ 5 Beneficiary Organizations

Highlighted Activities during COVID-19 Containment Period in 2022



- To support local fruit producers affected by COVID-19 and unable to export their products, the Company has collaborated with the Southern Taiwan Science Park Administration to purchase 2,154 pineapples from Guanmiao, Tainan. These pineapples will be shared with our colleagues at ChipMOS and our valued customers as a gesture of support and to promote the consumption of local produce
- Working together with our colleagues to purchase local, pesticide-free agricultural products: We purchased 642 kilograms of grapes from Zhuolan, Miaoli and 1500 kilograms of mandarins from Tainan



- We sponsored 17,000 units of rapid screening test kits to six disadvantaged public welfare organizations in the neighboring areas of Hsinchu and Tainan in an effort to safeguard the health of individuals with disabilities, elderly living alone, and vulnerable children



- We adopted the Children's Day gifts for 146 underprivileged rural children and in response to World Earth Day, we reduced plastic packaging without reducing love



- For the first time, we collaborated with the Heart of Taiwan Animal Care Association by purchasing Spring Festival couplets and red envelopes, totaling NT$85,155. This initiative aimed to support organizations and individuals working on the frontlines of animal protection efforts



Stakeholder's Feedback

Teacher Yun Shao-Chi, Jinping Elementary School
(Jianshi Township, Hsinchu County)

The Children's Day is a special day that belongs to the children.

We are tremendously grateful to ChipMOS Technologies for its generous donation of so many gifts. These gifts have brought warmth and joy to these children in this remote part of the island, allowing them to celebrate this special holiday with happiness and gratitude. Not only that, ChipMOS is also willing to listen to other needs of the children and lend a helping hand. Last year, with the graduation class I led, the children were given free reign to plan their fundraising and graduation trip activities to experience the hard work of making money and develop a sense of responsibility. And ChipMOS truly listened to the voices of the children and wholeheartedly supported their ideas and plans by providing them with financial assistance, empowering them to take charge of fundraising and organizing their graduation trip. Despite the unfortunate disruption caused by the pandemic, the funds raised served as the driving force and backbone for the children to design and create the first-ever graduation yearbook in the school's history. The continuous support and companionship along the way have nurtured the children's self-confidence and positive attitudes. These invaluable experiences and abilities cannot be taught solely from textbooks. We genuinely appreciate ChipMOS for its dedication and care towards society.

Suan Lian Pear Corporation

We would like to express our heartfelt gratitude to ChipMOS for their commitment to public welfare. By actively participating in the purchase of our agricultural products as a social enterprise, ChipMOS has not only supported the local farming community but also helped ensure their stable income. The company's involvement has significantly contributed to the expansion of eco-friendly farming practices and empowered us to develop distinctive local curriculum in neighboring elementary schools. We truly appreciate ChipMOS for being a valuable partner in our journey towards sustainable agriculture and community development.

Being in the resource-constrained rural areas such as this, we express our heartfelt appreciation to ChipMOS for their tangible social actions in fulfilling corporate social responsibility and supporting the efforts of local teams. Their assistance has been instrumental in enhancing the number of young visitors to our region and transforming the educational capabilities of small schools in remote areas.



Environmental Sustainability



In response to the escalating challenge of global warming and climate change, ChipMOS remains committed to fostering a symbiotic relationship with the environment. We are deeply concerned about the sustainability of our planet and strive to inspire all our employees to join us in protecting and preserving it. Guided by our core values of "environmental friendliness" and "community contribution," we have initiated various green initiatives. By working collaboratively within our company and partnering with local communities, we actively engage in environmental conservation efforts and support local farmers. Through tangible actions and a diverse range of approaches, we stand united with our colleagues as guardians of environmental sustainability, actively combatting climate change and the impact of global warming.

Environmental Friendline

Targets in 2022	Results Achieved in 2022 (Target achieved)	Targets in 2023
✓ Continuous Implementation of Environmental Protection Programs ✓ 9 of Promotional Events for Environmental Protection Awareness	**Continuous Cultivation** **Air quality purification in Zhubei, Hsinchu County:** in 2022, the Company won the award "Excellent Adoption Unit in the Air Quality Purification District" **Road cleaning in Zhubei, Hsinchu County:** adopted 2.8 kilometers in total **Fabs in Hsinchu and Tainan Science Parks –** adoption of 2 pieces of public green lands in the Science Parks **Adoption of public restroom in Tainan City,** total 1 restroom **Tainan City's coastal cleanup:** 100 colleagues and their family members joined forces to clean up 195 kilograms of trash. **We prompted all colleagues to participate in the Earth Hour 60+ event by turning off the lights and showing our love for the planet** **Annual Events** **Charity gifts for Children's Day:** Adopted 146 gifts with reduced plastic packaging **Supporting local toxic-free produces in Taiwan, for total 2 events:** Hsinchu fab - Miaoli Zhuolan grape adoption, **642 tkg in total** Tainan fab. -Tainan Baihe mandarin adoption , **1,500 tkg in total**	✓ Continuous Implementation of Environmental Protection Programs ✓ 9 of Promotional Events for Environmental Protection Awarenes



Highlighted Eco-friendly Actions

Zhubei Air Quality Purification Zone in Hsinchu County

Adoption over 9 years

- Achieved environmental protection and improvement in air quality
- Providing neighboring residents with a clean and recreational area
- Invested a total of NT$9,164,853 over the 9-year period
- A total area of 3.9 hectares maintained

Summary of maintenance efforts in 2022

- To create an educational and recreational space, we have installed "plant information plaques" that provide detailed descriptions of plant species and their characteristics. This addition enhances the educational value of the air quality zone and allows visitors to learn about various plants knowledge.
- In 2022, we submitted a seedling application to the Environmental Protection Bureau and the Agricultural Department. By embellishing the green spaces with colorful flowers, we aimed to enhance visual enjoyment and attract people to visit the area.





(Pic 1) and (Pic 2) are the before/after the new saplings were planted at the Zhubei Air Quality Zone

ChipMOS Loves Earth X Charity Gift for Children's Day

Targets

- Underprivileged rural children in Hsinchu

2022 Outcomes

- Invested Amount: NT$ 52,778
- No. of volunteers: 146
- No. of benefitted children: 146

In 2022, the traditional Christmas wish adoption event at Hsinchu fab. had been shifted to Children's Day. In addition, it was integrated with the World Earth Day activities in April to promote ChipMOS' philosophy of "Reducing Plastic without Reducing Love."

The Children's Day gifts for 146 indigenous students from Jianshi Township in Hsinchu were personally selected by our participating colleagues. The gifts were packaged using environmentally-friendly and recyclable materials. At the same time, ChipMOS volunteers introduced the concept of environmental sustainability to the children, teaching them about the importance of reducing plastic waste and encouraging them to incorporate eco-friendly practices into their daily lives. By doing so, we aim to maximize the impact of the event and contribute to a better and more beautiful planet.



For colleagues participating in the Children's Day gift adoption charity, packaging is done using reusable paper bags, eco-friendly bags, or clean shoeboxes. This ensures that the loving gifts are packaged in an environmentally friendly way, promoting the concept of "Reducing Plastic without Reducing Love."

Supporting local toxic-free produces in Taiwan

Targets

- Miaoli/regional farmers in Tainan

2022 Outcomes

- Invested Amount: NT$ 203,636
- No. of volunteers: 411
- Number of beneficiaries: 73

- **Adoption of Zhuolan grapes from Miaoli in support of local farmers/rural township education**

  For two consecutive years, Hsinchu fab. has collaborated with the social enterprise "Shuanglian Pear." by involving 198 employees to adopt 642 tkg of grapes. Among those, 48 tkg were donated to the Hsinchu Ren'ai Children's Home, allowing the children to enjoy fresh and locally-grown, toxin-free produce. Through this adoption program, we not only support the income of local farmers but also allocate a portion of the proceeds to the Zhulan local elementary school. This contribution serves as a fund for the development of the school and the community.

- **Promoting food and agricultural education, supporting organic farming, cherishing food and protecting native land**

  For the first time, Tainan fab. collaborated with the farmers at Jiangjunshan Farm in Baihe District of Tainan. In this collaboration, 150 of our employees adopted 1,500 tkg of toxin-free mandarin oranges and fruit-picking experiences and agricultural education activities were as a part of the event included for 63 colleagues and their family members. Through firsthand experience of the farming process, we aim to promote the concept of food waste reduction, support organic farming, and contribute to the preservation of Taiwan's native land.

Shoreline clean up in Tainan City

In-depth effort for 11 years Accumulated accomplishments

- Total investment: NT$ 127,408
- Total number of volunteers: 3,083 (including 374 family members)
- Accumulated volume of wastes cleaned: 1,890 kg

For 11 consecutive years, ChipMOS has been actively involved in shoreline cleanup efforts in the vicinity of Tainan. In 2022, once again, 100 employees and their family members answered the call and volunteered as environmental volunteers for the beach cleanup at Tainan's Golden Coast. Together, they collected and disposed of approximately 195 kilograms of waste, contributing to a clean and pollution-free coastline for our planet. In addition, our beach cleaning activities incorporate a charitable element. Since 2015, we have collaborated with Fly Angel Bakery, an inclusive bakery operated by a sheltered workshop for individuals with intellectual disabilities. We served their lunch boxes to the participating volunteers, thereby expanding the benefit of the event. This initiative allows us to not only contribute to environmental preservation but also support the social needs of marginalized communities.

Starting from everyday dietary choices, we collaborate with suppliers to promote a low-carbon diet and lifestyle

In-depth effort for 5 years Accumulated accomplishments

- Total no. of volunteers: 2,240
- Volume of carbon dioxide reduced: 104 metric tons

Since 2017, the Company has worked with the group meal supplier, to introduce CAS organic vegetables into the Company's meals; one day regularly every month is designated to provide the "CAS organic vegetables" and one day as Meat-Free Day (i.e. vegetable meal and fruit meal only). Over the course of five years, a total of 2,240 employees have participated, resulting in a reduction of approximately 104 metric tons of carbon emissions. In response to the Company's COVID-19 prevention measures, the Meat-Free Day campaign was temporarily suspended in 2022. However, as the COVID-19 situation improved in January 2023, ChipMos reinstated the regular low-carbon diet program. Through practical actions, we will collaborate with our colleagues to promote a new concept of healthy eating.

Community Feedback

Targets in 2022	Results Achieved in 2022 (target not met)[Note 1]	Targets in 2023
☑ The total number of social engagement volunteers increased by 5% comparing to the base year, 2018	**Continuous Cultivation** • In 2022, we collected 147 bags of blood through the "Roll Up Your Sleeves" blood donation campaign. Since 2001, we have accumulated a total of 5,993 bags of blood	☑ The total number of social engagement volunteers increased by 5% comparing to the base year, 2018 [Note 2]
	Annual Events • We provided funding for five nearby disadvantaged groups, supplying them with 17,000 rapid screening test kits, safeguarding the health of individuals with disabilities, elderly individuals living alone, and underprivileged children • Participated in [Sports in Southern Science Park] and sponsored NT$ 32,390 for the use of refreshment stations in the running event • Participated in [Christmas in Southern Science Park] and sponsored NT$ 100,000 for the decoration of working environment at the park	

Note 1: Due to the impact of COVID-19 and cooperation with the Company's pandemic containment policy in 2022, the scheduled social engagement - visually impaired massage volunteer event was suspended from August to December; therefore the total number of social engagement volunteers in 2022 failed to achieve the goal. However, during the suspension of the event, ChipMOS still ensured that the partner massage therapists continued to have a stable source of income during the pandemic, without being affected.

Note 2: Considering that the number of social engagement events has saturated in recent years, with uncertain pandemic situation, the 2023 goal is set as a 5% growth from the base year.



Highlighted Actions for Community Feedback

Love Doesn't Stop - Rapid screening kits donation / Blood donation

Targets

- Individuals with disabilities/Vulnerable children/Community residents

Achievements in 2022

- Invested Amount: NT$ 3,570,000 [Note 1]
- No. of volunteers: 104
- No. of beneficiaries: 17,025

- **Helping the vulnerable with charity rapid screening kits**
  ChipMOS purchased 17,000 units of rapid screening test kits and donated them to six local vulnerable groups in Hsinchu and Tainan. In spite of the severe pandemic situation, we stand together to safeguard the health of individuals with disabilities and vulnerable children.

- **Love Doesn't Stop Thanks To Your Blood Donation**
  Beginning in 2001 and for 22 years in a row, a total of 4,349 employees rolled up their sleeves to donate blood, resulting in the collection of 5,993 bags of life-saving blood. In recent years, the number of blood donors across Taiwan has declined due to the impact of the COVID-19 pandemic, resulting in a critical shortage of blood supplies. Upon learning about this situation, ChipMOS rallied 104 colleagues to roll up their sleeves and take action, ensuring that the spirit of generosity among ChipMOS employees continues to benefit those in need.

Note 1: The amount is calculated based on the cost of rapid screening kit purchased

Promoting neighborliness

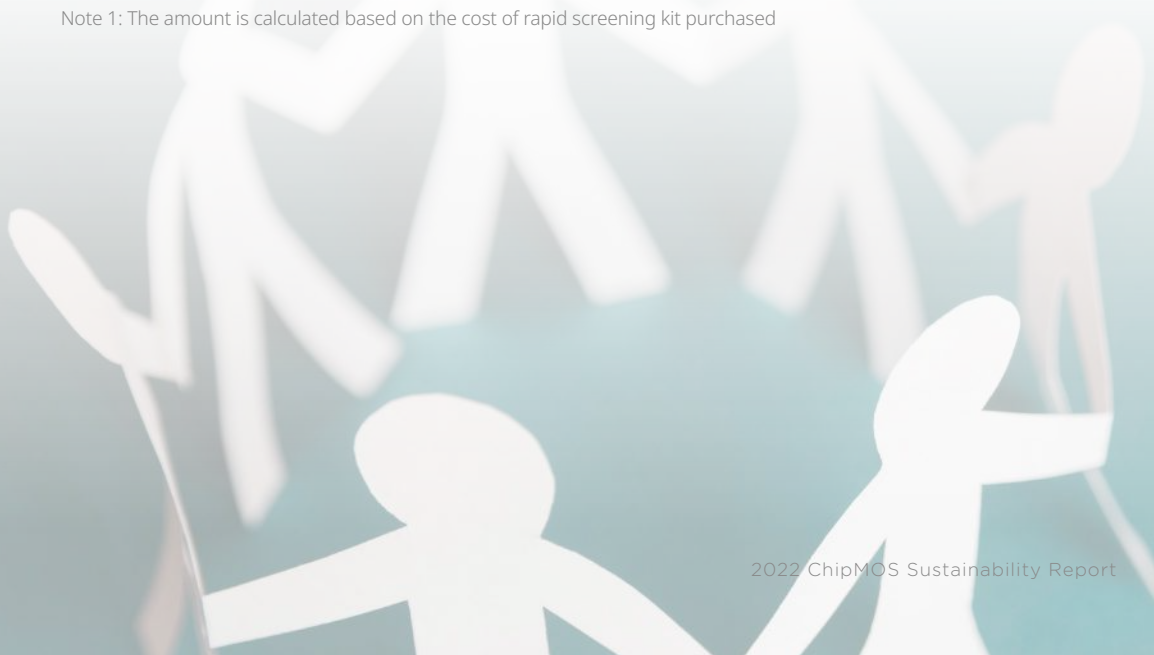
Targets

- Neighbors in the community - competent authority in proximity

Achievements in 2022

- Invested Amount: NT$208,390

In order to maintain positive interactions and foster a sense of community with our neighbors, ChipMOS is enthusiastic about supporting various events organized by the local authorities near our facilities. In 2022, we actively participated in two significant events: "Sports in Southern Science Park" and "Christmas in Southern Science Park," organized by the Southern Taiwan Science Park Administration. We not only sponsored the park's running events, encouraging both community members and ChipMOS employees to utilize the park's sports facilities, but we also contributed to the park's Christmas decoration activities. Through our support in community beautification and collaboration with other park tenants, we strive to improve the overall work and living environment within the science park, enhancing the quality of life for all. In addition, we donated 2 air-conditioners to the Hsinchu County Government Police Department in the hope of improving the quality of the environment where the police are stationed and the efficiency of their operations, and continuing to give support to the police.



Fulfillment of Public Welfare



ChipMOS upholds the principle of "taken from the community, giving back to society" and actively engages in charitable initiatives such as "supporting the underprivileged" and "cultivation of young talents". We have long-term collaborations with local communities, schools, and social welfare organizations. Additionally, we continue to support local craftsmanship and foster the cultural and creative industries. Through the power of the company, ChipMOS mobilizes its employees to actively participate in charitable activities and promotes the sustainable development of local culture. By injecting positive energy into society, we strive to extend our reach to every corner of Taiwan through diverse means. Our goal is to achieve social prosperity and embody the spirit of corporate social citizenship.

Care for the Disadvantaged

Targets in 2022	Results Achieved in 2022 (Target achieved)		Targets in 2023
9 Events of Continuous Welfare Fulfillment	Continuous Cultivation	**The Christmas Gift Adoption Program successfully adopted the wishes of 150 underprivileged children** **Public welfare coffee program:** total income in 2022 came to NT$36,700, and one group in Hsinchu was benefitted. **Uninterrupted incomes for visually impaired massage therapists during pandemic period:** 18 visually impaired massage therapists were benefitted in 2022. with total investment amounting to NT$ 3,304,763 **Support Taiwan's agriculture with action** - "Supports to Farmers by Eating Pineapples" Total investment for 2022 came to NT$ 154,300 **Supporting the Children's Welfare League Foundation's charity desk calendars for two consecutive years:** in 2022, we purchased a total of 300 desk calendars	9 Events of Continuous Welfare Fulfillment
	Annual Events	**Getting to know the local cultural industries through experience activities:** - Luban School and its one-day woodworking artisan experience, with a total of 84 participants - Rice noodles DIY in Hsinchu – Spreading the enticing aroma of rice noodles, with a total of 121 participants **Support for local cultural and creative industries** – floating flower vase night light DIY, with a total of 105 participants **Charitable adoptions:** - Purchase of products from animal shelters for stray animals, amount raised: NT$ 85,155 - Support for Southern Science Parks's Charity Sale in the Month of Love, amount raised: NT$ 12,790	

Highlighted Actions for Cares to Underprivileged

Christmas Gift Charity Adoption Project

Targets

- Underprivileged rural children in Hsinchu/Tainan

In-depth effort for 8 years
Accumulated accomplishments

- Total investment: NT$ 928,469
- Total duration of voluntary services performed: 1,257
- Number of beneficiaries: 2,187

Since 2015, for each warm Christmas Eve, ChipMOS has cooperated with local social welfare organizations and rural elementary schools, to invite ChipMOS employees to be Santa Claus for underprivileged children and to realize their Christmas wishes. Apart from rural elementary schools and local social welfare organizations in the Hsinchu area, ChipMOS has successfully extended its support to all 14 administrative districts and 22 rural schools in Tainan. Over the past eight years, a total of 2,187 children's Christmas wishes have been fulfilled. Continute to spread ChipMOS' love and care to the vulnerable corners of Tainan's communities. We hope to become a source of warmth and light for children during the cold winter days, bringing them joy and warmth during the Christmas season.

The Fragrance of Charity Coffee Program

Targets

- Rural townships/ underprivileged children

In-depth effort for 7 years
Accumulated accomplishments

- Total investment: NT$ 574,330
- No. of volunteers: 54,989
- Number of beneficiaries: 381

Since its launch in 2016, the program has entered its 7th year. We have installed charity coffee machines in our office area, allowing colleagues to enjoy coffee while also contributing to charitable activities. Priced at just NT10 per cup, the collective effort of our colleagues in purchasing the coffee can make a significant impact and help support more disadvantaged children. In 2022, upon learning about the outdated classroom facilities at the Hsinchu I-Link Community Services Association, we assessed the situation and decided to donate a sum of NT$36,700 from Hsinchu fab's annual earnings to the organization. This donation was used for wall painting and lighting replacement, aiming to provide a more comfortable learning environment for the children and help them grow up in a healthy and happy atmosphere.

2022 Charity Bazaar Series Events

Targets

- Rural children, individuals with intellectual disabilities and stray animal protection

In-depth effort for 7 years
Accumulated accomplishments

- Social Engagement Investment Amount: NT$ 178,945
- No. of volunteers: 792
- Number of beneficiaries: 79

- **Children's Welfare League Foundation Charity Calendar**
  In our second year of collaboration with the Children's Welfare League Foundation, we launched a co-branded charity desk calendar. In 2022, a total of 300 desk calendars were purchased, generating a total revenue of NT$51,000. The proceeds from the sales were directly donated to the Children's Welfare League Foundation to support underprivileged/ rural children and youth welfare initiatives.

- **Southern Science Park's Month of Love Charity Bazaar**
  Participating in Tainan Southern Science Park's Month of Love Charity Sale, our volunteers helped with the sales of various goods and the entire proceeds of NT$12,790 from that day's charity event were donated to Luway Opportunity Center. The donation will be used to meet the ongoing needs of individuals with intellectual disabilities.

- **Charity spring festival couplets and red envelopes adoption**
  ChipMOS is dedicated to promoting animal welfare and addressing the issue of stray animals across Taiwan. In 2022, we partnered with Heart of Taiwan Animal Care Association for the first time. Through the purchase of the association's charity merchandise, we raised a total of NT$85,155, providing substantial support for the protection of stray animals and the promotion of animal welfare education throughout Taiwan. Our goal is to create a harmonious coexistence between humans and animals in Taiwan.

ChipMOS' Getting To Know The Local Cultural Industry/ Fostering Local Cultural & Creative Industry Program

Targets

- Traditional craft/cultural and creative industries in Hsinchu and Tainan

2022 Outcomes

- Social Engagement Investment Amount: NT$ 171,748
- No. of participants: 310

In order to enhance the understanding of local culture, traditional craftsmanship, and the cultural and creative industries among ChipMOS employees and their family members, as well as to contribute to the sustainable development of culture through the power of our company, we organized 2 local cultural experience events and 1 local cultural and creative industry DIY activity in 2022.

- Rice noodles DIY in Hsinchu – Spreading the enticing aroma of rice noodles

  Hsinchu has developed its distinctive rice noodle industry because of its unique geographical environment. In 2022, we invited a total of 121 colleagues and their family members to visit a rice noodle factory and learn about the traditional craftsmanship of Hsinchu's local rice noodle industry. Through guided tours and hands-on DIY activities, we aimed to help ChipMOS employees gain a deeper understanding of the unique rice noodle industry in Hsinchu and promote the importance of sustainable cultural heritage in the local community.

- Luban School and its one-day woodworking artisan experience

  In the summer of 2022, our Tainan fab organized the "Luban School - Craft Experience" activity. We invited a total of 84 colleagues and their family members to participate in a woodworking experience. The event aimed to not only introduce the traditional Taiwanese mortise and tenon woodworking techniques and the history of furniture development but also allowed colleagues to collaborate with their families in creating their own personalized wooden chairs and chopsticks. It provided a fun and interactive experience for both parents and children to enjoy together.

- Blessing with Flowers - Romantic Floating Flower Vase Night Light DIY

  In an effort to support the local cultural and creative industry in Tainan, we collaborated with a local floral art studio. This partnership not only helps foster the local industry but also allows our 105 colleagues to experience the beauty of floral art and creative craftsmanship, providing them with a way to relax, unwind, and find solace for their body and mind.



Cultivation of Young Talents

Targets in 2022	Results Achieved in 2022 (Target achieved)	Targets in 2023
9 Events of Continuous Welfare Fulfillment	Continuous Cultivation In 2022, there were 771 students participating in our industrial-academic collaboration program, with cumulative beneficiaries coming to 1,339 and total investment reaching NT$ 26,141,000	9 Events of Continuous Welfare Fulfillment

Highlighted Actions for Cultivation of Young Talent

In-depth cultivation at campuses to nurture potential talents for semi-conductor packaging and testing processes

Targets

- College students

In-depth development over a decade

Accumulated accomplishments

- Total investment: NT$ 26,141,000
- Number of beneficiaries: 1,339

Since 2013, ChipMOS has successively launched a series of industrial-academic collaborative projects with ten colleges and universities in the neighborhood, including summer internships, scholarships and grants, employment-oriented programs and industrial-academic classes. With multi-year cultivation, 1,339 students have been benefitted. We have actively cultivated strong connections between ChipMOS and educational institutions, firmly rooted in the campus community. In addition to creating new opportunities for corporate internships, we provide scholarships and internship allowances to assist financially disadvantaged students, alleviating the economic burden on vulnerable families. Embracing the concept of integrated learning and practical application, we collaborated with Chung Yuan Christian University and Southern Taiwan University of Science and Technology to offer career development programs. Through a combination of coursework, lectures, internships, and job placement initiatives, our aim is to infuse resources into the campus ecosystem, inspiring young students to apply their knowledge effectively and fostering talent in the field of semi-conductor packaging and testing.

<For more details, please refer to Chapter 6.1.4 Cultivation in Campus and Recruitment for Young Students>



Appendix 1: GRI Standards Content Index

|Statement of use| ChipMOS has reported in accordance with the GRI Standards for the period 2022/1/1 to 2022/12/31. |GRI 1 used| GRI 1: Foundation 2021 |Applicable GRI Sector Standard| NA

GRI Standards	Disclosure		Chapter/Explanation	Page
GRI 2 General Disclosures 2021	2-1	Organizational details	About This Report 1.1 About ChipMOS	2 13
	2-2	Entities included in the organization's sustainability reporting	About This Report	2
	2-3	Reporting period, frequency and contact point	About This Report	2
	2-4	Restatements of information	About This Report	2
	2-5	External assurance	About This Report Appendix 6	2 168
	2-6	Activities, value chain and other business relationships	1.2 Main Products and Services 5.3 Supply Chain Management	13 99
	2-7	Employees	6.1 Attraction and Retention of Talents	110
	2-8	Workers who are not employees	6.5 Healthy and Safe Workplace	138
	★ 2-9	Governance structure and composition	3.1 Corporate Governance	43
	2-10	Nomination and selection of the highest governance body	3.1 Corporate Governance	43
	2-11	Chair of the highest governance body	3.1 Corporate Governance	43
	2-12	Role of the highest governance body in overseeing the management of impacts	3.1 Corporate Governance	43
	2-13	Delegation of responsibility for managing impacts	3.1 Corporate Governance	43
	2-14	Role of the highest governance body in sustainability reporting	3.1 Corporate Governance 2.1 Sustainability Policies and Actions	43 24
	2-15	Conflicts of interest	3.1 Corporate Governance	43
	2-16	Communication of critical concerns	3.1 Corporate Governance 2.1 Sustainability Policies and Actions	43 24
	2-17	Collective knowledge of the highest governance body	3.1 Corporate Governance	43
	2-18	Evaluation of the performance of the highest governance body	3.1 Corporate Governance	43
	2-19	Remuneration policies	3.1 Corporate Governance	43
	2-20	Process to determine remuneration	3.1 Corporate Governance	43
	2-21	Annual total compensation ratio	Omission Reason: Confidentiality constraints. It is the confidentiality of the individual's remuneration. We will continue to evaluate information disclosure and the trends in the corporate governance.	-
	2-22	Statement on sustainable development strategy	Message from the Chairman 2.1 Sustainability Policies and Actions	3 24
	2-23	Policy commitments	6.4 Safeguarding Human Rights	134
	2-24	Embedding policy commitments	6.4 Safeguarding Human Rights	134
	2-25	Processes to remediate negative impacts	3.2 Ethical Management 6.4 Safeguarding Human Rights	49 134
	2-26	Mechanisms for seeking advice and raising concerns	3.2 Ethical Management 6.4 Safeguarding Human Rights	49 134
	2-27	Compliance with laws and regulations	No major violations of regulations in 2022.	-
	2-28	Membership associations	1.4 External Initiatives and Organizational Engagement	21
	2-29	Approach to stakeholder engagement	2.2 Materiality Analysis	28
	2-30	Collective bargaining agreements	6.4 Safeguarding Human Rights	134
GRI 3 Material Topics 2021	3-1	Process to determine material topics	2.2 Materiality Analysis	28
	3-2	List of material topics	2.2 Materiality Analysis	28
	3-3	Management of material topics	2.2 Materiality Analysis	28
GRI 200: Economic Disclosures				
★ GRI 201 Economic Performance 2016	201-1	Direct economic value generated and distributed	1.3 Operational Performance and Tax Governance	18
	201-3	Defined benefit plan obligations and other retirement plans	1.3 Operational Performance and Tax Governance 6.2 Employee Incentives and Benefits	18 118

Note:
★ ChipMOS Material Topics
* It is the management approach of the topic.

GRI Standards	Disclosure		Chapter/Explanation	Page
GRI 202 Market Presence 2016	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	6.1 Attraction and Retention of Talents	110
	202-2	Proportion of senior management hired from the local community	6.1 Attraction and Retention of Talents	110
★ GRI 204 Procurement Practices 2016	204-1	Proportion of spending on local suppliers	5.3 Supply Chain Management	99
★ GRI 205 Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	3.2 Ethical Management	49
	205-2	Communication and training about anti-corruption policies and procedures	3.2 Ethical Management	49
	205-3	Confirmed incidents of corruption and actions taken	3.2 Ethical Management	49
★ GRI 206 Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	3.2 Ethical Management	49
GRI 207: Tax 2019	207-1	Approach to tax	1.3.2 Tax Governance	20
	207-2	Tax governance, control, and risk management	1.3.2 Tax Governance	20
	207-3	Stakeholder engagement and management of concerns related to tax	1.3.2 Tax Governance	20
GRI 300: Environmental Disclosures				
★ GRI 301 Materials 2016	301-1	Materials used by weight or volume	4.4 Recycling	84
	301-3	Reclaimed products and their packaging materials	4.4 Recycling	84
★ GRI 302 Energy 2016	302-1	Energy consumption within the organization	4.2.4 Energy Management and Efficiency	74
	302-3	Energy intensity	4.2.4 Energy Management and Efficiency	74
	302-4	Reduction of energy consumption	4.2.4 Energy Management and Efficiency	74
★ GRI 303 Water and Effluents 2018	303-1*	Interactions with water as a shared resource	4.3 Water Resources Management	78
	303-2*	Management of water discharge-related impacts	4.3 Water Resources Management	78
	303-3	Water withdrawal	4.3 Water Resources Management	78
	303-4	Water discharge	4.3 Water Resources Management	78
★ GRI 303 Water and Effluents 2018	303-5	Water consumption	4.3 Water Resources Management	78
GRI 305 Emissions 2016	305-1	Direct (Scope 1) GHG emissions	4.2 Climate Change and Energy Management	67
GRI 305 Emissions 2016	305-2	Energy indirect (Scope 2) GHG emissions	4.2 Climate Change and Energy Management	67
	305-4	GHG emissions intensity	4.2 Climate Change and Energy Management	67
	305-5	Reduction of GHG emissions	4.2 Climate Change and Energy Management	67
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	4.2 Climate Change and Energy Management	67
GRI 306 Waste 2020	306-1*	Waste generation and significant waste-related impacts	4.4 Recycling	84
	306-2*	Management of significant waste-related impacts	4.4 Recycling	84
	306-3	Waste generated	4.4 Recycling	84
	306-4	Waste diverted from disposal	4.4 Recycling	84
	306-5	Waste directed to disposal	4.4 Recycling	84
★ GRI 308 Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	5.3 Supply Chain Management	99
	308-2	Negative environmental impacts in the supply chain and actions taken	5.3 Supply Chain Management	99
GRI 400: Social Disclosures				
★ GRI 401 Employment 2016	401-1	New employees hire and employee turnover	6.1 Attraction and Retention of Talents	110
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	6.2 Employee Incentives and Benefits	118
	401-3	Parental leave	6.2 Employee Incentives and Benefits	118

Note:
★ ChipMOS Material Topics
* It is the management approach of the topic.

GRI Standards	Disclosure		Chapter/Explanation	Page
GRI 402 Labor/ Management Relations 2016	402-1	Minimum notice periods regarding operational changes	6.4 Safeguarding Human Rights	134
★ GRI 403 Occupational Health and Safety 2018	403-1*	Occupational health and safety management system	6.5 Healthy and Safe Workplace	138
	403-2*	Hazard identification, risk assessment, and incident investigation	6.5 Healthy and Safe Workplace	138
	403-3*	Occupational health services	6.5 Healthy and Safe Workplace	138
★ GRI 403 Occupational Health and Safety 2018	403-4*	Worker participation, consultation, and communication on occupational health and safety	6.5 Healthy and Safe Workplace	138
	403-5*	Worker training on occupational health and safety	6.5 Healthy and Safe Workplace	138
	403-6*	Promotion of worker health	6.5 Healthy and Safe Workplace	138
	403-7*	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	6.5 Healthy and Safe Workplace	138
	403-8	Workers covered by an occupational health and safety management system	6.5 Healthy and Safe Workplace	138
	403-9	Work-related injuries	6.5 Healthy and Safe Workplace	138
	403-10	Work-related ill health	6.5 Healthy and Safe Workplace	138
★ GRI 404 Training and Education 2016	404-1	Average hours of training per year per employee	6.3 Talent Development	127
	404-3	Percentage of employees receiving regular performance and career development reviews	6.3 Talent Development	127
GRI 405 Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	3.1 Corporate Governance 6.1 Attraction and Retention of Talents	43 110
	405-2	Ratio of basic salary and remuneration of women to men	6.2 Employee Incentives and Benefits	118
GRI 406 Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	6.4 Safeguarding Human Rights	134
GRI 408 Child Labor 2016	408-1	Operations and suppliers at significant risk for incidents of child labor	6.4 Safeguarding Human Rights	134
GRI 409 Forced or Compulsory Labor 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	6.4 Safeguarding Human Rights	134
GRI 413 Local Communities 2016	413-1	Operations with local community engagement, impact assessments, |and development programs	6.6 Social Engagement	148
★ GRI 414 Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	5.3 Supply Chain Management	99
	414-2	Negative social impacts in the supply chain and actions taken	5.3 Supply Chain Management	99
★ GRI 416 Customer Health and Safety 2016	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	There is no health and safety violation for ChipMOS products and services in 2022.	-
★ GRI 417 Marketing and Labeling 2016	417-2	Incidents of non-compliance concerning product and service information and labeling	There is no information and labeling violation for ChipMOS products and services in 2022.	-
	417-3	Incidents of non-compliance concerning marketing communications	ChipMOS did not violate marketing-related regulations in 2022.	-
GRI 418 Customer Privacy 2016	418-1	Substantiated complaints regarding concerning breaches of customer privacy and losses of customer data	3.4 Information Security Management 5.1 Customer Service	55 93

Note:
★ ChipMOS Material Topics
* It is the management approach of the topic.

Appendix 2: SASB Standards Index_Semiconductors

Topic	Code	Unit	Accounting Metric	Chapter/Explanation	Page
Greenhouse Gas Emissions	TC-SC-110a.1	Metric tons (t) CO_2e	1. Gross global Scope 1 emissions 2. Amount of total emissions from perfluorinated compounds	4.2.3 Greenhouse Gas Check	71
	TC-SC-110a.2	—	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	4.2.3 Greenhouse Gas Check	71
Energy Management in Manufacturing	TC-SC-130a.1	Gigajoules (GJ), Percentage (%)	1. Total energy consumed 2. Percentage grid electricity 3. Percentage renewable	4.2.4 Energy Management and Efficiency	71
Water Management	TC-SC-140a.1	Thousand cubic metres (m^3), Percentage (%)	1. Total water withdrawn 2. Total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	ChipMOS all fabs are not located in high or extremely high baseline water stress	-
Waste Management	TC-SC-150a.1	Metric tons (t), Percentage (%)	Amount of hazardous waste from manufacturing, percentage recycled	4.4.3 Proper Disposal of Wastes	86
Employee Health & Safety	TC-SC-320a.1	—	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	6.5.1 Safe Working Place with Continuous Improvements	138
	TC-SC-320a.2	NT$	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	There are no incidents of such employee safety and health violations in 2022.	-
Recruiting & Managing a Global & Skilled Workforce	TC-SC-330a.1	%	Percentage of employees that are 1. Foreign nationals 2. Located offshore	6.1.1 An Equal Employment Environment 6.1.2 Diversity and Inclusion	110 112
Product Lifecycle Management	TC-SC-410a.1	%	Percentage of products by revenue that contain IEC 62474 declarable substances	ChipMOS is not an end product manufacturer, no applicable content	-
	TC-SC-410a.2	By Product	Processor energy efficiency at a system level for: (1) servers, (2) desktops, and (3) laptops	ChipMOS is not an end product manufacturer, no applicable content	-
Materials Sourcing	TC-SC-440a.1	—	Description of the management of risks associated with the use of critical materials	4.5 Green Products 5.4 Conflict Mineral Management	89 106
Intellectual Property Protection & Competitive Behavior	TC-SC-520a.1	NT$	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behaviour regulations	3.2 Ethical Management	49
Activity Metrics	TC-SC-000.A	thousand wafers/piece	Total production	1.3 Operational Performance and Tax Governance	18
	TC-SC-000.B	%	Percentage of production from owned facilities		

Appendix 3: Sustainability disclosure indicators for the semiconductor industry

Item	Indicator	Type	Unit	Chapter/Note	Page
1	Total energy consumption, percentage of purchased electricity and renewable energy usage rate	Quantified data	GJ, %	4.2.4 Energy Management and Efficiency	74
2	Total water intake and total water consumption	Quantified data	Cubic meter(M^3)	4.3.2 Water Resources Risk Management 4.3.3 Recycling of Process Water	80 82
3	Weight of hazardous waste generated and recycling percentage of hazardous waste	Quantified data	Metric tons (t), %	4.4.3 Proper Disposal of Wastes	86
4	Description of occupational accident categories, number of incidents and percentage	Quantified data	%, number of incidents	6.5.1 Safe Working Place with Thorough and Continuous Improvements	138
5	Disclosure of product lifecycle management: including the weight of scrapped products, weight of electronic waste and recycling percentage	Quantified data	Metric tons (t), %	ChipMOS is not an end product manufacturer, no applicable content	-
6	Description of critical material related risk management	Qualitative description	N/A	4.5 Green Products 5.4 Conflict Mineral Management	89 106
7	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behaviour regulations	Quantified data	NT$	In 2022, ChipMOS was not involved in any legal litigations relating to anti-competitive behaviors	-
8	Output of key products by category	Quantified data	Varies for different product categories	1.3 Operational Performance and Tax Governance	18

Appendix 4: Climate related information for Listed Companies

Item	Chapter/Note
▪ Illustrate the Board of Directors and the Management's oversight and governance of climate-related risks and opportunities.	4.2 Climate Change and Energy Management For more information, please refer to ChipMOS Climate and Environmental Report https://www.chipmos.com/english/csr/report.aspx
▪ Illustrate how the identified climate-related risks and opportunities affect the company's business, strategies and finances (over short, mid and long-term).	
▪ Illustrate the impact of extreme climate incidents and transitional initiatives on the company's finances.	
▪ Illustrate how the identification, assessment and management of climate risks are integrated into the organization's overall risk management system.	
▪ If scenario analysis is employed to assess resilience to climate change risks, describe the scenario, parameters, assumptions, analysis factors, and key financial impacts utilized in the analysis.	
▪ If there is a transition plan in place to address climate-related risks, describe the plan's contents, as well as the indicators and goals used to identify and manage physical risks and transition risks.	
▪ If internal carbon pricing is used as a planning tool, describe the basis on which the pricing is established.	
▪ If climate-related goals are established, describe the activities covered, the scope of greenhouse gas emissions, the timeline for implementation, and annual progress towards achieving these goals. If carbon offsets or Renewable Energy Certificates (RECs) are utilized to meet the objectives, it should be clarified the source and quantity of the carbon offsets or the number of RECs to demonstrate the achieved carbon reduction or the amount of renewable energy procured.	
▪ Greenhouse Gas Check and status of verification.	

Appendix 5: Sustainable Development Goals (SDGs) Index

Sustainable Development Goals (SDGs)		Target	Chapter	Page
 SDG3 Good Health and Well-Being	Ensure healthy lives and promote well-being for all at all ages	3.8 Access to quality essential health-care services 3.d Early warning, risk reduction and management of national and global health risks	6.2 Employee Incentives and Benefits 6.5 Healthy and Safe Workplace 6.6 Social Engagement	118 138 148
 SDG4 Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.4 Increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment 4.7 Ensure that all learners acquire the knowledge and skills needed to promote sustainable development 4.a Upgrade education facilities	6.1 Attraction and Retention of Talents 6.3 Talent Development 6.6 Social Engagement	110 127 148
 SDG6 Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all	6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials 6.4 Increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater 6.a Wastewater treatment and recycling	4.3 Water Resources Management	78
 SDG7 Affordable and clean energy	Ensure access to affordable, reliable, sustainable and modern energy for all	7.3 Improvement in energy efficiency every year.	4.2 Climate Change and Energy Management	67
 SDG8 Decent Work and Economic Growth	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.3 Promote development-oriented policies that support productive activities and creativity and innovation 8.5 Achieve full and productive employment and decent work, including for young people and persons with disabilities, and equal pay for work of equal value 8.7 Take immediate and effective measures to eradicate all forms of child labor 8.8 Protect labor rights and promote safe and secure working environments for all workers	3.1 Corporate Governance 6.2 Employee Incentives and Benefits 6.1 Attraction and Retention of Talents 6.4 Safeguarding Human Rights 6.5 Healthy and Safe Workplace	43 118 110 134 138
 SDG11 Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient and sustainable	11.6 Reduce the adverse per capita environmental impact of cities, including air quality and more	6.6 Social Engagement	148
 SDG12 Responsible Consumption and Production	Ensure sustainable consumption and production patterns	12.2 Achieve the sustainable management and efficient use of natural resources 12.5 Substantially reduce waste generation through prevention, reduction, recycling and reuse 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.	4.2 Climate Change and Energy Management 4.4 Recycling 5.3 Supply Chain Management	67 84 99
 SDG13 Climate Action	Take urgent action to combat climate change and its impacts	13.3 Introduced TCFD for early response to climate change and mitigation actions	4.2 Climate Change and Energy Management	67
 SDG16 Peace, Justice and Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	16.5 Substantially reduce corruption and bribery in all their forms 16.6 Formulated "Regulations Governing Professional Moral Conduct"	3.2 Ethical Management	49
 SDG17 Partnerships for the Goals	Strengthen the means of implementation and revitalize the global partnership for sustainable development	17.14 Enhance policy coherence for sustainable development 17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships	3.1 Corporate Governance 5.1 Customer Service 5.3 Supply Chain Management	43 93 99

Appendix 6: Independent Third Party Assurance Statement

GRI 2-5

bsi.

bsi

By Royal Charter

INDEPENDENT ASSURANCE OPINION STATEMENT

ChipMOS TECHNOLOGIES INC. 2022 Sustainability Report

The British Standards Institution is independent to ChipMOS TECHNOLOGIES INC. (hereafter referred to as ChipMOS in this statement) and has no financial interest in the operation of ChipMOS other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of ChipMOS only for the purposes of assuring its statements relating to its sustainability report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by ChipMOS. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to ChipMOS only.

Scope

The scope of engagement agreed upon with ChipMOS includes the followings:

1. The assurance scope is consistent with the description of ChipMOS TECHNOLOGIES INC. 2022 Sustainability Report.
2. The evaluation of the nature and extent of the ChipMOS's adherence to AA1000 AccountAbility Principles (2018) and the reliability of specified sustainability performance information in this report as conducted in accordance with type 2 of AA1000AS v3 sustainability assurance engagement.
3. The verification of disclosure to be reliable with the applicable SASB industry(s) standard(s) in this report as conducted in accordance with type 2 of AA1000AS v3 sustainability assurance engagement.

This statement was prepared in English and translated into Chinese for reference only.

Opinion Statement

We conclude that the ChipMOS TECHNOLOGIES INC. 2022 Sustainability Report provides a fair view of the ChipMOS sustainability programmes and performances during 2022. The sustainability report subject to assurance is materially correct without voluntary omissions based upon testing within the limitations of the scope of the assurance, the information and data provided by the ChipMOS and the sample taken. We believe that the performance information of Environment, Social and Governance (ESG) are correctly represented. The sustainability performance information disclosed in the report demonstrate ChipMOS's efforts recognized by its stakeholders.

Our work was carried out by a team of sustainability report assurors in accordance with the AA1000AS v3. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that ChipMOS's description of their approach to AA1000AS v3 and their self-declaration in accordance with GRI Standards and SASB Standard(s) were fairly stated.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a review of issues raised by external parties that could be relevant to ChipMOS's policies to provide a check on the appropriateness of statements made in the report
- discussion with managers on ChipMOS's approach to stakeholder engagement. Moreover, we had sampled 2 external stakeholders to conduct interview
- interview with 38 staffs involved in sustainability management, report preparation and provision of report information were carried out
- review of materiality assessment process
- review of key organizational developments
- review of the extent and maturity of the relevant accounting systems for financial and non-financial reports
- review of the findings of internal audits
- the verification of performance data and claims made in the report through meeting with managers responsible for gathering data
- review of the processes for gathering and ensuring the accuracy of data, followed data trails to initial aggregated source and checked sample data to greater depth during site visits
- the consolidated financial data are based on audited financial data, we checked that this data was consistently reproduced
- review of supporting evidence for claims made in the reports
- an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000AP (2018)
- an assessment of the organization's use of metrics or targets of SASB Standard(s) to assess and manage topic-related risks and opportunities.

Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness and Impact of AA1000AP (2018) and sustainability performance information as well as GRI Standards and SASB Standard(s) is set out below:

Inclusivity

In this report, it reflects that ChipMOS has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for the information of Environment, Social and Governance (ESG) in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the ChipMOS's inclusivity issues and has demonstrated sustainable conduct supported by top management and implemented in all levels among organization.

Materiality

The ChipMOS publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of ChipMOS and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the ChipMOS's management and performance. In our professional opinion the report covers the ChipMOS's materiality assessment process and material issues.

Responsiveness

ChipMOS has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for the ChipMOS is developed and continually provides the opportunity to further enhance ChipMOS's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the ChipMOS's responsiveness issues.

Impact

ChipMOS has identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. ChipMOS has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within an organization. In our professional opinion the report covers the ChipMOS's impact issues.

Performance information

Based on our work described in this statement, specified sustainability performance information such as GRI Standards disclosures disclosed in this report, ChipMOS and BSI have agreed upon to include in the scope. In our view, the data and information contained within ChipMOS TECHNOLOGIES INC. 2022 Sustainability Report are reliable.

GRI Sustainability Reporting Standards (GRI Standards)

ChipMOS provided us with their self-declaration of in accordance with GRI Standards 2021 (For each material topic covered in the applicable GRI Sector Standard and relevant GRI Topic Standard, including the disclosures of applicable economic, environmental, and social information, comply with all reporting requirements for disclosures). Based on our review, we confirm that sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the ChipMOS's sustainability topics. However, the future report will be improved by the following areas:

- It is encouraged not to use "confidentiality constraints" as a reason for omitting the disclosure of GRI 2-21 annual total compensation ratio. The organization should consider referring to international peer' practices to respond to the requirements of the standards and increase the credibility and transparence of the sustainability report.

SASB Standards

ChipMOS provided us with their self-declaration of in accordance with SASB Standard(s) (SEMICONDUCTORS Sustainability Accounting Standard). Based on our review, we confirm that the sustainability disclosure topics & accounting metrics of SASB Standard(s) (SEMICONDUCTORS Sustainability Accounting Standard) are reported, partially reported or omitted. In our professional opinion the sustainability disclosure topics, associated accounting metrics and activity metrics for applicable SASB industry standard(s) contained within ChipMOS TECHNOLOGIES INC. 2022 Sustainability Report are reliable.

Assurance level

The high level assurance provided is in accordance with AA1000AS v3 in our review, as defined by the scope and methodology described in this statement.

The moderate level assurance provided is in accordance with AA1000AS v3 in our review of SASB Standard(s).

Responsibility

This sustainability report is the responsibility of the ChipMOS's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Peter Pu, Managing Director BSI Taiwan

AA1000
Licensed Report
000-4/V3-VF8MO

...making excellence a habit.™

Statement No: SRA-TW-2022065

2023-05-31

Taiwan Headquarters: 2nd Floor, No. 37, Ji-Hu Rd., Nei-Hu Dist., Taipei 114, Taiwan, R.O.C.

BSI Taiwan is a subsidiary of British Standards Institution.

Appendix 7: ISO-Certified Fabs at ChipMOS

Item	Hsinchu fab.	Zhubei fab.	Zhubei fab. 2	Hukou fab.	Tainan fab.[Note 1]
ISO/IEC 27001:2013 Information Security Management System	✓	✓	✓	✓	✓
ISO 9001 Quality Management System	✓	✓	✓	✓	✓
IATF 16949 Automotive Quality Management System	✓	✓	✓	✓	✓
ISO 26262 Road Vehicles - Functional Safety Standard System	✓	✓	✓	✓	✓
IECQ QC 080000 Hazardous Substance Process Management System	✓	✓	✓	✓	✓
ISO 17025 Laboratory Management System (Calibration)					✓
ISO 17025 Laboratory Management System (Reliability)					✓
ISO 17025 Laboratory Management System (Chemical)		✓			
ANSI/ESD S20.20	✓	✓	✓	✓	✓
SONY Green Partner[Note 3]		✓			✓
ISO 14001 Environmental Management System	✓	✓	✓	✓	✓
ISO 14064-1 Greenhouse Gas Emission	✓	✓	✓	✓	✓
ISO 50001 Energy Management System	✓				✓
ISO 45001 Occupational Safety and Health Management System	✓	✓	✓	✓	✓
ISO 14051 Material Flow Cost Accounting					✓
ISO 14067 / PAS 2050 Carbon Footprint					✓
ISO 14046 / Water Footprint		✓			✓
Taiwan Green Building Label (from the Ministry of Interior)	✓ (Qualified Grade)				✓ (Silver Grade)
Taiwan Green Factory Label (from the Ministry of Economic Affairs)	✓				✓

Note 1: The boundaries of assurance for Tainan fab. also covers Tainan fab. 2
Note 2: Certification of ISO 17025 Laboratory Management System is only implemented on Zhubei fab. and Tainan fab., which are the only two fabs with laboratories
Note 3: Hsinchu fab., Zhubei fab. 2 and Hukou fab. are testing plants, and due to the nature of their products, they are excluded from the scope of assurance for SONY Green Partner

Appendix 8: 2020-2022 Awards and Honors

Item	Year	Name of Award	Organizer
		Economic & Social	
1	2020	8th Corporate Governance Evaluation: Ranked among the top 21-35% of all TWSE-listed companies	Taiwan Stock Exchange (TWSE)
2	2020	Top Green Companies in Asia	MORS Group
3	2020	Taiwan Corporate Sustainability Awards, Top 50 Sustainable Corporate Sustainability Awards	Taiwan Institute for Sustainable Energy (TAISE)
4	2020	Taiwan Corporate Sustainability Awards, Top 50 Corporate Sustainability Report Awards, Platinum Award	Taiwan Institute for Sustainable Energy (TAISE)
5	2020	No. 1 in Annual Assessment	MXIC
6	2021	8th Corporate Governance Evaluation: Ranked among the top 5% of all TWSE-listed companies, Ranked among the top 10% of all electronics companies with market cap above NT$10 billion.	Taiwan Stock Exchange (TWSE)
7	2021	Taiwan Corporate Sustainability Awards, The Best Sustainable Corporate Sustainability Awards	Taiwan Institute for Sustainable Energy (TAISE)
8	2021	Taiwan Corporate Sustainability Awards, Top 50 Corporate Sustainability Report Awards, Gold Medal	Taiwan Institute for Sustainable Energy (TAISE)
9	2021	Corporate Sustainability Outstanding Award	BSI British Standards Institution Taiwan
10	2021	2020 Award of Excellence for the Promotion of Workplace Equality	Southern Taiwan Science Park Bureau
11	2022	9th Corporate Governance Evaluation: Top 5% among listed companies; Top 11-20% in the electronic category with market value of NT$ 10 billion or more	Taiwan Stock Exchange
12	2022	2022 National Sustainable Development Awards	National Council for Sustainable Development, Executive Yuan
13	2022	Sustainability Report - Platinum Grade in the Electronic Information Manufacturing Industry	Taiwan Institute for Sustainable Energy (TAISE)
14	2022	Taiwan Corporate Sustainability Awards: Top 100 Corporations	Taiwan Institute for Sustainable Energy (TAISE)
15	2022	Excellence in Corporate Social Responsibility - Top 100 Performing Companies	CommonWealth Magazine
16	2022	Top 25% of publicly listed companies in the 2022 Taiwan Sustainability Evaluation	Taiwan Index Plus Corporation
17	2022	Taiwan Employment Creation 99 Constituent	Taiwan Index Plus Corporation
18	2022	TWSE Corporate Governance 100 Index	Taiwan Index Plus Corporation
19	2022	Engineering Technology Award	MXIC

Item	Year	Name of Award	Organizer
		Environmental	
1	2020	Special Contribution Award for Sponsoring Air Quality Purification Zone	Environmental Protection Administration, Executive Yuan
2	2020	Excellent Enterprise for Green Procurement	Hsinchu County Government/ Tainan City Government
3	2020	Excellent Enterprise for Air Quality Maintenance and Low-Carbon and Energy Conservation - Energy-Saving Benchmark Award	Tainan City Government
4	2020	Sponsorship of Air Quality Purification Zones	Hsinchu County Government
5	2021	Special Contribution Award for Sponsoring Air Quality Purification Zone	Environmental Protection Administration, Executive Yuan
6	2021	Excellent Enterprise for Green Procurement	Environmental Protection Bureau of Hsinchu County and Tainan City
7	2021	Occupational Safety and Health Excellent Company	Hsinchu Science Park Bureau
8	2021	Southern Taiwan Science Park- The Best Company for Saving Energy	Southern Taiwan Science Park Bureau
9	2021	The Best Company for Saving Energy	Tainan City Government
10	2021	Air Quality Purification Zones - Excellent Sponsor	Hsinchu County Government
11	2021	Air Quality Purification Zones - Excellent Company- Diesel Vehicle Emission Inspection	Tainan City Government
12	2022	Air Quality Purification Area Recognition – Special Contribution Award	EPA, Executive Yuan
13	2022	Top 10% Outstanding Corporate in the Listing Electronic Companies under the "2022 Occupational Health and Safety Indicators Disclosed in the Corporate Sustainable Reports"	Occupational Safety and Health Administration, Ministry of Labor
14	2022	Top 25% of publicly listed companies in the 2022 Taiwan Sustainability Evaluation	Taiwan Index Plus Corporation
15	2022	Occupational Safety and Health – Outstanding Organization	Hsinchu Science Park Bureau
16	2022	Personnel for Promotions of Occupational Safety and Health	Hsinchu Science Park Bureau
17	2022	Personnel for Promotions of Occupational Safety and Health	Southern Taiwan Science Park Bureau
18	2022	2021 Outstanding Private Enterprise and Organization of Green Consumption Promotion	Hsinchu County Government
19	2022	2021 Outstanding Unit of Green Procurement and Promotion of Green Consumption Promotion	EPA, Executive Yuan
20	2022	2022 Air Quality Purification Area Performance Recognition Organization	Hsinchu County Government
21	2022	2022 Outstanding Private Enterprise and Organization of Green Consumption Promotion	Tainan City Environmental Protection Bureau

ChipMOS
南茂科技

www.chipmos.com

Hsinchu fab.
No. 1, R&D Rd. 1, Hsinchu Science Park,
Hsinchu City, Taiwan (Headquarters)

Zhubei fab.
No. 31, Xintai Rd., Zhubei City,
Hsinchu County, Taiwan

Zhubei fab. 2
No. 112, Zhonghe St., Zhubei City,
Hsinchu County, Taiwan

Hukou fab.
No. 4, Rende Rd., Fengshan Vil., Hukou Township,
Hsinchu County, Taiwan

Tainan fab.
No. 5, Nanke 7th Rd., Southern Taiwan Science Park,
Tainan City, Taiwan

Tainan fab. 2
No. 3, Nanke 7th Rd., Southern Taiwan Science Park,
Tainan City, Taiwan

Shanghai Subsidiary
Room 309-C, 6 Building , 990 Shenchang Rd, Minhang Dist.,
Shanghai City, China

U.S. Subsidiary
2890, North First Street, San Jose, CA 95134, U.S.A.

ChipMOS website
ESG section

ChipMOS CSR
FB Fan Page

ChipMOS Climate and
Environmental Report