

eMemory Technology Inc.  
**2022 ESG Report**



**ESG Report will be available at eMemory's website  
and Market Observation Post System**  
<http://mops.twse.com.tw/mops/web/index>

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## A Word from our Chairman

In 2022, both the world and the semiconductor industry experienced many ups and downs that tested their resilience and flexibility. We have been through the outbreak of wars, the slowdown of the COVID-19 pandemic, and drastic climate changes. In the semiconductor industry, companies were competing for production resources, earning record-high revenue, and adjusting excessive inventory. Because of our long-established solid foundation, eMemory Technology and PUFsecurity Corporation successfully conquered these ups and downs and shared with our stakeholders another year full of great results.

It has been a year of dream-come-true thanks to the dedication of our employees. We have achieved wonderful results in operational performance and research and development of our technology. Our revenue hit the record high and our wafer shipment reached 9 million this year. Our NeoFuse enters 4nm and 3nm development verification and all technology continues to develop a wide range of applications to support the customers' needs. Our OTP and MTP have also gradually completed qualifications on the advanced process platforms, which will be available for mass production. PUFsecurity has received 26 new licensing cases and the sales of PUF-base security IP have grown greatly in 2022. We believe that our security solutions will be inevitable not only for protecting the connected world but also for sustaining the business development of all.

In response to environmental sustainability, we completed the GHG inventory and passed the external verification of ISO 14064-1:2018. Setting 2022 as our base year, we will regularly disclose the GHG inventory results and continue working towards our goals in energy conservation and carbon reduction. Moreover, we keep on developing advanced node technology which effectively reduces the carbon emissions of end products and decreases resource consumption during chip manufacture. Although eMemory and PUFsecurity do not have tangible production, we still spare no effort in environmental protection.

In order to strengthen information security, we implemented the ISO 27001 Information Security Management System to maintain the confidentiality, integrity, and availability of our information assets. It not only provides better protection of our data and information but also improves corporate sustainability in information security. Meanwhile, PUFsecurity continues to develop PUF-based hardware security IP solutions and Security as a Service (SaaS) platform which allow customers to easily adopt Hardware Root of Trust and further enhance their security levels.

With our core values, expertise, and enthusiasm, eMemory and PUFsecurity will continue to grow and establish an innovative and forward-looking team for better achievement. Now, I would like to invite you to learn more about how we operate and put our business to work for our stakeholders in this report.

Charles Hsu  
Chairman of eMemory and PUFsecurity

## About this Report

This report aims at disclosing transparent and comprehensive information regarding impacts from eMemory Technology on economic, governance, environmental, and social sustainability to our stakeholders. It has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option, Sustainability Accounting Standards Board (SASB) Standards, and recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

### Scope of This Report

This is an annual report, covering information from January 1st, 2022, to December 31st, 2022, which is the same period as our annual report. The report is published in June 2023 in both Chinese and English on our company website and Market Observation Post System. The scope of the information disclosed is the same as the consolidated financial report, including all eMemory Technology and PUFsecurity locations in Taiwan, PUFsecurity USA Corporation, eMemory Japan Corporation, and PUFsecurity Technology (Shanghai) Corporation. The financial information disclosed in this report is the same as the consolidated financial report.

### Reporting Guidelines

To identify the major topics that our stakeholders value the most, eMemory conducts the materiality analysis on different aspects of environmental, social, and corporate governance topics. This report discloses information based on the material topics identified. The report is composed following the reporting principles by GRI, including Accuracy, Balance, Clarity, Comparability, Completeness, Sustainability Context, Timeliness, and Verifiability. We also apply the SASB Standards and Recommendations of TCFD for providing high-quality reporting.

eMemory has established the “Sustainable Development Practice Principles” and appointed the President Office as the dedicated unit for leading the sustainable business development. We have also formed the Sustainable Management Committee in 2022 to further promote sustainable practices in our daily operation and decision-making process. Information disclosed in this report is collected from each department and reviewed by its managers for its comprehensiveness and accuracy. The report is approved by the highest governance body before publication.

## eMemory Technology Inc.

- Founded: September 2, 2000
- Location: Rm. 305, No. 47, Yuanqu 2nd Rd., Hsinchu Science Park, Hsinchu City 300, Taiwan
- Headquarter: 8F., No.5, Taiyuan 1st St., Jhubei City, Hsinchu County 302, Taiwan
- Public Listing: Taipei Exchange Stock Code 3529
- Industry: Semiconductors
- Capital: NTD 761,884,420
- Products: Logic non-volatile memory (NVM) silicon intellectual properties (IPs)
- Contact Information
  - Address: 8F., No.5, Taiyuan 1st St., Jhubei City, Hsinchu County 302, Taiwan
  - Tel: 886-3-5601168
  - Email: [ESG@ememory.com.tw](mailto:ESG@ememory.com.tw)

## 2022 ESG Performance Highlights

### GOVERNANCE

36.1% up gross profit
46.2% up EPS
9,000,000+wafer shipment
Accumulated 6,400 design licenses
ISO 9001 : 2015 Quality Management Systems certification
ISO 27001 : 2013 Information Security Management System certification
97.11/100 customer satisfaction
Receives TSMC's IP Partner Award for 13 consecutive years
Rank Top 5% Corporate Governance Evaluation

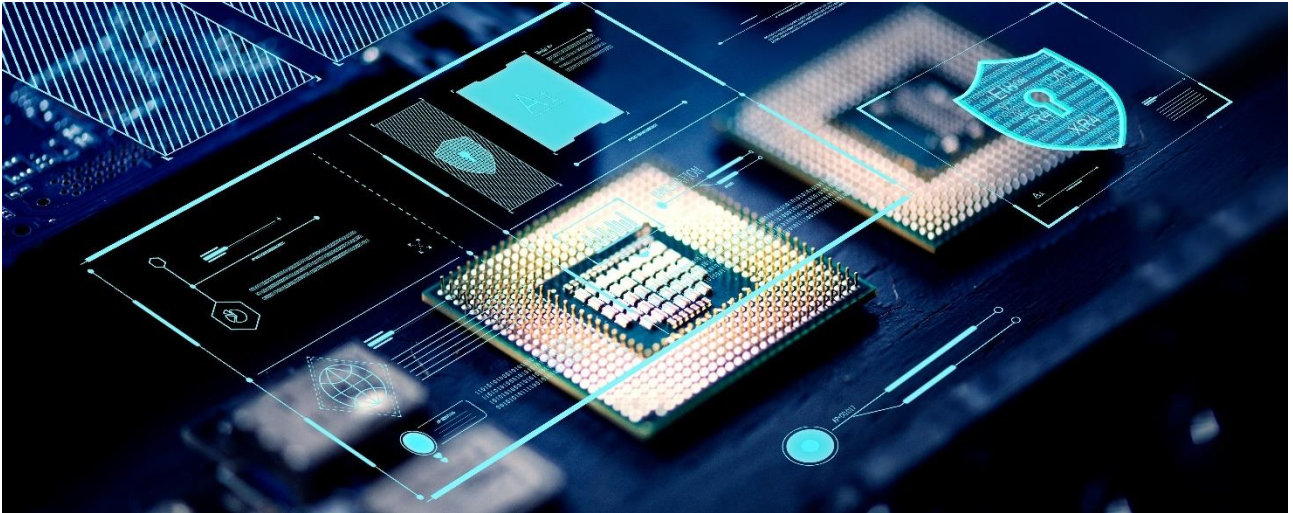
### ENVIRONMENT

Obtained ISO 14064-1 : 2018 GHG inventory external verification
240 million kWh energy saving on end devices
NT\$ 17 billion wafer production cost saving
1050+ worldwide patents issued
615 tape-outs
NT\$ 850 million of R&D fee devoted
100% return rate of Supplier Checking List
0 complaints or penalties on environmental related issues

### SOCIAL

NT\$2958 thousand average salary of non-management employees
Total 4,912.5+ hours of training
7.25% turnover rate
Provided health examination for all employees
0 compliants or penalties on human right related issues
0 work-related hazards or incidents
Sponsors NGO "Teach for Taiwan" for 9 years
Provides scholarship and supports for NTHU for 10 years

## About eMemory



### 1.1 Corporate Overview

eMemory Technology Inc. is the world's largest pure-play developer and provider of Logic Non-Volatile Memory (Logic NVM) technology. The proprietary technologies include NeoBit, NeoFuse, NeoMTP, NeoEE, NeoFlash, and NeoPUF. Furthermore, based on NeoFuse and NeoPUF technology, our subsidiary, PUFsecurity Corporation, develops PUF-based hardware security IP solutions. Products developed with these core technologies have been made into more than 75 billion ICs used in various applications in Consumer products, 5G/4G Mobile Devices, Data Centers, Automotive, Internet of Things (IoT), and Home Appliances.

eMemory licenses silicon intellectual properties (SIPs) to semiconductor foundries, integrated device manufacturers (IDMs), and fabless design houses around the world. Our Logic NVM silicon IP platform provides fabless design houses with superior product design flexibility and manufacturing process portability. We provide IDMs process scalability and valuable process engineering know-how that shortens their product development time to market. Furthermore, our foundry partners could gain access to hundreds of potential customers through us for sustainable business development.



### 1.1.1 eMemory Achievements

Ending on December 31st, 2022, the total number of employees at eMemory and its subsidiary was 331, located majorly at the Jhubei headquarters in Hsinchu County, Taiwan. The gross profit in 2022 was NT\$3,216,711 thousand which was 36.1% higher than in 2021. Our earnings per share (EPS) in 2022 was NT\$21.61, which was 46.2% higher than in 2021.

With our continuous investment in Research and Development (R&D), which was around NT\$850 million in 2022, equating to 62.1% of total operating expenses, eMemory is able to provide advanced memory technologies as well as high quality products and services to our customers and partners (See [eMemory 2022 Annual Report](#) for more details). Cumulatively, we have over 2,300 macros verified and over 6,400 design licenses up until 2022, and the numbers are consistently growing. eMemory works closely with foundries, IDMs, and fabless design companies to develop the most competitive Logic Non-volatile Memory solutions. Our goal is to maintain the innovation momentum and bring sustainable success together with our customers.

Global Customers							
	Taiwan	China	Korea	Japan	North America	Europe	Others
Foundry	4	9	4	4	1	2	1
IDM	1	0	0	7	1	1	0
Fabless	323	1105	96	80	365	211	103

Achievements until 2022				
Over <b>48</b> million wafers shipped until 2022	<b>25</b> foundry partners worldwide	<b>10</b> IDMs coverage world-wide	Over <b>2,300</b> verified NVM IPs	Over <b>6,400</b> cumulative design licenses

### 1.1.2 PUFsecurity Achievements

With the rapid development of technology and the increasing applications of AI and IoT, the awareness and need of preventing security breaches and malicious attacks are soaring higher than ever. More and more companies start to strengthen the security of their products and services. To fulfill such security requirements, our subsidiary, PUFsecurity, provides PUF-based hardware security IP solutions to the customers for various application scenarios. Our robust security solutions can help customers to sustain their development and operations by preventing costs and damages caused by security lapses or hacks. Based on eMemory's NeoPUF technology, PUFsecurity developed the PUFrt, the world's first quantum-tunneling PUF-based root-of-trust IP, and the PUFcc, the high-security PUF-based crypto coprocessor. PUFrt combines essential security functions including

unique ID, true random-number generator, and secure key storage in one macro to meet chip designers' need for a root-of-trust. On top of the functions mentioned, PUFcc also provides essential cryptographic engines, creating a general-purpose integrated security IP module.

In 2021, PUFrt passed the Riscure's Security Certification; while PUFcc was certified through the Cryptographic Algorithm Validation Program (CAVP) by the National Institute of Standards and Technology (NIST). These serve as the guarantee for chips and systems that use our products. Customers and chip designers could easily develop products that meet security standards by using our certified security solutions that comply with international safety regulations. It could not only help to minimize security risks but also save time and resources needed during the product development process.

In 2022, PUFrt has achieved the Riscure Common Criteria Certification. The secure crypto coprocessor, PUFcc, won the COMPUTEX 2022 Best Choice Award and has achieved PSA Certified Level 2 Rady. PUFsecurity has also won the Most Investable Start-up Team award at EE Awards Asia 2022.

### 1.1.3 Corporate Values



At eMemory, we are committed to fulfilling our shared values of Responsibility, Innovation, Sustainability, and Excellence in our work. In doing so, we RISE to the challenges and opportunities facing our business from a unified perspective. And we honor these values in our obligations to both our clients and ourselves.

#### **Responsibility**

Above all, we honor our responsibility for delivering efficiency, quality, and trusted expertise. We support our customers from design initiation to fabrication and take pride in maintaining long-term partnerships that share success. Being accountable for producing consistently reliable technology requires a customer relationship built on honesty, trust, and of course, integrity.

## Innovation

The only constant in computing is its perpetual transformation. Therefore, our pursuit of innovation is the source of our continued success. We strive to remain restless in developing Logic Non-Volatile Memory and PUF-based security subsystem solutions. As a result, our IPs continue to play a pivotal role in advancing technological possibilities and safeguarding semiconductors

## Sustainability

We are committed to maintaining transparent communications with clients, stakeholders, and staff as we sustain the company's long-term profitability and growth. Considering our business's impact on our industry and community is an essential aspect of this. We will shoulder the responsibility of environmental protection and sustainable development through technological innovation and provide a more energy-efficient and safer future for the ever-more connected world.

## Excellence

We strive to remain peerless in our accumulated knowledge and expertise across our industry. We remain unmatched in our investment in platform availability and product development. Our integral position within the semiconductor ecosystem comes from our deep understanding of our technology's design, development, and fabrication, allowing us to identify emerging trends, anticipate change, and seize new opportunities before competitors.

### 1.1.4 Brand Communication

By continually striving to improve our competitiveness, we have established a great brand image domestically and internationally. For the past 20 years, Memory and PUFsecurity have been actively participating domestic and international exhibitions, forums, and symposium hosted by foundries and international organizations in the industry. We also hosted technical webinars to keep on delivering our brand and innovations to the world.

In 2022, we joined 8 forums hosted by foundries virtually and physically. We also participated the IP-SoC Silicon Valley 22 and IP-SoC China 22 hosted by Design & Reuse. Moreover, we took part in the Arm Technology Symposia hosted by Arm and the IoT Security Forum to promote our brand image, reputation, and technology. We hosted 3 technical webinars, sharing how our IP solutions are used in PMIC, AI Chip, and security.

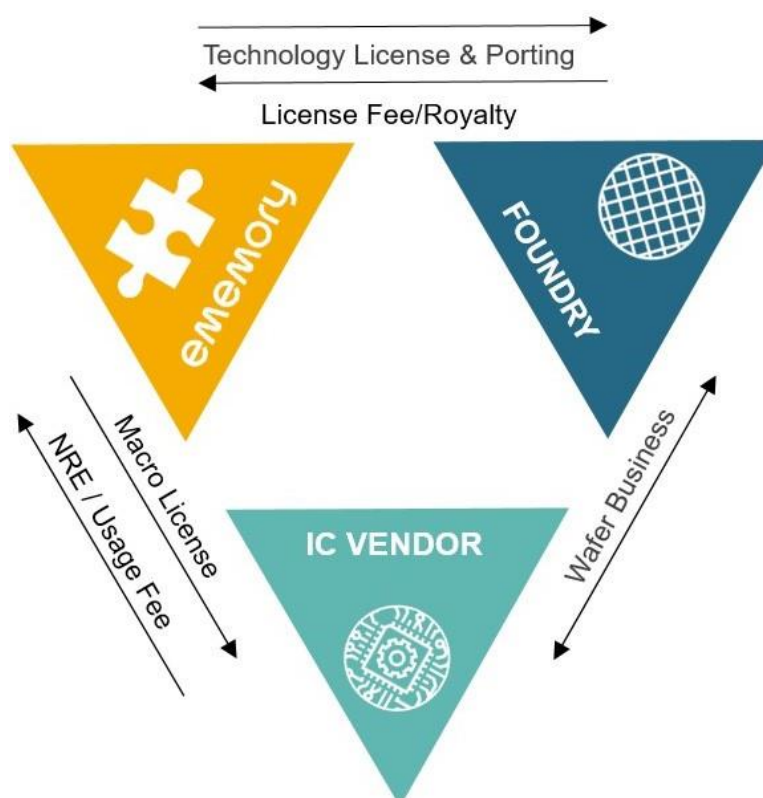
Events Participated in 2022		
Foundry-hosted Forum	International Technical Seminar	Self-hosted Webinar
8	4	3

### 1.1.5 Membership of Associations

eMemory prioritizes playing an active role in the development of product and application trends with local and international associations in the industry. Our involvement is not only beneficial in maintaining positive cooperation with other industry leaders but also in fostering technological innovations across the community. We participate in annual events contributing to panel sessions, providing keynote speeches, and offering our expertise to help resolve the challenges encountered in our industry.

Membership in 2022		
Taiwan	• AI on Chip Taiwan Alliance (AITA)	Member
	• RISC-V Taiwan Alliance (RVTA)	Member
	• Taiwan Advanced Automotive Technology Development Association (TADA)	Supervisor: President Michael Ho
	• Taipei Computer Association (TCA)	Member
	• Taiwan IoT Technology and Industry Association (TwIoTA)	Member
	• Taiwan Semiconductor Industry Association (TSIA)	Member
International	• Asia Silicon Development Agency (ASVDA)	Member
	• Global Semiconductor Alliance (GSA)	Member
	• Fast IDentity Online Alliance (FIDO)	Member: PUFsecurity

### 1.2 eMemory's Business Model



eMemory's business model is different from the typical business model of our peers. It is based on a triangular relationship between design houses, the foundries, and ourselves. When eMemory licenses its technology to a foundry, the foundry partner then pays a license fee for the technical setup and license grant. For design houses, either a usage fee or Non-Recurring Engineering (NRE) fee is collected when a complete design is licensed. Technology license fees, usage fees, and NRE fees are all categorized as upfront fees by eMemory. Later when a product is taped-out or mass-produced, eMemory receives running royalties from our foundry partners, based on the contractually agreed royalty rate. Currently, our royalty accounts for more than 70% of our total revenue which provides the company great resilience and sustainability.

This business model creates a much closer and sustainable collaboration among all three parties and allows eMemory to take an active role in supporting product development to completion. On the foundry side, we are a memory technology provider; with the design houses, we license our macro block design, and for both, we offer technical support. With our technologies and macro designs, our partners can further design energy-efficient and cost-efficient chips to be utilized across a broad range of markets.

### **1.3 Our Responses to COVID-19**

In May of 2021, Taiwan raised the COVID-19 alert to Level 3 to control the pandemic outbreak. Policies such as prohibiting unnecessary gatherings, remaining within social distance, wearing masks, and shutting down all venues for entertainment were strictly executed. eMemory has also implemented comprehensive epidemic prevention practices to protect the health of our employees and their family and to maintain daily operations.

Due to the seriousness of the pandemic, eMemory implemented different levels of practices to protect the health of our employees and their family. In February and April, all employees were separated into A group and B group and asked to take turns coming to the office. By doing so, it is aimed to decrease unnecessary gatherings and interactions to further outbreak. Starting from mid-May to July, all employees were required to work remotely from home. Anyone who needed to come to the office was instructed to wear masks and gloves properly and to leave the office immediately once the tasks were finished. To prevent any cross-infection, we arranged weekly disinfection of the office and the labs.

For remote working practices, essential equipment, communication tools, virtual design platform, and virtual private networks were provided and frequently updated to sustain daily operations and ensure information security. Moreover, an internal reporting system was built for the employees to report any concerns about their health conditions. We also provided our employees with pandemic reimbursement for work-from-home expenses.

## 1.4 Our Approach to Materiality

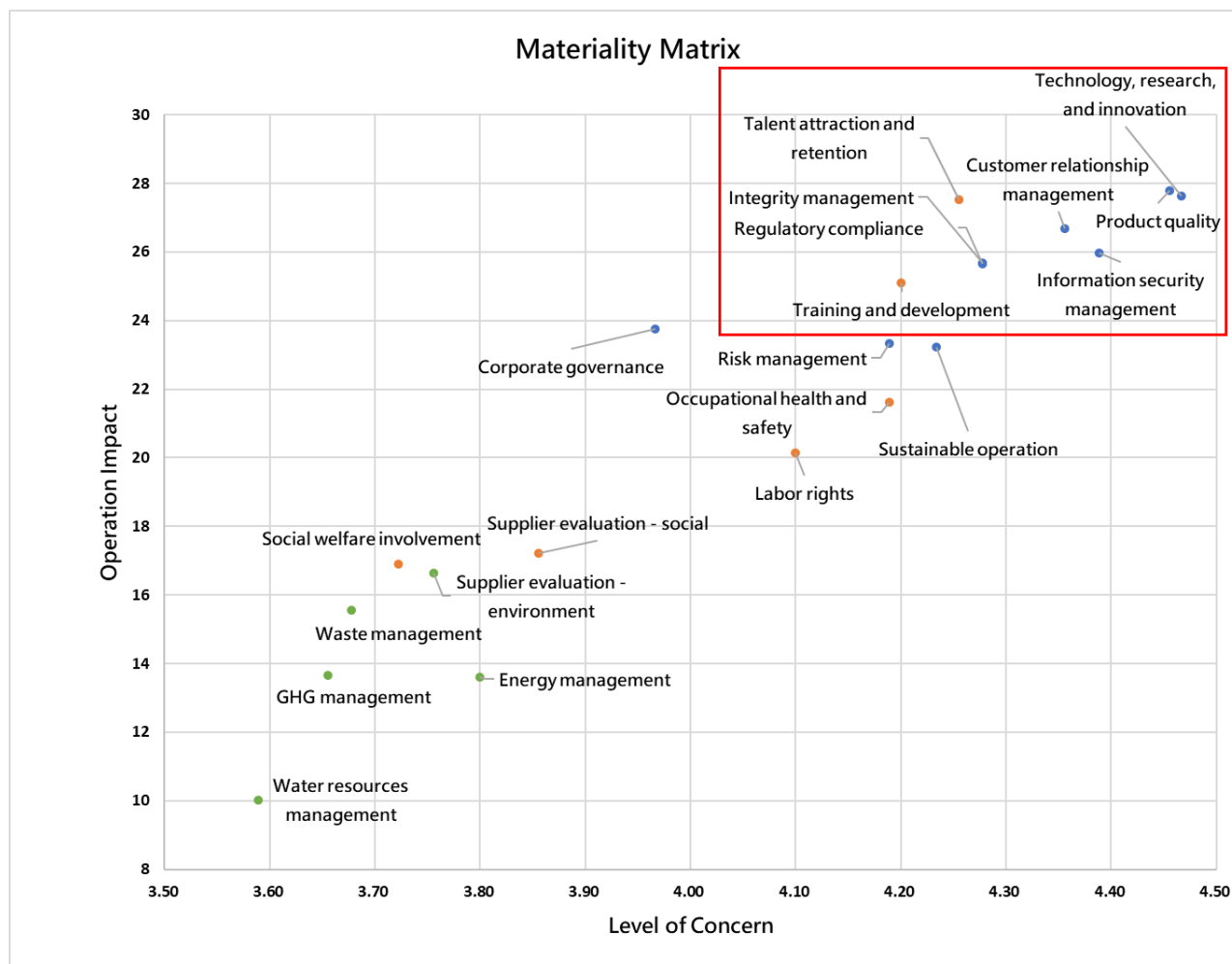
eMemory conducts the materiality survey each year to identify the major material topics that our stakeholders value the most. We also evaluate related performance based on the identified material topics to enhance our act on sustainability. We continued to use the same 18 material topics established last year which can be categorized into environment, social, and corporate governance.

Category	Topics
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Water resources management</li> <li>• GHG management</li> <li>• Energy management</li> <li>• Waste management</li> <li>• Green product</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• Occupational safety and health</li> <li>• Talent attraction and retention</li> <li>• Training and development</li> <li>• Labor rights</li> <li>• Social welfare involvement</li> </ul>
<b>Corporate Governance</b>	<ul style="list-style-type: none"> <li>• Corporate governance</li> <li>• Integrity management</li> <li>• Customer relationship management</li> <li>• Technology, research, and innovation</li> <li>• Product quality</li> <li>• Supply chain management</li> <li>• Regulatory compliance</li> <li>• Information security management</li> </ul>

Our materiality analysis process includes material topics selection, materiality assessment survey, and material topic identification. We conducted an internal business impact analysis and a materiality assessment survey to determine the topics that both the company and our stakeholders value the most. The participants are experts in the industries and our stakeholders who provide precise and practical feedback.

The materiality assessment questionnaire containing the 18 topics listed above was distributed to our stakeholders, including employees, investors, customers, suppliers, and government agencies. Stakeholders were asked to rank the topics from the most important to the least important by category. There were 129 questionnaires distributed and 90 effective responses received, which equated to a 69.8% response rate.

For business impact analysis, we invited department-level managers and above to take part in the survey. The response rate was 78.7%. Managers rated the topics in terms of the likelihood of potential interruptions to business operations in the domain of environment, social, and corporate governance. These inputs from our managers reflected material topics that are critical to our daily operations and future corporate development.



Integrating and standardizing the data received, we finalized the materiality matrix and identified 8 prioritized material topics that are the most important to eMemory and our stakeholders. There are five topics in the corporate governance aspect and three in the social aspect which were also determined as our prioritized material topics last year. The outcome has shown that both the company and our stakeholders are well-recognized the importance of corporate governance, people, and social participation.

Following these material topics that are crucial to us and our stakeholders, eMemory adopts the sustainability approaches to daily operations. Carefully managing and preventing the potential risks related to these material topics, we hope to bring satisfaction to our stakeholders, as well as increase our positive impacts on sustainability for our value chain and society.

### Material Issues and eMemory's Value Chain

Material issues	GRI Material Topics	SASB Standards	ESG Aspect	Chapter	Scope of Impact on Value Chain				
					Customer	eMemory	Supplier	Shareholder	Employee
Product Quality and Safety	GRI 416: Customer Health and Safety	TC-SC-410a.1 TC-SC-410a.2	G	Ch. 3 Environmental Sustainability	v	v			
Technology, Research, and Innovation	Non-GRI Material Topic	Non-SASB Topic	E 、 G	Ch. 1 About eMemory Ch. 3 Environmental Sustainability	v	v		v	
Customer Relationship Management	GRI 418: Customer Privacy	Non-SASB Topic	S	Ch. 2 Corporate Governance	v	v		v	
Information Security Management	GRI:418 Customer Privacy	Non-SASB Topic	G	Ch. 2 Corporate Governance	v	v	v	v	v
Talent Attraction and Retention	GRI 202: Market Presence GRI 401: Employment GRI 405: Diversity and Equal Opportunity	TC-SC-330a.1	G	Ch. 4 People		v		v	v
Integrity Management	GRI 205: Anti-Corruption GRI 206: Anti-Competitive Behavior	Non-SASB Topic	G	Ch. 2 Corporate Governance Ch. 3 Environmental Sustainability		v	v	v	
Regulatory Compliance	GRI2-27: Compliance with laws and regulations GRI205: Anti-Corruption GRI206: Anti-Competitive GRI416: Customer Health and Safety GRI417: Marketing and Labeling	TC-SC-520a.1	E 、 S 、 G	Ch. 2 Corporate Governance Ch. 3 Environmental Sustainability		v		v	

Material issues	GRI Material Topics	SASB Standards	ESG Aspect	Chapter	Scope of Impact on Value Chain				
					Customer	eMemory	Supplier	Shareholder	Employee
Training and Development	GRI 404: Training and Education	Non-SASB Topic	G	Ch. 4 People		v		v	v

### Related Policy and Our Approach

Material issues	Related Policy	Our Approach
Product Quality and Safety	1. To meet the general requirements and objectives of ISO 9001 and maintain system integrity by practicing quality management	eMemory has passed the TÜV Rheinland ISO 9001:2015 Quality Management System certification and obtained corresponding certificates. The NeoBit & NeoEE AS series products have passed the TÜV Rheinland ISO 26262 (Road Vehicles-Functional Safety) & Industrial Specifications IEC 61508 (Functional safety of electrical/electronic/ programmable electronic safety-related systems) certification and obtained corresponding certificates. Besides, we hold on to the spirit of “First-Class Quality, Best Service, and Satisfied Customer” and focus on excelling product quality to reach our goals of increasing customer’s satisfaction, providing customers with safe, reliable, and high-quality products, and maintaining good communication with customers by providing transparent and effective complaint handling procedures for products and services. In addition, the customer satisfaction survey is conducted every year, with excellent results, improving customers’ recognition.
	2. To increase customer satisfaction and further improve product designs and quality	
Technology, Research, and Innovation	1. To develop the most competitive logic NVM solutions by closely cooperating with foundries, IDMs, and IC design houses	eMemory is committed to listening to our customers. Our iService online system is established for collecting feedback from our customers. Based on these responses and opinions, we regularly review and improve our products and services to ensure the best customer experiences. Shortening time-to-market is one of the crucial methods to improve product competitiveness. We optimize our product designs through customization to shorten the production cycle. In addition, we can quickly respond to market demands and adjust production plans timely to meet customer needs. eMemory also establishes a thorough management system to solve any problems or requests from our customers in a timely manner and to collect feedback for building prevention measures and improving
	2. To establish trust and be the accountable partner	

Material issues	Related Policy	Our Approach
	for our customers by providing high quality products and services	product stability and reliability. In terms of research and development, we constantly developing technology and products that are energy-efficient and environmental-friendly. It is expected to greatly reduce power consumption and meet customer needs for green product designs.
<b>Customer Relationship Management</b>	<ol style="list-style-type: none"> <li>To protect confidential information and data of the customers by strictly implementing information security management</li> <li>To increase customer satisfaction and further improve product designs and quality</li> </ol>	<p>eMemory possesses great insights into customer needs and takes the lead in product innovation. We treat our customers as our best partners and believe only through close cooperation with customers can we achieve a win-win situation.</p> <p>eMemory is devoted to becoming the pioneer in the SIP industry. Based on corporate core values, we help our customers with product differentiation and establishing unique market positioning by providing needed products and services. We have been winning the TSMC IP Partner Award for the past 13 years which is a great affirmation of our customer relationship management.</p> <p>Customer satisfaction is one of the most important motivations to make eMemory better. We listen to customer needs and feedback, improving ourselves in terms of customer service and product innovation. In 2022, customer satisfaction was 97.11 out of 100, reaching the goal for another year in the past 14 years. We will continue to provide excellent products and services to our customers.</p>
<b>Information Security Management</b>	<ol style="list-style-type: none"> <li>To build the information security management system following requirements of ISO 27001 to further strengthen information security management</li> <li>To continue maintain the</li> </ol>	<ol style="list-style-type: none"> <li>Promote information security policies: The “Information Security Committee” supervises the planning and implementation of security strategies to ensure the effective promotion and implementation of the information security policies.</li> <li>Strengthen the maturity of information security governance: the Company has introduced world-class standards of information security management systems since 2022 and obtained the ISO 27001 certification in April 2023.</li> <li>Strengthen technical defense capabilities: About the five major core functions of the Cyber Security Framework (CSF) proposed by the US National Institute of Standards and Technology (NIST) –</li> </ol>

Material issues	Related Policy	Our Approach
	confidentiality, integrity, and availability of our data and important by following PDCA ( Plan-Do-Check-Action ) procedure	namely, Identify, Protect, Detect, Respond, and Recover, and by integrating the requirements of ISO 27001, we comprehensively review and enhance our information security defense capabilities. 4. Enhance personnel's information security awareness: the Company holds "Information Security Policy and Information Security Awareness" education and training courses for all employees every year. We also pay close attention to the latest information security intelligence from the government and the industry.
<b>Talent Attraction and Retention</b>	<ol style="list-style-type: none"> <li>To cultivate talents and complete different milestones of the company's goals.</li> <li>To assist employees acquiring knowledge and skills needed for achieving their job and improving working efficiency</li> </ol>	<p>People are our core assets. eMemory develops talent acquisition and retention plans based on our business strategy annually. We recruit outstanding talents through various recruitment channels, including employment matching platforms, internet platforms, R&amp;D Substitute Services programs, campus job fairs, and internal referrals.</p> <p>eMemory also works closely with universities by hosting recruiting sessions, industry-academy collaboration, internship programs, and corporate seminars in order to build stronger connections with young talents.</p> <p>eMemory provides a competitive compensation package, promotion policy, reward system, and healthy workplace for our employees. We believe that maintaining a good work-life balance is the key to great innovation, better productivity, and higher job satisfaction. We also work hard on talent retention by providing competitive compensation and benefits, training programs, employee caring, and various team-building activities and traveling. The turnover rate was lower than 8% in 2022 and we will keep on strengthening our talent retention.</p>
<b>Integrity Management</b>	<ol style="list-style-type: none"> <li>To operate business based on the principle of fairness, honesty, trustworthiness, and</li> </ol>	eMemory engages in commercial activities based on the principle of fairness, honesty, trustworthiness, and transparency. The "Ethical Corporate Management Practice Principles" is established and approved by the Board of Directors to make ethical management practicable and prevent form unethical conduct. The President's Office is appointed as a dedicated unit responsible for establishing ethical corporate

Material issues	Related Policy	Our Approach
	<p>transparency</p> <p>2. To require all employees to follow the “Ethical Corporate Management Practice Principles” and other local regulations</p>	<p>management policies and prevention programs and supervising the implementation and reporting to the Board of Directors on an annual basis, as well as publicly disclosing “Ethical Corporate Management Practice Principles” on the corporate website and Market Observation Post System; furthermore, the implementation of the ethical corporate management for each year is published on the corporate website.</p> <p>The whistle-blowing system and related processing procedures had been established in the “Stakeholders Engagement” area on the corporate website. Employees can also use the Employee Suggestion Mailbox available on the internal platform, myeMemory, to express their opinions.</p> <p>Once received the complaints, eMemory will appoint a person to investigate the case. The appointed person shall report to the company and the whistleblower about handling methods, progress, and result. The whistleblower and the appointed person shall keep the investigation and related information confidential, that it shall not be disclosed, and the Company shall protect the whistleblower from revenge or other improper treatment.</p>
<b>Regulatory Compliance</b>	<p>To obey corporate compliances, norms, standards, obligations, permits, licenses, contractual obligations, industry standards, and corporate articles at domestic and global levels during business operation and governance</p>	<p>Based on the Export Administration Regulations (EAR) used by the U.S. government and the Regulations Governing Export and Import of Strategic High-tech Commodities followed by the Taiwan government, eMemory’s legal department regularly emails the updated US entity lists and Taiwan entity lists to the Sales department and Procurement department to take extra attention when collaborating with entities on the lists.</p>

Material issues	Related Policy	Our Approach
<b>Training and Development</b>	<p>To plan training courses based on the “Training Management Procedures” to enhance employees’ skill and knowledge and improve overall competence</p> <p>To conduct education and training promotion for improving business performance and maintaining corporate integrity management and corporate social responsibility</p>	<p>eMemory has a comprehensive training system that provides employees with various training courses. Each course has a clear curriculum which can help the employees to decide what courses to apply for according to their needs. All new hires receive comprehensive orientation and training to help them quickly fit in with the corporate culture and understand the company's system. In addition to new hire training, we also provide healthcare-related courses, professional courses, and management training to our employees. eMemory spares no effort to invest in abundant training resources for internal talents with potential, so that employees can not only improve their life knowledge but also continue to strive for excellence in their respective fields.</p>

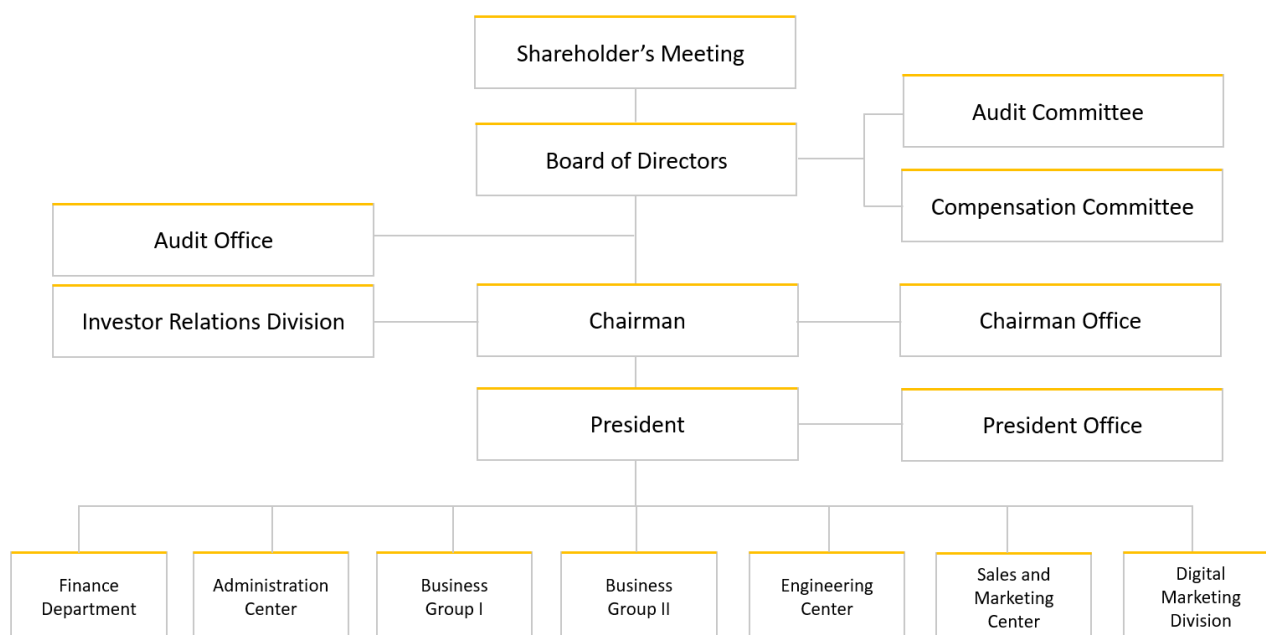
## Corporate Governance

### 2.1 Board Governance

#### 2.1.1 Organizational Structure

Our highest governing body is the Board of Directors. The corporate governance officer was appointed by the Board of Directors on October 26, 2022, to be in charge of corporate governance affairs. The main responsibilities of the corporate governance officer are to handle matters relating to board meetings and shareholders meetings according to laws, produce the minutes of board meetings and shareholders meetings, assist in onboarding and continuous development of directors, provide information required for business execution by directors, and assist directors with legal compliance.

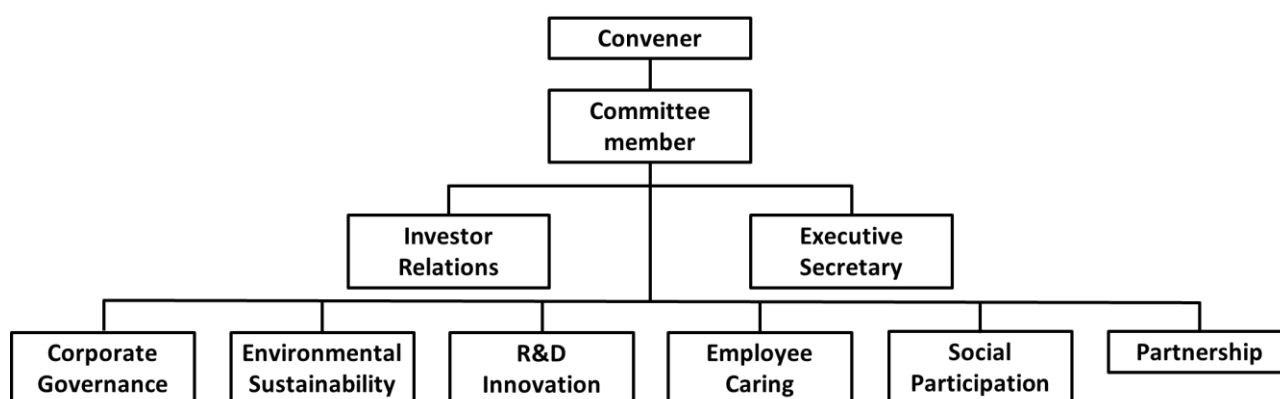
We have also established the Audit Committee and the Remuneration Committee. The main purpose of the Audit Committee is to assist the Board in performing the supervision of the quality and faith of execution regarding accounting, auditing, financial reporting, and the overall financial control of eMemory. The Remuneration Committee of eMemory takes charge of assisting the Board in executing and assessing the remuneration and welfare policies of the company, and the remuneration of Directors and managers.



eMemory has established the “Sustainable Development Practice Principles” and appointed the President’s Office as the dedicated unit for leading sustainable business development. The President reports the progress and results to the Board of Directors periodically. To ensure the thorough implementation of sustainable strategy, the President convenes the Management Examination Meeting semiannually and reviews the issues related to the environment, society, and corporate

governance which are concerned by stakeholders. In consideration of the materiality principle, eMemory establishes risk assessments which examine risks related to business operations and further proposes corresponding solutions and practices.

We have also formed the Sustainable Management Committee in 2022 to further promote sustainable practices in our daily operation and decision-making process. With the President being the convener, the Center Managers are appointed as the committee members. The Executive Secretary assists the committee members in promoting sustainable development planning and implementation. The committee has six working groups, including Corporate Governance, Environmental Sustainability, R&D Innovation, Employee Caring, Social Participation, and Partnership, to assist in the execution of goal setting and implementation. The “Sustainable Management Procedure” was approved by the Committee and used as the basis for planning, implementation, and reporting.



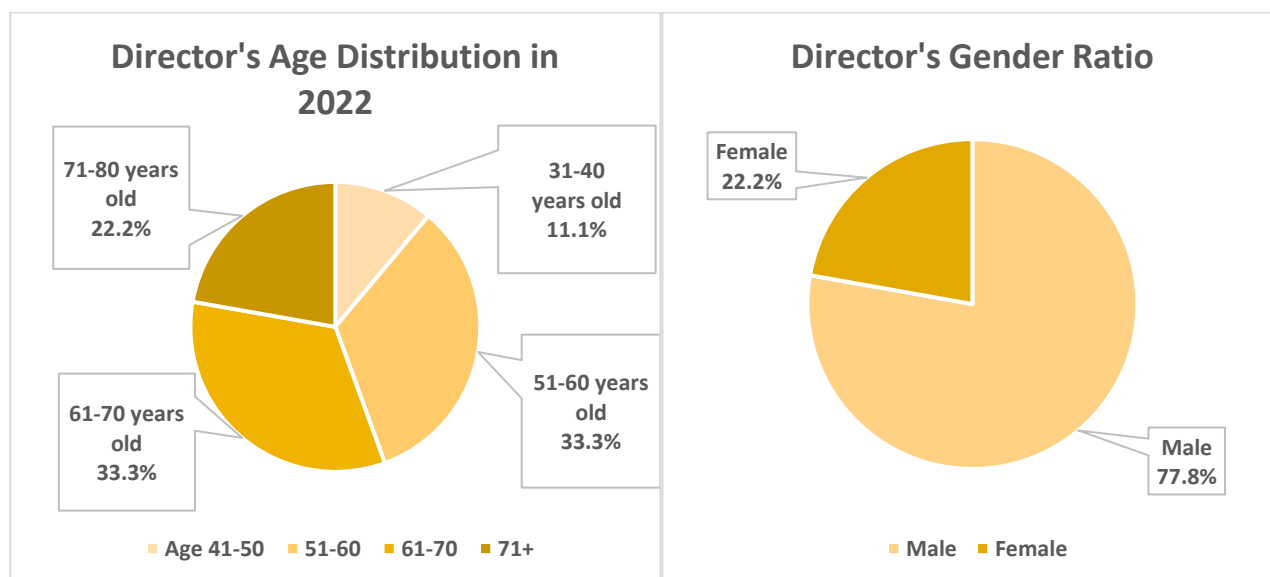
### 2.1.2 Board of Directors

The "Corporate Governance Practice Principles" of eMemory regulate the diversity of the Board of Directors and formulates appropriate diversification policies based on the company's operation, operation type, and development needs. The policies include but are not limited to two major aspects: basic conditions and values (such as gender, age, nationality, culture, etc.) and professional knowledge and skills (such as law, accounting, industry, finance, marketing, or technology). The Board of Directors must also possess the knowledge, skills, and competencies to perform their duties.

Following the “Rules for Election of Directors”, the Directors are elected after nomination. eMemory's Directors are Currently, the 9 members of the Board of this term have professional backgrounds in industries, academia, medical and pharmaceutical science, and professional specialties in the scopes of management, leadership and policy decision, industrial knowledges, academy and financial. Other relevant information also disclosed on our [website](#) and [eMemory 2022 Annual Report](#).

By December 31st, 2022, eMemory convened 5 Board Meetings with a 97.7% attendance rate among all the Directors. We had 9 directors on the Board. The proportion of Directors with employee status is 22.2%. There are 3 Independent Directors with 7, 8, and 14 years of service respectively on the Board, accounting for 33.3% of the Board. In addition, there are two female Directors, accounting for 22.2% of the Board, which exceeds the goal of having at least one female Director.

The Directors continually participate in the corporate governance and professional knowledge training courses and obtain the certified documents every fiscal year, according to the “Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEX Listed Companies”. The Directors profession enhancement status had disclosed on the [Market Observation Post System](#).



The Board of Directors of the Company has approved formulation of the Rules for Board of Directors Performance Assessment and taken the performance appraisal on an annual basis then making the appraisal result reported to the Board of Directors, which will be used as a reference for the remuneration and nomination for the renewal of respective Director. The appraisal measures include self-evaluation from the Board of Directors, self-evaluation from individual members of the Board of Directors, self-evaluation from the Functional Committee, and others. The evaluation results are revealed before the Board Meeting of the first quarter each year. For the results of 2022, please check out [eMemory 2022 Annual Report](#) for more details.

The recusal for Directors' interest conflict is defined in the “Rules of Procedure for Board of Directors Meetings”, that the Director him/herself or the corporate he/she represents for has a stake in the matter under discussion at the meeting where there is a likelihood that the interests of the Company would be prejudiced, may state opinions or answer the inquiry but not participate in the discussion or vote on that proposal, shall recuse himself or herself from any discussion and voting, and may not

exercise voting rights as proxy on behalf of another director.

The Board Meeting should be convened quarterly. Temporary Board Meetings could be convened when needed. Related departments are requested to prepare meeting agenda and documents/information and deliver related information when informing the attendees. By December 31st, 2022, there were 5 Board Meeting convened, for the major resolutions discussed, please refer to [eMemory 2022 Annual Report](#) for more details.

### **2.1.3 Audit Committee**

The main purpose of the Audit Committee is to assist the Board in performing the supervision of the quality and faith of execution regarding accounting, auditing, financial reporting, and the overall financial control of eMemory. The Audit Committee consists of 3 Independent Directors, with one as the convener. A total of 5 Audit Committee meetings were held in 2022 with a 100% attendance rate of the committee members.

### **2.1.4 Remuneration Committee**

The Remuneration Committee of eMemory takes charge of assisting the Board in executing and assessing the remuneration and welfare policies of the company, and the remuneration of Directors and managers. The committee members are appointed by the Board, composed of at least one Independent Director. The Remuneration Committee consists of 3 Independent Directors, with one as the convener. A total of 3 Remuneration Committee meetings were held in 2022 with a 100% attendance rate of the committee members.

Regarding director remuneration policy, it is stipulated in Article 25 of Articles of Incorporation that no more than 2% of the annual profit shall be distributed to Directors as compensation of the year. The remuneration of Directors is determined based on the company's operational performance and the individual directors' level of involvement in the company's day-to-day operation. The Company follows principle of weigh distribution, offering reasonable compensation. In 2022, our company has achieved solid annual operation performance. Both independent directors and general directors participated in the remuneration allocation. Independent directors receive additional "fixed compensation" monthly along with the "functional committee compensation" based on their specific responsibilities and duties.

## 2022 - Director Remuneration for General and Independent Company Directors

Unit: In NT\$ Thousands

Title	Name	Director Remuneration				Subtotal A+B+C+D	Relevant Remuneration Received by Directors Who are Also Employees				Total A+B+C+D+E +F+G
		Base Compensation (A) (Note 1)	Severance Pay (B) (Note 2)	Directors Compensation (C) (Note 3)	Allowances (D) (Note 4)		Salary, bonuses, and Allowances (E) (Note 5)	Severance Pay (F)	Employee Compensation (Note 6)		
									Cash	Stock	
Chairman	Charles Hsu	23,700		6,539	25	30,264					30,264
Director	Mu-Chuan Hsu			3,270	25	3,295					3,295
Director	Michael Ho (Note 7)			4,903	15	4,918	3,663	59	6,551	0	15,191
Director	Li-Jeng Chen			4,903	25	4,928	1,644	54	4,200	0	10,826
Director	How-Han Investment Corporation Representative : Teresa Cheng			3,270	25	3,295					3,295

Title	Name	Director Remuneration				Subtotal A+B+C+D	Relevant Remuneration Received by Directors Who are Also Employees				Total A+B+C+D+E +F+G
		Base Compensati on (A) (Note 1)	Severance Pay (B) (Note 2)	Directors Compensation (C) (Note 3)	Allowances (D) (Note 4)		Salary, bonuses, and Allowances (E) (Note 5)	Severance Pay (F)	Employee Compensation (Note 6)		
									Cash	Stock	
Director	How-Han Investment Corporation Representative : Felix Hsu			3,270	25	3,295					3,295
Independ ent Director	Kenneth Kin	840		2,757	65	3,662					3,662
Independ ent Director	Ming-To Yu	840		2,757	60	3,657					3,657
Independ ent Director	T.C. Chen	840		2,757	65	3,662					3,662

**Note 1:** Base compensation for directors in 2022 (including director's salary, duty allowance, severance pay, bonus and reward, etc.)

**Note 2:** Allowance or funding of pension obligation.

**Note 3:** Director's compensation is resolved by the Board of Directors on February 22, 2023.

**Note 4:** The directors' professional practicing fees in the most recent year (including transportation allowance, special allowance, various allowances, and provisions of such tangible objects as dormitory and car, etc.). If a house, car and any other transportation means or exclusive personal allowance is provided, please disclose the nature and cost of the assets, rent imputed based on the actual value or fair value, fuel expenses and other benefits. If a driver is assigned, please specify the pay made by the Company to the driver but exclude the same from the remuneration.

**Note 5:** It means the salary, duty allowance, severance pay, bonus, reward, transportation allowance, special allowance, various allowances, and provision of such tangible objects as dormitory and car received by the directors who acted as employees concurrently (including President, Vice President, managerial officer and employee) in the most recent year. If a house, car and any other transportation means or exclusive personal allowance is provided, please disclose the nature and cost of the assets, rent imputed based on the actual value or fair value, fuel expenses and other benefits. If a driver is assigned, please specify the pay made by the Company to the driver but exclude the same from the remuneration. The salary expenses recognized in accordance with IFRS 2 "Share-based payment", including obtaining employee stock options, new restricted employee shares and participating in cash increase subscription shares, shall also be included in the remuneration.

**Note 6.** The directors who acted as employees concurrently (including President, Vice President, managerial officer and employee) in the most recent year received employee compensation (including stock dividend and cash dividend) resolved by the Board of Directors on February 22, 2023. The employee compensation paid to directors who are also employees is a proposed number.

**Note 7.** Director Mr. Michael Ho was newly elected to fill vacancy during the regular shareholders' meeting on June 15, 2022.

For further details on the Board, Audit Committee, and Remuneration Committee, please refer to [eMemory 2022 Annual Report](#).

## 2.2 Internal Audit



eMemory's Audit Office is an independent department comprising a full-time dedicated member of staff who reports directly to the Board of Directors. The internal auditor assists the Board of Directors and Executives in reviewing the effectiveness of eMemory's internal controls and operational efficiency, followed by corresponding recommendations. It guarantees the continuous function of the internal control system and improves the integrity, rationality, and effectiveness of management policies. The 2022 internal audit plan was completed and the audit results was reported to the Audit Committee and the Board of Directors quarterly.

## 2.3 Integrity and Ethics

eMemory's "[Ethical Corporate Management Practice Principles](#)" acts as a guideline for a fair, honest, trustworthy, and transparent engagement in business activities, which applies to all employees, including the Directors and Executives. We have established a Sustainable Management Committee, chaired by the President, to align with global ESG trends. As resolved in the board meeting on Oct. 24th, 2023, our dedicated team will follow the guidelines in the "[Ethical Corporate Management Practice Principles](#)". The responsibility was transferred from the President's Office to the Sustainable Management Committee. In addition to continuously promoting and overseeing and the company's integrity and ethical practices, the committee will convene regular meetings to review the current implementation, making timely adjustment and amendments as needed; the committee will issue annual integrity implementation reports, publicly available on the [company's website](#). The Chairman of the Sustainable Management Committee will also provide the annual report on the execution of integrity management and ethical practices to the Board of Directors.

The company's Audit Office assesses risks related to various internal control operations based on

[Ethical Corporate Management Practice Principles](#)”, formulating an annual audit plan. Each year, the Audit Office conducts audits on crucial operational processes, including Purchase and Payment cycle, Sale and Receipt cycle, along with Research and Development cycle, etc., to ensue ethical and professional practices. Through internal audits, the Audit Office verifies that the company engaged in all types of business activities with integrity. The audit results are regularly reported to the company’s Board of Directors.

We hold zero-tolerance for bribery, corruption, fraud, intellectual property infringement, insider trading, or any other illegal activities. Any behaviors of providing or receiving inappropriate benefits, breaching fiduciary duties, or disclosing trade secrets are strictly prohibited. We also establish the "Work Rules" which stipulate that all employees must be honest in their words and deeds in order to prevent damage to the company's benefits due to individual interests.



According to our [“Ethical Corporate Management Implementation Status of 2022”](#), eMemory’s corruption risk has been controlled appropriately with no significant risks being found. No record of employees dismissed or punished due to corruption incidents. During the reporting period, we were not involved in any lawsuit related to anticompetitive, anti-trust, and monopolistic behavior.

To prevent corruption, eMemory conducts corruption risk assessments regularly. Since procurements are centralized, the scope of the assessment is the Jhubei Office in Taiwan. By identifying and evaluating the possibility and impact of bribery in business operations, preventive measures are designed for medium- and high- risk items. Senior management executives participated in the corruption risk assessment and took the risk identification survey. A total of 8 risk situations and 16 hazard items were identified. Among the 16 items, there are 14 low-risk items and 2 medium-risk items. For low-risk items, it is managed by existing prevention procedures. For medium-risk items, eMemory has adopted ISO 27001 Information Security Management System in 2022 for proper protection and management. Furthermore, information security related courses

and discussions are regularly delivered to our employees to strengthen the concept of information security and prevent incidents from happening.

eMemory provides a series of training courses to ensure all employees are aware of the importance of integrity and ethical management and will practice them fully during daily business. The “Information Environment and Information Safety” course emphasizes the confidentiality of both tangible and intangible information assets possessed by eMemory. The “Personal Information Protection” training course focuses on the execution of a non-disclosure agreement by the individual who handles any personal information, confirming their confidentiality obligations and the parameters of the permissible legal use of personal information. The “Insider Trading” course propagates the inhibition of making use of undisclosed information to conduct insider trading and disclosure to others. In 2022, 46 new employees at eMemory participated in the courses mentioned, totaling 69 hours. In addition, eMemory provided information security related courses to our employees, including “ISO 27001 Introduction - Information Security Management System Framework”, “ISO 27001 Introduction – Annex A”, “Information Asset Inventory and Risk Assessment Introduction”, “Business Continuing Management Introduction”, and “Secure Software Development Life Cycle Introduction.” The total participants were 144 people, totaling 238.42 hours of training. In order to strengthen employee awareness on business ethics, starting from 2023, all of our full-time, part-time, and contract employees are required to take an “Integrity and Anti-Corruption” course. The goal of this course is to establish an integrity-based management policy and actively discourage dishonest behaviours. We have implemented the course on our internal online learning system so all employees can refer to it at anytime.

## **2.4 Whistle-blowing System**

The whistle-blowing system has been long established for our stakeholders to report any unethical deeds or violations of the regulations or principles (for more details, please refer to “[Whistle-blowing Procedures](#)” on our website). For any received claims, eMemory appoints related personnel to investigate the case. The appointed personnel then report to eMemory and the whistleblower about the handling methods, schedule, and results. The whistleblower and appointed personnel are required to keep the investigation and related information confidential. eMemory is obligated to protect the whistleblower from any possible retaliation or improper treatment. The involved parties that fail to retain confidentiality and are responsible for any public disclosure shall be disciplined according to the related rules. Meanwhile, all employees are obligated to report any misconduct discovered to their immediate supervisors or through the internal Whistle-blowing system. If a violation of the relevant laws or ethical principles was confirmed, eMemory will immediately request the perpetrator to stop the conduct and seek legal proceedings if necessary to protect eMemory’s reputation and rights.

## 2.5 Cyber Security Management

eMemory spares no efforts to ensure the effectiveness and continuity of our information business operations and protect the confidentiality, integrity, and availability of its information assets. The Information Security Committee was established in 2013 to improve information security management. The President serves as the chairman of the committee while the top-level executives are the committee members. Under the governance of the Information Security Committee, there are the InfoSec Strategy Team, InfoSec Performance Evaluation Team, InfoSec Technology Team, and InfoSec Incident Response Center which are responsible for planning and executing information security operations. There were 15 information security related meetings in 2022. The progress and results related to information security were reported to the Chairman regularly. The Audit Office conducts annual audits of information security management operations and reports the results to the Board of Directors.



To strengthen information security management, eMemory implemented ISO 27001 Information Security Management System in 2022. Based on the PDCA (Plan-Do-Check-Action) cycle of ISO 27001, we built the management structure in compliance with information security regulations to protect the confidentiality, integrity, and availability of our information assets. It is our responsibility to establish a sustainable business with strong information security resilience and to keep the corporate proprietary data and personal information of our stakeholders safe and secure. eMemory obtained ISO 27001 certification in April 2023.

Information Security Vision and Mission

**Information Security Vision and Mission**

**Vision : Build eMemory a Safe, Resilient and Sustainable Enterprise**  
**Mission : Improve Cyber-Resilience to Secure Information and Business Operations**



**Information Security Strategic Goals**

**Adopt information  
security policies**

**Increase  
information security  
governance  
maturity**

**Strengthen overall  
security protection**

**Improve information  
security awareness  
and knowledge**

## 2.6 Risk Management

eMemory conducts risk assessments on the material issues identified, followed by related risk management strategies and measures.

Material Issues	Related Risks	Our Approach
<b>Product Quality and Safety</b>	Product quality does not meet the requirements	<ol style="list-style-type: none"> <li>1. Improve product quality to meet customer and industry standards</li> <li>2. Understand customer needs, improve service quality and cooperation satisfaction</li> </ol>
<b>Technology, Research, and Innovation</b>	Research and development do not fit customer needs, market requirements, and innovation standards	Research and develop products and applications that meet the technology, market needs, and applicationsy thorough market research
<b>Customer Relationship Management</b>	Loss of customers	<ol style="list-style-type: none"> <li>1. Regularly review sales figures and project numbers and increase in-depth understanding of customers and improve service quality and satisfaction by studying their organizational structure, focuses, business styles, etc.</li> <li>2. Protect customer privacy and operation condition</li> </ol>
<b>Information Security Management</b>	Data breaches to cause damages to the company and customers	Practice information security management by following the framework of ISO 27001 and implement related policy to secure information assets of the customers and the company
<b>Talent Attraction and Retention</b>	Unable to attract or retain enough talents	<ol style="list-style-type: none"> <li>1. Provide compensation package better than the industry's</li> <li>2. Friendly working environment</li> <li>3. Pleasant corporate culture</li> </ol>
<b>Integrity Management</b>	Management or employees violate company's integrity and have unethical behavior	<ol style="list-style-type: none"> <li>1. The handling procedures and penalty system for inhibiting the Director, manager, employee, etc. providing or accepting improper benefits are clearly defined in the "Ethical Corporate Management Practice Principles". Unethical behaviors are also strictly prohibited. The principles are applied to all including the subsidiaries</li> <li>2. The "Work Rules" states that all employees are required to be honest and not accept bribes of any kind. Other than fulfilling requests from customers on aspects of integrity and social responsibilities, we also ask our major suppliers to sign the "eMemory Supplier Social Responsibility Commitment" and to comply with local laws and regulations implemented in the places their businesses are operated. It is also defined in the "eMemory Supplier Code of</li> </ol>

Material Issues	Related Risks	Our Approach
		Conduct” that there is zero tolerance for any type of bribery, corruption, or other improper transaction, and suppliers should follow fair-trade practices
<b>Regulatory Compliance</b>	Company does not operate in compliant with legal regulations	Comply with government regulations and establish related policies and measures to prevent impacts on operation and financial performance
<b>Training and Development</b>	Talent cultivation and training do not meet the company's development needs	<ol style="list-style-type: none"> <li>1. Provide employees with professional technical training and management training to fulfill the organizational needs and talent development plans</li> <li>2. Establish a healthy promotion system, conduct appraisal meetings semi-annually, and provide the management training program</li> <li>3. Encourage employees with competence and interest in internal promotions to the management team</li> </ol>

## eMemory Climate Change Management Structure

To face possible impacts of climate change, eMemory continues to identify climate-related risks and opportunities in the value chain and plans response measures in accordance with the framework of the Task Force on Climate-related Financial Disclosures (TCFD).

Area	Our Approach
<b>Governance</b>	<p>eMemory has established the “Sustainable Development Practice Principles” and appointed the President’s Office as the dedicated unit for leading sustainable business development. The President reports on the Company’s sustainable development implementation and progress to the Board of Directors annually and on GHG inventory progress quarterly.</p> <p>To ensure thorough implementation of sustainable strategy, the President convenes Management Examination Meeting every six months to review the issues related to the environment, society, and corporate governance which concerned stakeholders. In consideration of the materiality principle, we also establish risk assessments related to the business operation and propose related policies and measures.</p>
<b>Strategy</b>	<p>To face climate-related risks and opportunities, eMemory establishes the “Sustainable Operation Procedure” to internalize corporate social responsibility in our operating strategy and management. It demonstrates our determination on implementing sustainable development in the long run. There are 6 measures as follows:</p> <ol style="list-style-type: none"> <li>1. Increase efficiency in energy consumption and plan to adopt renewable energy to decrease GHG emission during operation</li> <li>2. Achieve Net Zero emission in 2050</li> <li>3. Strengthen strategies to respond to climate-change-related risks and create corresponding competitive advantages</li> <li>4. By using our technology and IPs, customers can decrease production costs and shorten development time, which allows them to decrease carbon emissions and achieve sustainability</li> <li>5. Develop green products for environmental protection and resource reuse</li> <li>6. Comply with environmental protection regulations and laws</li> </ol>
<b>Risk Management</b>	<p>By conducting risk assessment regarding market, policies and legal, technology, reputation, acute and chronic effects, eMemory evaluates risks and opportunities related to climate change and develops corresponding methods to minimize potential impacts.</p>

Area	Our Approach
Metrics and Targets	eMemory operated GHG inventory in 2022 and obtained ISO 14064-1:2018 verification in 2023. We will continue to evaluate and reduce the emissions and establish the Science-Based Targets initiative (SBTi). Our goals are decreasing emissions by 25% in 2030 and 95% in 2050.

#### Climate Change Risks/ Opportunities and Our Approach

Risk/ Opportunity	Type	Issue	Level	Condition Analysis and Our Approach
Transition Risks	Market	<ul style="list-style-type: none"> <li>Changing in demand and supply of products and services, and increased concerns in climate-related risks and opportunities</li> </ul>	Low	<p>Condition analysis: The market is affected by risks caused by natural disasters. In 2021, the blizzard in Texas, USA, greatly affect IDMs, such as Samsung and Texas Instruments, especially the operation of their factories. eMemory provides reliable SIPs to fabless IC designers and is partnered with foundries around the world. Our IPs help customers to shorten production time, and to save efforts and costs switching between foundries.</p> <p>Our approach: We will continue to work with different foundries around the world, strengthening localized semiconductor supply chain to better comply with requirements of different countries, such as USA, Japan, Korea, India, and European countries.</p>
	Reputation	<ul style="list-style-type: none"> <li>Increased requirements in achieving Net Zero emission or decreasing carbon emissions</li> </ul>	Low	<ol style="list-style-type: none"> <li>Short-term goal: Conduct GHG inventory and obtain ISO 14064-1:2018 certification</li> <li>Long-term goal: Evaluate and reduce the emissions and establish the Science-Based Targets initiative (SBTi), decrease emissions by 25% in 2030 and 95% in 2050</li> </ol>

Risk/ Opportunity	Type	Issue	Level	Condition Analysis and Our Approach
				3. Approach: Use LED lighting, regularly inspect and clean air-conditioners, set stable room temperature
	Technology	<ul style="list-style-type: none"> <li>Shifts to low carbon, high performance technology and innovation which may affect technology development planning and resource deployment</li> </ul>	Low	<p>Condition analysis: Based on the concept of More Moore and More than Moore, eMemory's IPs can assist customers improving their product functions and efficiency. For advanced process of FinFET, NeoFuse provides a user-friendly interface and fully integrated OTP IP that minimizes design effort and circuit complexity. It also provides data-storage functions, greater uniformity of programming operations. For Specialty process node, our OTP/MTP products help the development in HV/BCD process nodes, increasing transistor density and reducing power consumption and use of external memory.</p> <p>Our approach: eMemory will continue to develop technology in SONOS, MRAM, and ReRAM to assist customers cutting costs and improving product efficiency.</p>
	Policy and Legal	<ul style="list-style-type: none"> <li>Increased regulations on energy related policies (i.e., Renewable Energy Development Act)</li> </ul>	Low	Evaluate possibility to purchase renewable energy
Physical Risks	Chronic	<ul style="list-style-type: none"> <li>Increased frequency and damage level of strong typhoon</li> <li>Increased frequency of severe rainfall</li> <li>Drought</li> <li>Rising mean temperatures</li> </ul>	Low	<ul style="list-style-type: none"> <li>Decreased amount of regular typhoon, increased amount of extremely strong typhoons and rain</li> <li>After 2000, short-time-delayed heavy rainfall increased, there were 16 out of the top 20 after 2000</li> <li>Uneven wet seasons and dry seasons</li> </ul> <p>According to the report by IPCC in 2021, the global average</p>

Risk/ Opportunity	Type	Issue	Level	Condition Analysis and Our Approach
				temperature rises by 1.5 degrees Celsius, and the frequency of extreme weather events will increase.
	Acute	<ul style="list-style-type: none"> <li>Decreased GHG, increased cost (ENClimate Change Response Act)</li> </ul>	Low	<ol style="list-style-type: none"> <li>Strengthen climate resilience to decrease possibility of interruption of operation and prevent damages</li> <li>Conserve power usage and cut down cost</li> </ol>
<b>Opportunities</b>	Energy Source	Participation in green energy market	Low	With the rise of the green energy industry, wind power, solar energy, and energy storage equipment are the future business opportunities. It is necessary to pay attention to any opportunities related to semiconductors and NVM.
	Markets	Increased needs for low-carbon products	Medium	eMemory will focus on developing products or technologies that are low-power consumption to meet the market needs in power-saving and carbon reduction.
	Resource Efficiency	Shift to Amoeba Organization	Medium	In consideration of the current knowledge inheritance method and BKM design method, each design department should have its designated project type. However, such an approach may lead to idle personnel due to differences in project load, requirements, and expertise required.
	Resource Efficiency	Focus on development of NVM in advanced nodes	Medium	Smart households, smart cars, and smart factories will be the future development goals of society. Implementing NVM IPs in the applications, such as MCU and PMIC allows precise control of the power consumption and minimizes power loss.
	Products and Services	High integration and low power consumption Unified Hard Macro IPs	High	Developing high-integrated IP that could provide different functions not only is innovative but also can open a brand-new

Risk/ Opportunity	Type	Issue	Level	Condition Analysis and Our Approach
				market.
	Products and Services	RFID and Electronic Shelf Label (ESL)	Low	Both RFID and ESL technologies help to reduce the use of paper and replace traditional information transmissions methods, such as barcodes, labels, and billboards. Both technologies are still growing rapidly and are expected to reduce the resources and costs needed traditionally once the market penetration rate increases. ESL can further replace the usage of LCD/OLED/LED, providing users with a display solution that consumes no power at all when static. eMemory's IPs are widely used in RFID chips and ESL Driver ICs, helping designers to develop smaller, more efficient, and more competitive products. They also shorten the product time-to-market and further proliferate the acceptance of these technologies
	Products and Services	Power Management ICs	Low	PMIC has diverse functions and can be applied to various end-products for various purposes. In some applications, the integrated Multi-Channel PMIC helps to reduce device size. eMemory's eNVM IPs assist PMIC design companies to develop simple and efficient products. Sometimes, the power management solution is composed of multiple chips, and some chips are used to improve the power conversion efficiency and reduce unnecessary power loss. eMemory's eNVM IP can be embedded in these solutions for parameter storage, helping customers design better products. Special applications, such as USB-Type C, replaced many different charging interfaces,

Risk/ Opportunity	Type	Issue	Level	Condition Analysis and Our Approach
				<p>extending the product life of charging equipment. Users do not have to purchase different equipment for different devices which greatly increases convenience and reduces waste. eMemory's IPs are also widely used in USB-related controllers, providing IC suppliers with effective and reliable parameter storage solutions while speeding up product development and penetration.</p> <p>Digital power is the trend for power management. it is necessary to integrate with MCU (Micro-Controller unit) to perform functions independently, such as storing parameters, codes, algorithms, and cryptographies. provide intelligent power management solutions.</p> <p>Power digitalization has further increased the demand for chip development in more advanced process nodes. eMemory has been working closely with foundries around the world which is helpful for PMIC technology development.</p>
	Products and Services	Actuator and sensor	Low	<p>Actuators and sensors are the largest analog chip market other than PMIC. Actuators, such as Motor Driver, are similar to PMIC in design to a certain extent. Thus, the use of eNVM also helps to improve the size, stability, power consumption, reliability, and other aspects of a motor design. Motors also need to be digitalized which requires more advanced algorithms for better performance.</p> <p>Sensors play an indispensable role in automation, data collection, etc. It is even required in biometrics, such as fingerprints, for data</p>

Risk/ Opportunity	Type	Issue	Level	Condition Analysis and Our Approach
				security. eMemory's IPs are very helpful for the design of various sensors and store various configurations required for the use of sensors. Sensors generally have extremely high accuracy requirements. eNVM can be used to store circuit trimming information to improve the accuracy of chip output/input of electrical signals which can be used in various automation and intelligent solutions.
	Resilience	Strengthened data redundancy	Low	eMemory does not manufacture tangible products and is in a low-carbon emissions industry. During COVID-19, we established a highly flexible WFH model and the corresponding information security protection system. We already possess great resilience to climate change and will continue to improve data redundancy and sustainable operation in the future.

## 2.7 Stakeholder Management

eMemory engages with stakeholders through a variety of communication channels that touch on important issues.

Stakeholders	Importance	Communication Channel	Frequency	Issues	Results
Employees	Employees are the most important asset of eMemory. With continuous innovation and efforts in IP design, eMemory has become a global technology	<ul style="list-style-type: none"> <li>Performance assessment</li> <li>Feedback mailbox</li> </ul>	<ul style="list-style-type: none"> <li>Semi-annually</li> <li>24/7</li> <li>Quarterly</li> </ul>	<ul style="list-style-type: none"> <li>Ethics and regulatory compliance</li> <li>Talent attraction and retention</li> </ul>	<ul style="list-style-type: none"> <li>2 performance assessments</li> <li>4 quarterly employee meetings</li> <li>4,913 hours of employee training</li> </ul>

Stakeholders	Importance	Communication Channel	Frequency	Issues	Results
	leader.	<ul style="list-style-type: none"> <li>Quarterly employee meeting</li> </ul>		<ul style="list-style-type: none"> <li>Talent cultivation and development</li> </ul>	
<b>Shareholders and Investors</b>	Shareholders and investors are the driving force behind eMemory. Through capital investment and participation in corporate governance, our shareholders and investors help us go further on the road of sustainable development.	<ul style="list-style-type: none"> <li>Annual general shareholders' meeting</li> <li>Quarterly investor conferences</li> <li>Investor meetings</li> <li>Investor relation contact window</li> </ul>	<ul style="list-style-type: none"> <li>Annually</li> <li>Quarterly</li> <li>According to demand</li> <li>Any time</li> </ul>	<ul style="list-style-type: none"> <li>Corporate governance</li> <li>Ethics and regulatory compliance</li> <li>Customers and services</li> <li>Technology development</li> <li>Financial performance</li> <li>Stock price</li> <li>ESG execution</li> </ul>	<ul style="list-style-type: none"> <li>Annual general shareholders' meeting</li> <li>Quarterly investor conferences</li> <li>Attended 27 external investor conferences</li> <li>Selected as "MSCI Taiwan Index" constituents</li> </ul>
<b>Customers</b>	Customers are our best strategic partners. Adhering the customer-oriented spirit, eMemory develops various IPs and provides professional services to assist our customers in successful product development.	<ul style="list-style-type: none"> <li>Designated customer service team</li> <li>Customer complaint channels</li> </ul>	<ul style="list-style-type: none"> <li>Daily</li> <li>Annually</li> </ul>	<ul style="list-style-type: none"> <li>Technology innovation</li> <li>Customer service</li> <li>Brand value</li> <li>Information confidentiality</li> </ul>	<ul style="list-style-type: none"> <li>The average customer satisfaction score was 97.11 out of 100 in 2022</li> <li>Received TSMC's IP Partner Award for 13 consecutive years</li> </ul>

Stakeholders	Importance	Communication Channel	Frequency	Issues	Results
		<ul style="list-style-type: none"> <li>Customer satisfaction survey</li> </ul>			
<b>Suppliers</b>	Suppliers are eMemory's crucial partners, providing us with excellent products and support. Because of the close collaboration with our suppliers, our IPs can be evaluated and pass various verification tests on schedule.	<ul style="list-style-type: none"> <li>Supplier audit</li> </ul>	<ul style="list-style-type: none"> <li>Annually</li> </ul>	<ul style="list-style-type: none"> <li>Supply chain sustainability management</li> </ul>	<ul style="list-style-type: none"> <li>Distributed 27 "Supplier Checking List" with 100% response rate</li> </ul>
<b>Government</b>	The government is the bridge for eMemory to enter the stock exchange market. Investors around the world can learn about us through the platforms built by the government.	<ul style="list-style-type: none"> <li>MOPS</li> <li>Conferences</li> </ul>	<ul style="list-style-type: none"> <li>Any time</li> <li>Aperiodically</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory compliance</li> <li>Corporate governance</li> <li>Corporate social responsibility</li> <li>Ethics and business integrity</li> </ul>	<ul style="list-style-type: none"> <li>Ranked as top 5% in the corporate governance evaluation system</li> <li>Selected as "TPEX Corporate Governance Index", "TPEX 50 Index", "TPEX 200 Index", "TPEX Compensation Index", "TPEX RGA Quality 50 Index", "TPEX Semiconductor Leaders Total Return Index", "TIP TPEX ESG Index", "TIP TPEX ESG Growth Total Return Index", "TIP TPEX ESG ITE Total Return Index", and "TIP TPEX ESG 30 Index" constituents</li> </ul>

## Environmental Sustainability



Environmental protection is one of the most important parts of corporate sustainability. eMemory authorizes pollution-free silicon IPs and does not manufacture tangible products. We are committed to not preventing operations or sales in or near biodiversity sites of national importance. We will also integrate environmental protection into our policies and daily operations to maintain sustainable corporate development.

### 3.1 Environmental Management

Taking eMemory's non-polluting nature, we do not need general environmental management system certification. We abide by relevant environmental protection laws and regulations, reduce resource waste, and implement resource recycling and reuse. Based on the carbon reduction target and following the international standard ISO 14064-1:2018, we will complete the 2022 greenhouse gas inventory work. Taking 2022 as the base year, the greenhouse gas inventory results will be disclosed regularly, and the carbon reduction performance will be reviewed yearly. On trend with energy saving, carbon reduction and waste reduction, eMemory has actively implemented energy saving and waste reduction measures and plans to purchase renewable energy, which will be implemented yearly.



### 3.1.1 Power and CO2 Emissions Management

In 2022, eMemory emitted a total of 1,696.612 tons of CO<sub>2</sub>e, including 15.6618 tons of CO<sub>2</sub>e for category 1, 1,653.5073 tons of CO<sub>2</sub>e for category 2, 19.8197 tons of CO<sub>2</sub>e for category 3, 1.5041 tons of CO<sub>2</sub>e for category 4, and 6.1194 tons of CO<sub>2</sub>e for category 5. The energy consumption inside and outside the organization totals 3,240,654.2 degrees (11,666,355 million joules) and 10,371.9 degrees (37,338 million joules). We selected turnover as an organization-specific metric and calculated the energy intensity ratio as 0.5274 (tons of CO<sub>2</sub>e/million turnover). We hope to reduce the organization's energy intensity by 1% in the next three years.

Environmental Issues	Greenhouse Gas Inventory				
Category	Category 1	Category 2	Category 3	Category 4	Category 5
Subtotal (ton co2e/year)	15.6618	1,653.5073	19.8197	1.5041	6.1194
Intensity	Total emissions 1,696.612 ton CO <sub>2</sub> e/year · energy intensity 0.5274 ton CO <sub>2</sub> e/million turnover				
Management, strategy and short-term goals	<ol style="list-style-type: none"> <li>1. Complete the 2022 ISO14064-1 greenhouse gas inventory and obtain third-party verification.</li> <li>2. Replace LED lighting and improve air conditioning system to reduce energy consumption.</li> <li>3. Review the progress for the reduction of emissions every year.</li> </ol>				

### 3.1.2 Water and Waste Management

We use water in our daily operations for food services and sanitation, so the risk of operations being affected by water resources is relatively low. The main water sources are the Touqian River and

Baoshan Reservoir in Hsinchu. To implement sustainable management of water resources and transparent disclosure, eMemory's total water consumption in 2022 is 5,780.4 degrees, and the water intensity will be 1.7970 degrees/million turnover. We hope to reduce water intensity by 1% in the next three years. Through daily management and inspections, we explore feasible water-saving measures, continue to promote various water-saving plans, implement water-saving results, and stipulate the act of "promoting correct water use concepts, posting water-saving slogans near water-using equipment, and developing water-saving habits" and other method objectives, we added new water-saving facilities in 2023. The Taiyuan Science and Technology Park where eMemory is located, has a sewage recycling device, and the recovered sewage is mainly used to irrigate the gardens around the science and technology park. The domestic wastewater is discharged to domestic sewage treatment facilities in Taiyuan Park and then released into the water without significant impact on the water.

Because eMemory is not engaged in physical production and manufacturing, we will not discharge toxic substances such as hazardous chemicals, packaging materials and electronic waste. The company's waste sources mainly come from domestic waste; no harmful waste is produced. The waste is divided into general garbage and recycling. The waste is collected by employees in the temporary waste storage area and transported to a qualified waste management plant. In 2022, the total weight of domestic waste for eMemory's Zhubei Office was 11.288 metric tons; the total amount of non-hazardous waste treated was 4.176 metric tons; the total amount of off-site transfer and disposal was 7.112 metric tons. By setting the management strategy and goals of "paperless internal company forms, double-sided printing for publicity, and waste reduction actions", effective and reliable source reduction is achieved.

Environmental Issues	Water Resource Management	
Intensity	The total water consumption is 5,780.3610 degrees/year, and the water intensity is 1.7970 degrees/million turnover.	
Management strategies, methods and objectives	Propagate the correct concept of water use, post water-saving slogans near water-using equipment and develop the water-saving habit.	
Environmental Issues	Waste Management	
Category	General Waste	Resource Garbage
Subtotal (Metric tons/year)	4.176	7.112
Management strategies, methods and objectives	The company implements waste reduction measures; internal forms are paperless and double-sided.	

### 3.1.3 Energy Saving and Waste Reduction

We are actively implementing energy-saving strategies, such as replacing LED lights yearly, managing air-conditioning equipment, promoting the electronic form, reducing the use of paper, and allowing

employees to implement energy saving and reduction in the working environment heavily.

### 3.2 Clean Tech for Green Product Development



eMemory Technology is a silicon intellectual property company that does not engage in physical production and manufacturing, so there is no impact on the health and safety of customers. In 2022, eMemory did not violate health and safety regulations related to products and services. We have established a quality management system that meets international standards. Through the innovation of core technology, it simplifies the design of chips, preventing the traditional complicated process of non-volatile memory so that green can be transformed from a responsibility to an opportunity. Our innovative clean technology extends the spirit of environmental protection infinitely. We are committed to meeting the industry's demand for logic process non-volatile memory technology and provide the best solutions for foundries, integrated device manufacturers and professional chip design companies.

#### **Clean Technology Development Strategy**

eMemory is committed to developing non-volatile memory intellectual property (IP), which is compatible with logic processes and can be embedded in various semiconductor foundries. We offer qualified embedded non-volatile memory silicon intellectual property to fabless IC design houses, integrated device manufacturers (IDMs), and semiconductor foundries for use in parameter setting, trimming, and yield improvement.

Our non-volatile memory silicon IP's are clean technology that provides non-volatile memory

functionality in foundry's existing logic processes without the need for additional mask layers and processes. Previously, customers who need to use embedded memory functions in logic processes are required to add additional mask layers and adjust for special processes to accommodate both logic and memory components. A better way to understand this is taking the automotive industry for example. The conventional solution was a gasoline-powered car, but switching to eMemory's solution is equivalent to switching to an electric vehicle using clean technology.

Our ongoing strategy involves developing silicon IPs for more advanced processes and expanding the deployment of existing silicon IP in multiple semiconductor foundries, making it easier for customers to access and use eMemory's clean technology, logic-compatible embedded non-volatile memory silicon IP.

As of 2022, we have developed and qualified silicon IPs down to the 7nm process, with over 450 platforms on 8-inch processes and over 240 platforms on 12-inch processes. The total number qualified IPs have exceeded 2,300.

We are dedicated to the development of embedded non-volatile memory design, focusing on OTP (One-Time Programmable Device), MTP (Multiple-Times Programmable Device), and PUF (Physical Unclonable Function) technologies. We have successfully licensed and qualified these technologies in the processes of major foundries.

eMemory plans to continue pushing our core technologies forward in advanced processes, expanding into new-generation logic process technologies from 12nm down to 3nm. Horizontally, in line with TSMC's "More-than-Moore" strategy, we extend to special process technologies with high value-add on mature process platforms, actively developing memory IPs for high voltage, MEMS, BCD, image sensors, analog, SOI, and other special applications. This broadens the adoption of embedded non-volatile memory on various platforms to meet diverse customer demands, providing a one-stop shopping solution for related silicon IPs. Additionally, in emerging memory technologies, we are actively investing in R&D resources for platforms below 40nm to expand our next-generation memory silicon IP.

The specific plans are as follows:

1. Increase foundry penetration rate.
2. Extend the existing NeoBit customer base, collaborate with customers to expand new product markets for NeoFuse, NeoPUF, NeoEE, and NeoMTP IPs in various applications.
3. Accelerate the development and promotion of new technologies NeoFuse, NeoPUF, and NeoMTP.
4. Collaborate with partners on ReRAM and MRAM development.

### **Continued Investment in Clean Technology Development**

eMemory is developing logic-compatible embedded non-volatile memory in a green processes within semiconductor foundries. This process reduces the number of mask layers by 11 layers, saving approximately 38% in costs compared to original processes. Currently, we have invested in and developed silicon IPs in green processes ranging from 0.18um to 80nm at various nodes. We also qualified and developed more than 300 green IPs across 11 semiconductor foundries worldwide.

eMemory embedded NeoFlash IP requires only two additional mask layers to produce embedded flash memory functions in logic-compatible processes. Our NeoFlash offers a cost advantage compared to other embedded flash memory solutions in the market. Compared to other embedded flash memories in the market, which typically require an additional 11-15 masks in the process, NeoFlash can save approximately 30-50% in costs. This significantly reduces customer costs and energing consumption, contributing to global energy conservation and carbon reduction efforts. Furthermore, we have invested in and developed NeoFlash IPs in processes ranging from 0.35um to 40nm at various nodes. Approximately 300,000 8-inch equivalent wafers with NeoFlahs IPs across six semiconductor foundries globally.

### **Clean Technology Achievements**

With the advancement of the semiconductor manufacturing process and the increase of IC design complexity, Intellectual Property can improve the efficiency of IC design process and shorten the development time. eMemory continues to develop new technologies toward advanced semiconductor process nodes, which reduce the chip's area and minimize power consumption. Chips embedded with our silicon intellectual property have lower average power consumption per million chips, providing the most advanced, energy-saving and environmentally friendly products.

Display Driver IC (DDI) and Power Management IC (PMIC) are currently the two applications with the largest shipments among various products embedded with our silicon intellectual property. Taking DDI as an example, its main demand covers 0.35 micro HV to 28nm HV. Each generation of HV process saves 50%-70% of power compared to the previous generation process. The power consumption saving drops to about 30% - 50% for more advanced the process. Based on a conservative estimate of power consumption from 2021 to 2022, a DDI chip embedded with eMemory IPs will save an average of 3.7% due to proportion change in each generation of HV process. According to the statistics of main products in 2022, the reduced electricity of end products estimates to be 240 million kilowatt-hours per year, equivalent to 880 million KJ, and about 122,000 tons of carbon dioxide emissions, which equates to 270 New York Central Parks' carbon sequestration.

In addition, embedding eMemory's silicon intellectual property can improve chip stability and yield, reducing customer resource consumption during chip manufacturing. In chip manufacturing and

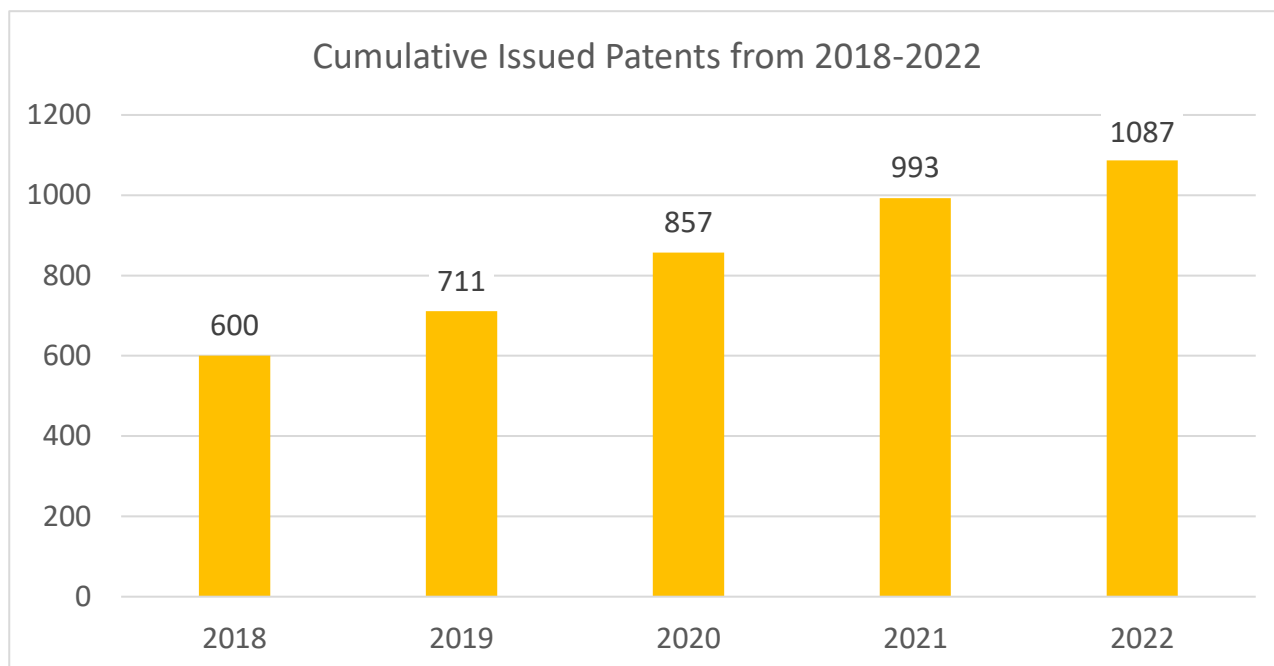
packaging, our IPs can enable the designer to calibrate chips for required specifications, lowering costs from remanufacturing chips. Based on our wafer shipments in 2022, our savings total nearly NT\$1.7 billion in manufacturing costs, and the reduced waste of resources is 320 million kilowatt-hours of electricity, which is roughly 1.1 trillion KJ and 1.5 million cubic meters of water. It is equivalent to the carbon adsorption capacity of nearly 350 New York Central Park parks and the water consumption of 586 Olympic-standard swimming pools.

Our Physical Unclonable Function-based solutions (PUF) created by our subsidiary, PUFsecurity, can provide each chip or product with a unique chip fingerprint and a root of trust function. The product has comprehensive hardware security for protection from design and manufacture to the end of the entire product cycle, preventing the product from becoming electronic waste due to a lack of security protection. In addition, at the end of the electronic product cycle, the whereabouts and usage status of the product can be tracked through chip fingerprints, ensuring that the product can be recycled correctly and further preventing information security loopholes caused by electronic waste.

### 3.3 Patent Management



To formulate patent strategies and plans of patent portfolio based on the company's business objective, a "Patent Strategy Committee" and a "Patent Examination Board" are established. Through the operation of the patent management mentioned above, eMemory attaches great importance to innovative research and IP protection. The company continues to enhance both the quantity and quality of IPs, to create economic value and strengthen competitive advantage. In the meantime, the Patent Strategy Committee keeps emphasizing the need for power consumption reduction for new technology development and circuitry design technique. With that, we will be able to provide power-efficient IPs facilitating low power consumption in customer products.

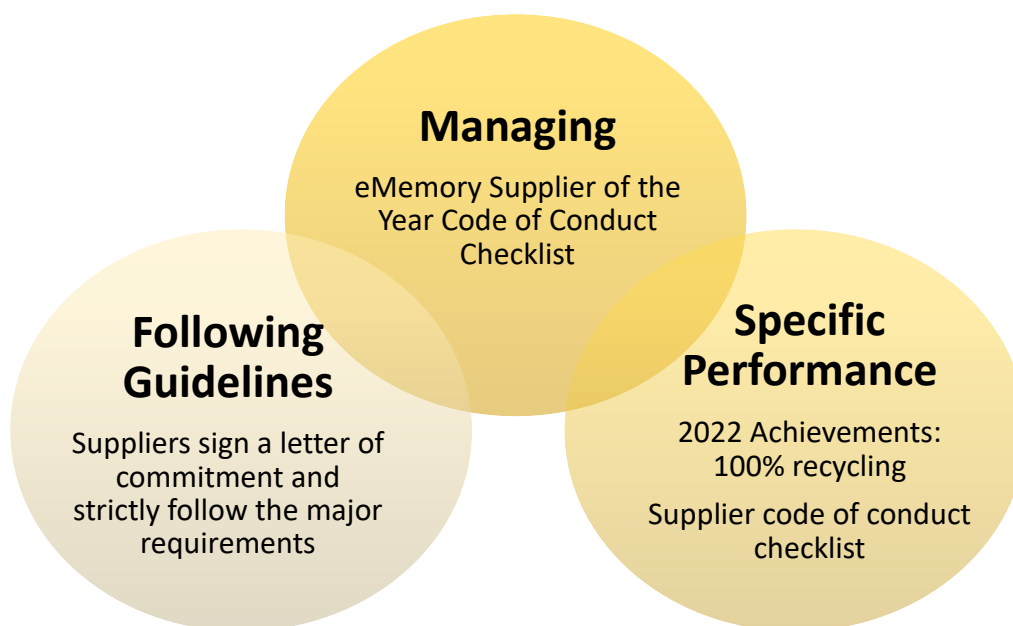


The patent portfolio developed by eMemory and our subsidiary PUFsecurity have spread all over Taiwan, United States, China, Japan, and Europe. By 2022, the number of worldwide patent applications has reached above 1,200, and the average number of patent applications per employee is 3.9. There has also been a significant rise in the number of patents issued, with a growth rate of around 81% being achieved between 2018 and 2022.

In order to encourage innovation among employees, eMemory sets up the 'Patent Award' and the 'Golden Brain Award' to reward inventors with top-ranking numbers of issued patents and patent applications. Moreover, eMemory set up the 'New Brain Award' to motivate junior employees in applying for patents. Other than the annual awards mentioned above, events such as the "Innovation Competition" and patent training courses are held occasionally, to enrich employees' patent knowledge and to imprint the mindset of "every idea matters!"

In addition, eMemory has been ranked as "The Top 50 TWSE/GTSM Listed Companies with Most Valuable U.S. Patents" according to the cooperatives evaluation result by Institute for Information Industry and Ocean Tomo in 2013, and has received the "National Industrial Innovation Award" in 2019. With a higher honor, eMemory has won the Gold Medal Award of the "National Invention and Creation" twice in 2005 and 2020, and the Contribution Award once for the same in 2008.

### 3.4 Supply Chain Management



We adhere to local procurement rules and are working to increase local supply opportunities for economic development. Taiwanese companies make up 48% of our suppliers, which includes 28 total companies.

To maintain long-term sustainability, eMemory also developed an "[eMemory Supplier Code of Conduct](#)" to ensure our suppliers have a safe working environment, respect employees, and abide by ethical conduct. In addition to requiring suppliers to comply with this Code, major suppliers must sign an "eMemory Supplier Social Responsibility Commitment" form and abide by the laws and regulations of the countries and regions where it operates. This means that the supplier agrees to abide by the Code, which prohibits the act of and acceptance of bribery and corruption of any kind and abides by fair trade and competition standards. We understand and take action to support the Responsible Business Alliance's statement on the prohibition of conflict minerals. We have declared a policy on the prohibition of conflict minerals in the sustainability section of our company's official website. Both our company and our suppliers are expected to adhere to this policy statement.

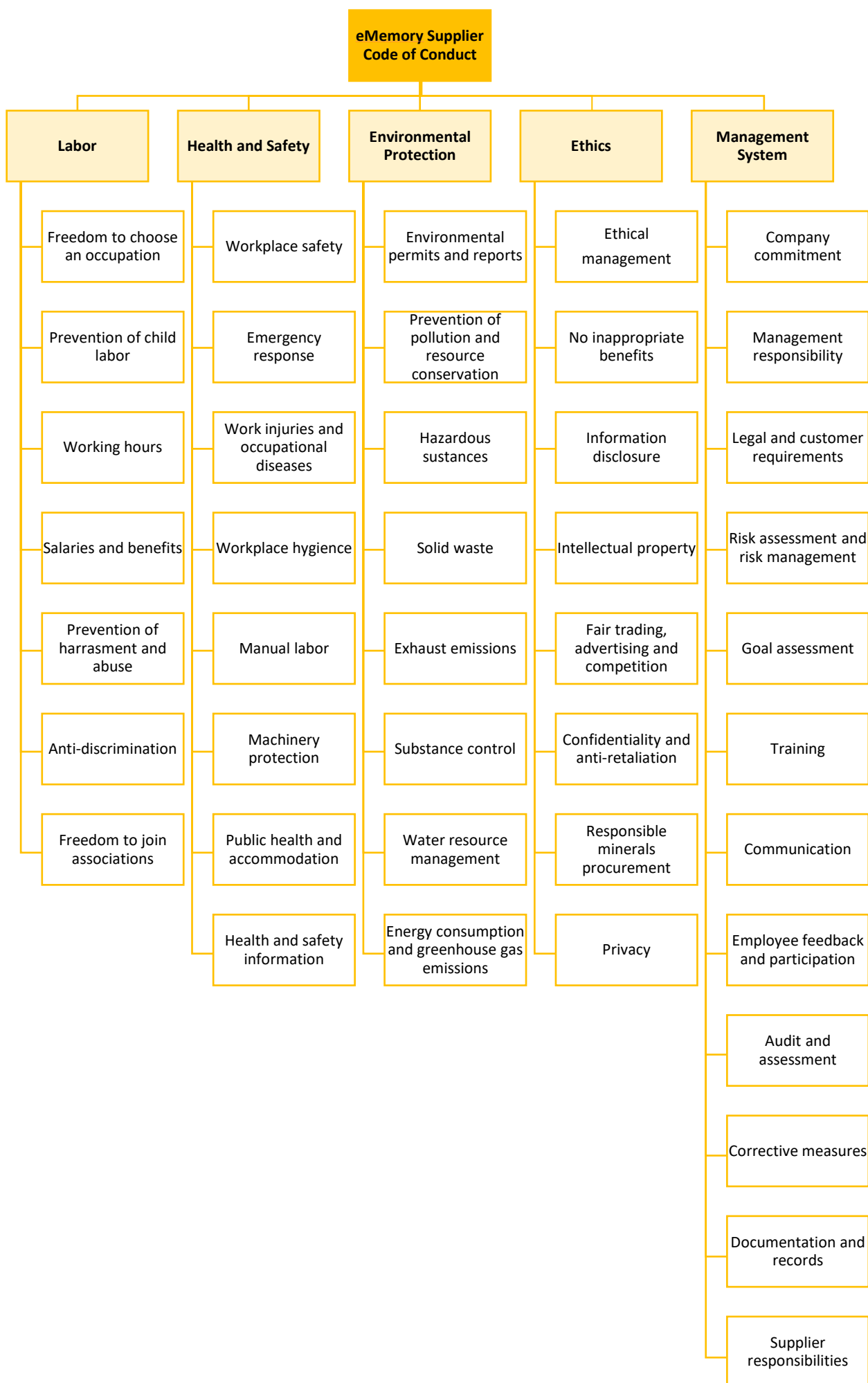
At the same time, we must abide by the laws and regulations of the countries and regions in which we operate. The "eMemory Supplier Code of Conduct" provisions use Responsible Business Alliance (RBA) and The UN Guiding Principles on Business and Human Rights as a blueprint. We will also update our Code of Conduct for our suppliers when each version is updated and released.

Furthermore, the downstream suppliers, contractors, and other service providers of our suppliers are also encouraged to adopt the "eMemory Supplier Code of Conduct". The supplier's compliance with this Code will be one of our considerations when making purchasing decisions. We will promote

continuous improvement through close cooperation, communication, audit and follow-up evaluation with our suppliers. We also require suppliers to do self-inspection according to our [Supplier Code of Conduct Checklist](#), which includes five aspects: labor, health and safety, environmental protection, business ethics, and requirements for the management system. A total of 43 items must be checked off, such as environmental protection, safety and hygiene, sustainable supply chain management, and responsible sourcing of minerals. If suppliers have potential risks, they will need to demonstrate improvement.

In 2022, 27 of our Code of Conduct checklists were completed and returned from our suppliers. The return rate was 100%, the same as in previous years, exceeding our target by 80%. After confirming the checklist, we did not identify significant actual and potential adverse environmental and social impacts in the supply chain. We saw no violation or considerable risk of workers, no use of child labor and young workers to engage in dangerous work, no Human rights incidents such as forced or compulsory labor, and no use conflict minerals. The checklist is used for the sustainable management of suppliers, and on-site audits are carried out when necessary to ensure that the supply chain complies with corporate social responsibility and sustainable conditions.

In order to effectively manage the sustainability risks of our suppliers, in 2022, we conducted an ESG audit and responsible investigation of conflict minerals (in written, video, or on-site format) for one key supplier.



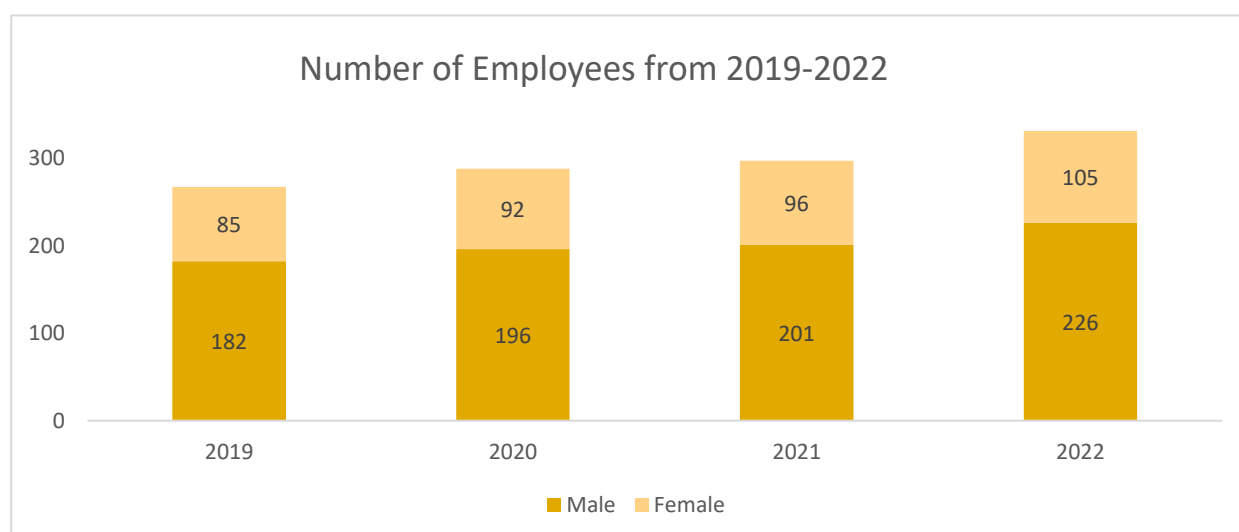
## People



As a leading IP technology developer and provider, employees are eMemory's most valued asset. From recruitment to retirement, training to travelling programs, eMemory supports and provides opportunities for our employees to grow, innovate, and maintain a healthy work-life balance from day one.

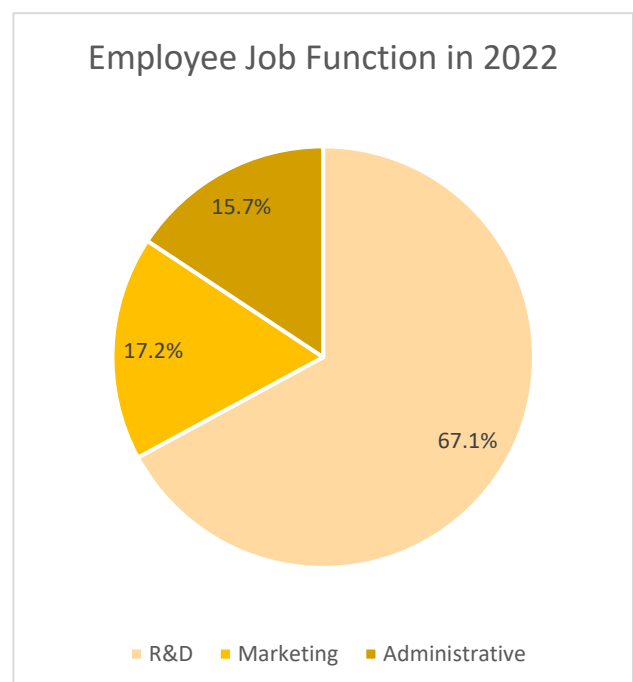
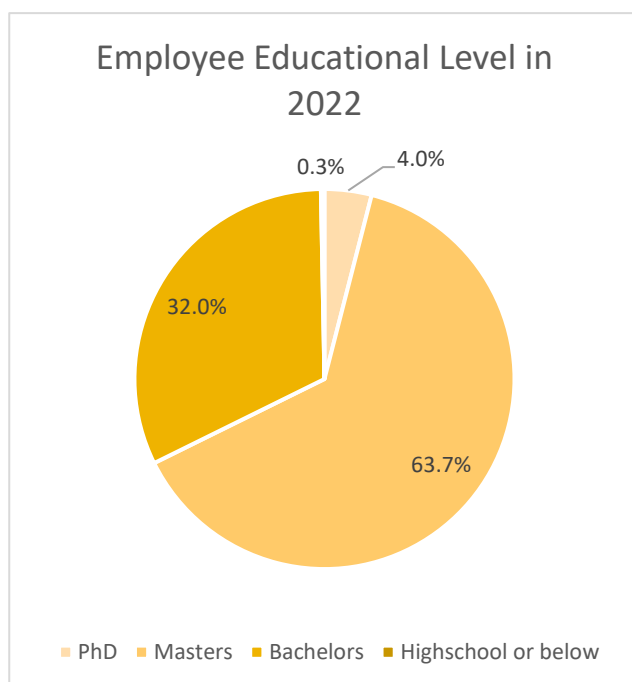
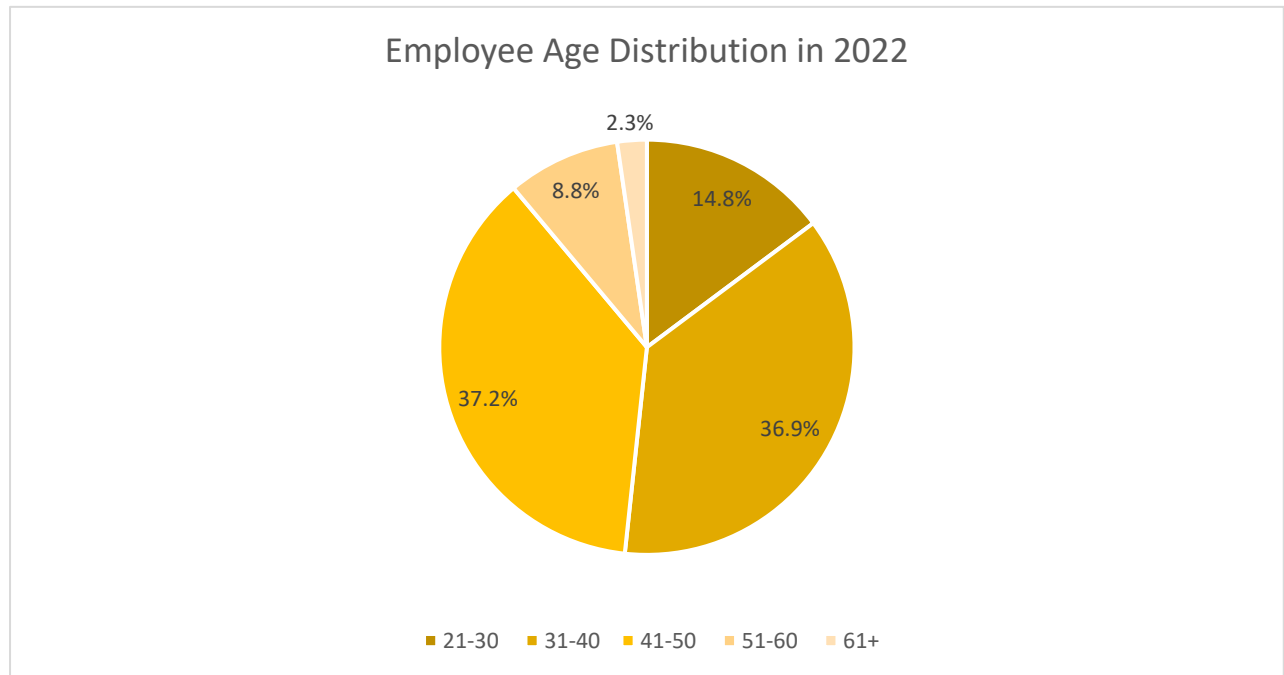
### 4.1 Human Resources

In 2022, the total number of employees was 331, with 68.3% males and 31.7% females. The gender ratio has been relatively steady for the past few years because of the nature of the semiconductor industry in Taiwan. eMemory continues to recruit great talents regardless of gender, sexuality, race, class, age, marital status, language, religion, political party, place of origin, place of birth, appearance, facial features, or disability.



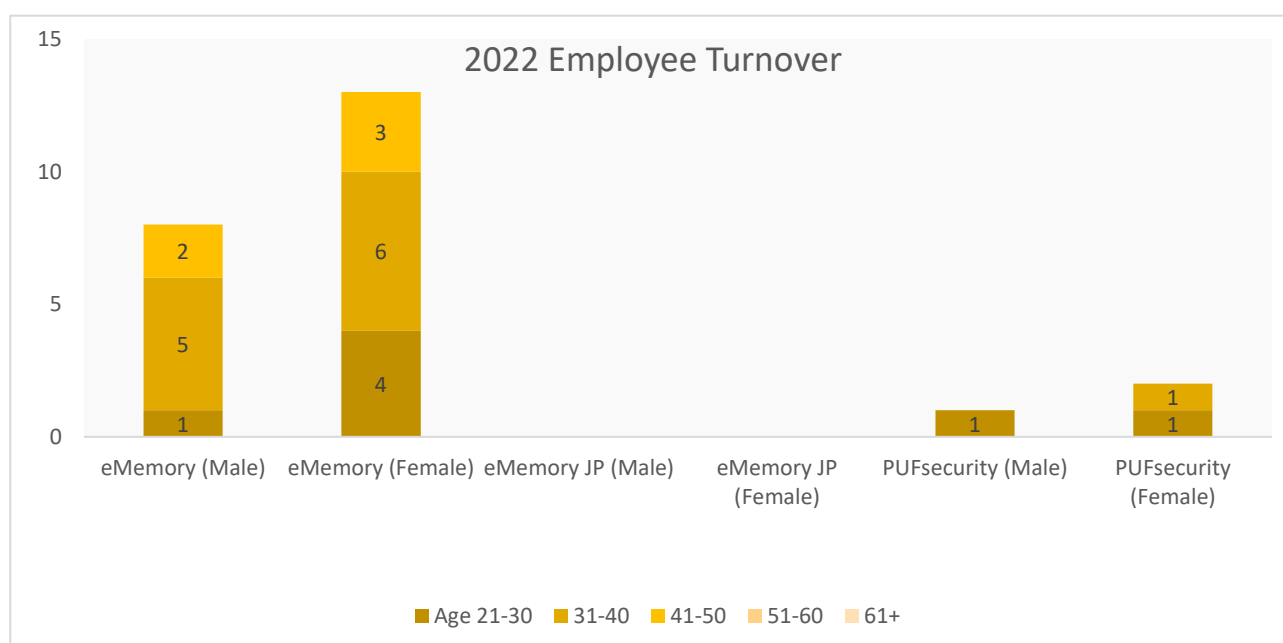
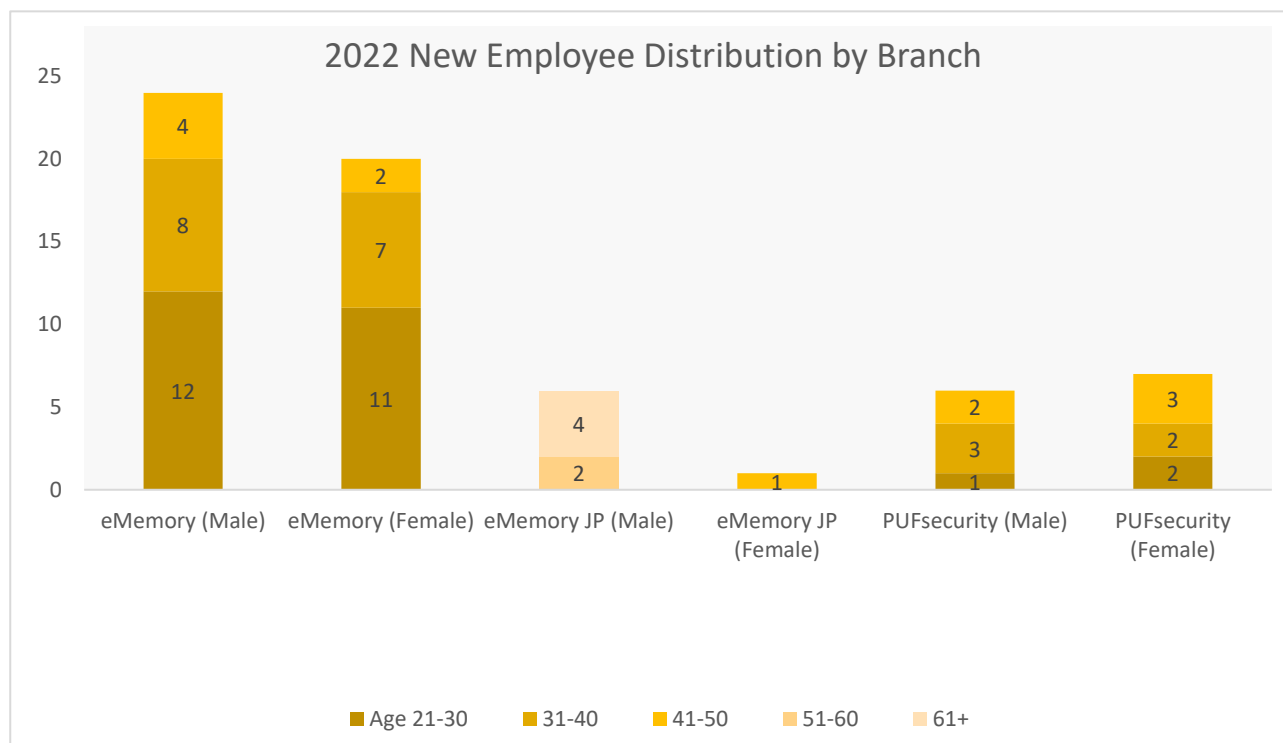
The average age of our employees is 40 years old. More specifically, employees aged between 31 to 40 years old are our majority, taking 37.2% of the total employees. Age 41-50 is our second largest group representing 36.9% of the total employees, 14.8% aged between 21 and 30, 8.8% aged between 51 and 60, and 2.3% aged above 60.

Regarding educational level, around 63.7% of the total employees have their Master's degrees, 32.0% have their Bachelor's degrees, and 4.0% have their Doctoral degrees.



#### 4.1.1 New Hire and Turnover

In 2021, eMemory had an overall turnover rate of 7.25% and a new hire turnover rate of 1.56%. Sixty-four new talents joined us in 2022, with 56.25% of males and 43.75% of females.



In order to drive our growth momentum, eMemory recruits talent through various channels, including recruitment platforms, campus recruitment, and internship programs. We hope to cultivate a sustainable talent resource through internship programs and cooperation with other

institutions to attract more young talents and establish a more distinctive presence in the academic circle. Every year, we invite students from key schools to participate in the internship program as we attach great importance to the opportunities for cooperation between enterprises and schools.

#### 4.1.2 Diversity and Inclusion

In 2022, eMemory will be disclosed by gender, region and employment category. Among them, eMemory had three foreign employees (excluding one ), and seven overseas employees (Japan). To prevent foreign and expatriate employees from facing possible risks such as human rights risks of conflicts due to different cultures, we ensure that labor policies comply with domestic and foreign human rights conventions and local government regulations.

eMemory Technology	Employment Contract	Employment Type	eMemory Taiwan			eMemory Japan		
			Male	Female	Total	Male	Female	Total
	Full-time	Full-time	194	93	287	6	1	7
		Part-time	0	0	0	0	0	0
	Part-time	Full-time	3	1	4	0	0	0
		Part-time	0	0	0	0	0	0
PUFsecurity	Employment Contract	Employment Type	PUFsecurity Taiwan			PUFsecurity USA		
			Male	Female	Total	Male	Female	Total
	Full-time	Full-time	25	11	36	1	0	1
		Part-time	0	0	0	0	0	0
	Part-time	Full-time	0	0	0	0	0	0
		Part-time	0	0	0	0	0	0

Taking Taiwan, our operating base where the number of employees accounts for a high proportion of the total number of employees, the proportion of senior management employing local directors (including) is 100%. This locality is by the "nationality" or "permanent residence permit" of the country.

#### 4.2 Training and Development

Having innovation as one of our core values, eMemory provides our employees with continuous and comprehensive training and learning opportunities. Technical and non-technical training are available for employees of all levels and functions to maintain the innovation momentum.

Type		Training Time (hour)
Job Function	R&D	19.02
	Non-R&D	16.33
Gender	Male	20.14
	Female	12.94

In 2022, the total staff training time was 4,912.5 hours, equating to an average of 17.22 hours received by each employee. This data demonstrates a good level of enthusiasm from our staff in the further advancement of their skills.

#### 4.2.1 New Hire Training

Training Program	Frequency	Attendees	Total Hours
New Hire Training	2	91	431.5
Professional Training	259	1,323	3,405.6
Management Training	6	31	47.4
General Training	38	475	1,028.0
<b>Total</b>	<b>305</b>	<b>1,920</b>	<b>4,912.5</b>

For new hires to better understand the company, eMemory develops comprehensive training programs for our full-time and part-time employees and interns. On the first day, a general orientation is given to each new hire, introducing the working environment, basic policy and procedures, benefits and rights. New hires will later attend a one-day training provided by the executives. This training focuses on delivering the company's core values, functions, and responsibilities of each division and common corporate languages so that the new employees can learn about the firm and build a sense of inclusiveness.

In addition, new employees will participate in training related to human rights protection, mainly discussing issues related to human rights protection and workplace safety. In 2022, we conducted 80 hours in employee human rights protection-related training.

#### 4.2.2 Diversified Learning

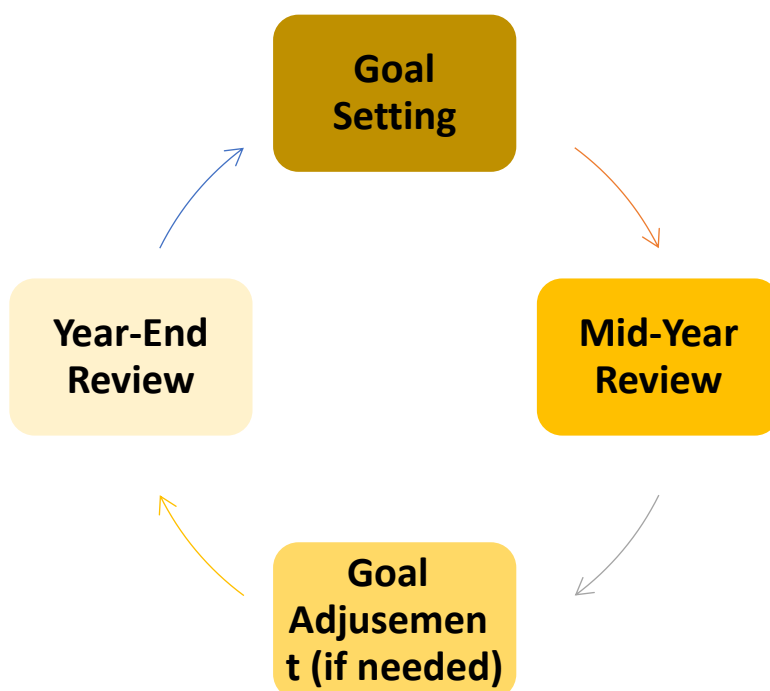


eMemory spares no effort in the cultivation and development of talents. Although the pandemic in 2022 led to employees working from home in first half of the year, we still encouraged our

employees to uphold the frequency and quality of our internal training programs by utilizing the e-learning system to deliver professional knowledge-sharing sessions, Business English courses, health and wellness workshops, and so on. Employees can develop the expertise for their profession, as well as achieve improvement in other domains. eMemory also focuses on enhancing and encouraging the diverse capabilities of our employees. We established long-term collaboration plans with educational institutions such as the Tze-Chiang Foundation of Science and Technology, the Accounting Research and Development Foundation, the Institute of Internal Auditors-Chinese Taiwan, and the Chinese Personnel Executive Association to provide training resources outside the company. In addition, business English courses and health and wellness workshops, are all optional resources for employees to utilize. This allows employees to not only enhance their professional skills but also cultivate additional knowledge and abilities beyond their work hours.

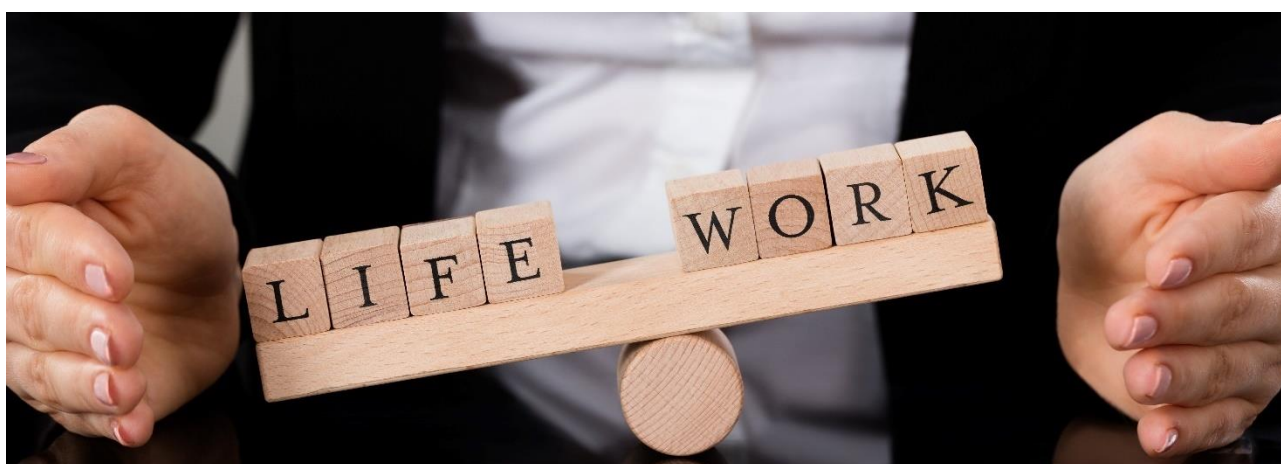
#### 4.2.3 Performance Evaluation and Career Development

Performance evaluation at eMemory includes goal setting and performance review. Based on personal achievements and project goals, each employee would set their annual goals, which are later discussed with the supervisors at the beginning of the year. The performance review is conducted twice a year, the mid-year and year-end reviews. Not only will an employee be reviewed by the supervisors, but self-evaluation is also mandatory in the review process to make the evaluation impartial and comprehensive. In addition to work-related performance, we expect employees to integrate core values, innovation, customer trust, continuous improvement, and teamwork into their jobs and daily operations. We believe it would improve team efficiency and personal inclusiveness when the core values are incorporated into our day-to-day operations. Reflecting our firm belief, in 2022, all employees' completion rate for evaluating performance was 100%.



In addition to the performance management system mentioned above, eMemory conducts semi-annually appraisal meetings. It is an opportunity for employees to demonstrate their aptitude and merit in their current role and, following an evaluation by the committee, whether a promotion or a raise may be appropriate. Based on the company's needs, internal promotions to the management team and a higher rank within the profession is a career track we encourage. eMemory assists our employees in developing their preferred career paths and achieving personal goals. As for a transition assistance program, we currently do not have one for career endings resulting from retirement or termination of employment.

### 4.3 Benefits and Welfare



With employees being our most important asset, eMemory provides competitive compensation, a healthy workplace, and other benefits for our employees. Maintaining a good work-life balance is the key to great innovation, better productivity, and higher job satisfaction. Aside from providing competitive salaries and a safe and healthy working environment, we also offer a superior vacation system in the industry and regularly organize various company activities. For information about employee shareholding, please refer to the [company's 2022 annual report](#). In order to understand the status of our employee's welfare, we encourage employees to fill-out a health examination survey every year. As of 2023, we have implemented an even more comprehensive version of the survey.

#### 4.3.1 Compensation Program

In addition to the monthly salary and fixed bonus paid for the three traditional festivals, quarterly, performance, and project bonuses are also distributed to employees for encouragement. eMemory also distributes a range from 1% to 25% of the pre-tax profits to eligible employees as profit sharing. In 2022, the average salary of non-management employees was NT\$ 2,958 thousand, which is 18% higher than last year.

To encourage patent innovation and outstanding award performance, eMemory has established various awards for best performance, most patent receiving, most patent proposal, best instructor, and so on. These awards are a part of the compensation program and serve as recognition for personal achievements and valuable contributions to the company.

#### 4.3.2 Leave Program

In addition to the leave regulated in the Labor Standards Act, eMemory also grants seven extra days of special leave per year and birthday leave, which can be redeemed within the birthday month. Under specific requirements, employees are provided seven days of full-pay sick leave if needed. For maternity leave, eight weeks are granted before and after childbirth. There are seven days granted for paternity leave. The leave program mentioned is applied to full-time employees, part-time employees, and interns. In 2022, the reinstatement and retention rate are 100% after parental leave.

Item	Definition	Male	Female	Total
<b>A. In 2022, the number of people eligible to apply for parental leave</b>	Number of people who have applied for paternity leave and maternity leave during 2020/01/01-2022/12/31	33	14	47
<b>B. Actual number of people who apply for parental leave in 2022</b>	Number of people applying for parental leave during 2022/01/01-2022/12/31	0	2	2
<b>C. Estimated number of people returning to work on parental leave in 2022</b>	The number of people whose parental leave expires during the period 2022/01/01-2022/12/31	0	1	1
<b>D. The actual number of people returning to work on parental leave in 2022</b>	The number of people whose parental leave expires from 2022/01/01-2022/12/31 and who will return to work during this period	0	1	1
<b>E. The number of people returning to work on parental leave in 2021</b>	Number of people returning to work on parental leave during 2021/01/01-2021/12/31	0	2	2
<b>F. In 2021, the number of people who continue to work for one year after resuming parental leave</b>	The number of people who returned to work during the period 2021/01/01-2021/12/31 and are still working one year after reinstatement	0	2	2
<b>Reinstatement rate (%)</b>	D/C	-	100%	100%
<b>Retention rate (%)</b>	F/E	-	100%	100%

### **4.3.3 Employee Benefits**

eMemory is dedicated to securing the health and well-being of our employees. In addition to the competitive compensation program and leave program mentioned, we also care about our employees' physical and mental health. There has been a long-established tradition of "the snack shelf" since the company's founding. Healthy snacks, fruit, and beverages are provided at all times. Employees can also use the afternoon tea subsidy daily for refreshments. Membership in the on-campus gym is encouraged by giving a "sports and fitness" subsidy for maintaining a regular fitness regime. Regarding the work environment, eMemory provides a staff rest area, nursery room, reserved parking space, and so on to create a pleasant and comfortable environment for our employees.

The Employee Welfare Committee, formed by individuals from different departments, is responsible for the recreational activities to build stronger bonds and a sense of inclusiveness among colleagues and teams. Activities, such as quarterly birthday parties, family days, special holiday celebrations, company trips, and our year-end party, are held for all employees to participate in. Meanwhile, club activities are common at eMemory, including wine tasting, board-game playing, golfing, and many more.

### **4.3.4 Retirement Plan**

Continuing to take care of our retired employees, the Rules for Retirement Management of eMemory have been established following the Labor Act and Labor Pension Act and applied to all employees. Guidelines and procedures on retirement standards and the application process for benefits are clearly defined and implemented. The Supervisory Committee of Business Entities' Labor Retirement Reserve is established to prepare fund distribution-related matters. Since 2005, eMemory has been depositing a 6% monthly pension stipend for each employee to their pension account.

## **4.4 Occupational Safety and Human Rights**

### **4.4.1 Occupational Health and Safety Management**

Since eMemory licenses IP designs and does not manufacture tangible products, our operations are mainly based on the office environment. Thus, no work-related hazards or incidents occurred at eMemory in 2022. In the first half of 2022, eMemory took action to prevent employees from the pandemic outbreak in Taiwan by launching our work-from-home (WFH) program. Stringent personal health protection and remote working guidelines were implemented to ensure employees' physical and mental health.

Item/Year	Gender	2019	2020	2021	2022
Occupational injury rate (OIR)	Male	0	0	0	0
	Female	0	0	0	0
Occupational disease rate (ODR)	Male	0	0	0	0
	Female	0	0	0	0
Fatalities	Male	0	0	0	0
	Female	0	0	0	0
Disabling injury frequency rate (FR)	Male	0	0	0	0
	Female	0	0	0	0
Disabling injury severity rate (SR)	Male	0	0	0	0
	Female	0	0	0	0

For a long time, eMemory has been committed to maintaining the health of workers and the working environment, so we emphasize safety and health management every year. We implement safety and health education under laws and regulations related to occupational safety and health. A "Fire Safety Lecture" course is held every six months, and our fire protection equipment is inspected yearly. We fully cover occupational accident insurance expenses to ensure the safety of colleagues at work. Our office also has an active security system to control the entry and exit of personnel, ensuring the safety and security of the working environment of colleagues.

#### 4.4.2 Health Checks and Insurances



An annual medical examination is offered to every employee. While most employees receive a regular medical examination, an advanced one is provided for managers and employees with seniority over five years. Furthermore, employees who regularly work at the laboratory receive additional audiometry exam due to the possible exposure to louder noises. In 2022, 38 employees took the exam with a 100% completion rate.

Every week, eMemory corporates with medical professionals by offering on-site medical consultations for our staff. Although no medical treatment is provided during the consultation sessions, employees receive professional and detailed suggestions and possible referrals when necessary. In addition, eMemory also invites guest speakers for health promotion seminars.

For employee insurance, eMemory provides various types of insurance, such as basic labor and health insurance, employee group insurance (life insurance, accident insurance, medical insurance, cancer prevention insurance), family group insurance (free insurance for spouses and children), occupational accident insurance and travel safety insurance. We also cooperate with insurance companies to provide on-site commissioner services regularly to ensure that the employees and their families can receive complete protection.

#### 4.4.3 Human Rights



eMemory actively protects the rights of our employees and fully complies with local regulations and internationally recognized human rights standards, such as the UN Guiding Principles on Business and Human Rights, the International Labor Organization Declaration of Fundamental Principles and Rights at Work, the Universal Declaration of Human Rights, and the Responsible Business Alliance Code of Conduct during operations. All full-time employees, contractors, and interns are treated with dignity and respect. For our human rights policy, please see our [website](#).

Not only do our suppliers sign the Supplier Social Responsibility Commitment, which requires all suppliers to operate based on local laws and regulations and eMemory's Supplier Code of Conduct, but it is also stated in our Customer Satisfaction Survey and Materiality Assessment Survey Questionnaire that eMemory follows RBA Code of Conduct, eMemory's Supplier Code of Conduct, and Supplier Social Responsibility Commitment during operations. We value integrity and labor rights, as well as the safety of the working environment of the supply chain, respect and dignity of

our employees, and environmental sustainability.

All new hires are required to take human rights training. In 2022, employees received training equating to 80 hours. Continuous attention and awareness are given to human rights, discrimination, and other related issues to minimize potential risks. A reporting system is established if employees experience discrimination or human rights violations. The system is entirely confidential, and the Human Resources department oversees any matters reported and the corresponding corrective actions. In 2022, there was no discrimination reported.

## Social Responsibility

### 5.1 Talent Incubation



eMemory sees giving back to society as an obligation for our business as well as an opportunity to foster a positive team spirit in our staff through engaging with our community. We are dedicated to educational activities that help us share our knowledge and help participate in a variety of community events to aid those in need. We also encourage employees to volunteer in the community as we believe that social involvement generates positive energy for our employees and the company and improves the world.

#### 5.1.1 Education

Education is the stepping stone to a brighter future. eMemory has provided professional courses and educational events for our employees and developed long-term partnerships with universities and NGOs to share our experiences and inspire young people to pursue their potential. eMemory is a long-term partner of National Tsing-Hua University (NTHU) in Hsinchu. eMemory offers industry-related courses and summer internship programs. This resource-sharing opportunity fulfills corporate social responsibilities, provides industry-university cooperation platforms, and enhances the combined application of theory and practice. The students undertaking an internship in eMemory are assigned a mentor to guide and supervise them in areas that suit their talents and provide them with performance evaluations. We want these experiences to be formative in their professional development wherever they venture in the future.

#### 5.1.2 Knowledge Sharing

To share eMemory's wealth of practical experience and development with industry and academia, eMemory published the first logic NVM book by an IP provider, "LOGIC NON-VOLATILE MEMORY — The NVM Solutions." Copies of the book are distributed to universities and companies in our industry, sharing advanced research in Logic NVM and laying out a long-term foundation for future development in embedded non-volatile memory technology.

### 5.1.3 Scholarship and Joint Research Projects

eMemory provides an R&D environment with abundant resources for aspiring graduate students from National Tsing-Hua University and National Yang-Ming Chiao Tung University, utilizing scholarships, sponsorships, and support for long-term research projects. We encourage students to focus on various areas of academic research to stimulate more development potential and technological innovation. We believe that such resources can support young talent, assist students with academic and professional development, and improve Taiwan's technology sector's international visibility and industrial competitiveness.

## 5.2 Community Engagement



eMemory carries out charitable actions as part of implementing corporate social responsibility. Practices such as donating to public welfare organizations, and providing long-term practical support and resources to disadvantaged groups, are applied to look after the communities in the ways we identified could provide the most immediate and sustainable assistance.

eMemory has a long-term sponsorship for a non-profit organization (NPO), "Teach For Taiwan (TFT)", and supports TFT with regular donations to help children in remote areas to have a stable and high-quality education. Moreover, in 2021 we began the "Afternoon-Tea Donation Program" to increase awareness of this issue and encourage donations from employees to help rural schools and students have a better educational environment.

In 2022, eMemory offered scholarships to projects at NTHU, sponsored seminars to NTHU Engineering Department, donated stationery to the "Boyo Social Welfare Foundation", donated laptops to the "YWCA of Hsinchu City", and participated in the "Spinal Cord Injury Rehabilitation Center" Christmas fundraising program.

### Timeline of Social Participation

Year	Activities
2022	<ul style="list-style-type: none"> <li>• Scholarship for NTHU (SDG4)</li> <li>• Seminar sponsorship for NTHU (SDG4)</li> <li>• Sponsorship for Teach For Taiwan (SDG2. SDG4)</li> <li>• Stationary donation to the Boyo Social Welfare Foundation (SDG1)</li> <li>• Laptop donation to the YWCA of Hsinchu City (SDG1)</li> <li>• Christmas fundraising for Spinal Cord Injury Rehabilitation Center (SDG1)</li> </ul>
2021	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Seminar sponsorship for NTHU</li> <li>• Sponsorship for Teach For Taiwan</li> <li>• Donated to NTU's epidemic prevention facilities</li> <li>• Stationary donation to the Boyo Social Welfare Foundation</li> <li>• Laptop donation to the YWCA of Hsinchu City</li> <li>• Christmas fundraising for Spinal Cord Injury Rehabilitation Center</li> </ul>
2020	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Seminar sponsorship for NTHU</li> <li>• Sponsorship for Teach For Taiwan</li> <li>• Stationery donation for Hsinchu Renai Children's Home</li> <li>• Laptop donation for Hualien Stella Maris Ursuline High School</li> <li>• Christmas fundraising for Spinal Cord Injury Rehabilitation Center</li> </ul>
2019	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Computer donation for World Vision – Hsinchu</li> <li>• Computer donation for World Peace – Hsinchu</li> <li>• Christmas fundraising for Spinal Cord Injury Rehabilitation Center</li> <li>• Stationery donation for Hsinchu I-Link Community Care Association</li> </ul>
2018	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Scholarship for NCTU</li> <li>• Donation for World Vision Taiwan for the earthquake in Hualien</li> <li>• Computer donation for Teach For Taiwan</li> <li>• Computer donation for Taiwan Fund for Children and Families</li> <li>• Christmas fundraising for Spinal Cord Injury Rehabilitation Center</li> <li>• Stationery donation for Hsinchu I-Link Community Care Association</li> </ul>
2017	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Scholarship for NCTU</li> <li>• Seminar sponsorship for NTHU</li> <li>• Sponsorship for Teach For Taiwan</li> <li>• Christmas fundraising for Spinal Cord Injury Rehabilitation Center</li> <li>• Stationery donation for Hsinchu Renai Children's Home</li> </ul>
2016	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Scholarship for NCTU</li> <li>• Seminar sponsorship for NTHU</li> <li>• Sponsorship for Teach For Taiwan</li> <li>• Stationery donation for Catholic Church – Hsinchu Diocese, Teresa Children Center</li> <li>• Fundraising for Spinal Cord Injury Rehabilitation Center</li> </ul>

Year	Activities
2015	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Scholarship for NCTU</li> <li>• Sponsorship for Teach For Taiwan</li> <li>• Donation for Sunshine Social Welfare Foundation</li> </ul>
2014	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Sponsorship for Teach For Taiwan</li> <li>• Donation for Taiwan Association for Happy Breathing Children</li> </ul>
2013	<ul style="list-style-type: none"> <li>• Scholarship for NTHU</li> <li>• Donation for St. Joseph Home</li> <li>• Computer and other equipment donation for Chenggong Junior High School, Chubei Elementary School, and Liujia Elementary School</li> </ul>

## GRI Content Index

eMemory discloses information from January 1<sup>st</sup> 2022 to December 31<sup>st</sup> 2022 based on the GRI reporting principles.

GRI Standard	Disclosure	Location or Information
<b>GRI 2: General Disclosures 2021</b>		
<b>The organization and its practices</b>	2-1 Organizational details	About This Report
	2-2 Entities included in the organization's sustainability reporting	About This Report
	2-3 Reporting period, frequency and contact point	About This Report
	2-4 Restatements of information	No restatements of information during the reporting period
	2-5 External assurance	None
<b>Activities and workers</b>	2-6 Activities, value chain and other business relationships	About This Report 1. About eMemory
	2-7 Employees	4.1.2 Diversity and Inclusion
	2-8 Workers who are not employees	4.1 Human Resources
<b>Governance</b>	2-9 Governance structure and composition	2.1 Governance Structure
	2-10 Nomination and selection of the highest governance body	2.1 Governance Structure
	2-11 Chair of the highest governance body	The chair of the highest governance body and the senior management are served by different persons
	2-12 Role of the highest governance body in overseeing the management of impacts	2.1 Governance Structure
	2-13 Delegation of responsibility for managing impacts	2.1 Governance Structure
	2-14 Role of the highest governance body in sustainability reporting	About This Report
	2-15 Conflicts of interest	2.1 Governance Structure
	2-16 Communication of critical concerns	2.1 Governance Structure
	2-17 Collective knowledge of the highest governance body	2.1 Governance Structure
	2-18 Evaluation of the performance of the highest governance body	2.1 Governance Structure
	2-19 Remuneration policies	2.1.4 Remuneration Committee
	2-20 Process to determine remuneration	2.1.4 Remuneration Committee
	2-22 Statement on sustainable development strategy	A Word from Our Chairman
	2-23 Policy commitments	3.4 Supply Chain Management

GRI Standard	Disclosure	Location or Information
	2-24 Embedding policy commitments	4.4.3 Human Rights 3.4 Supply Chain Management
	2-25 Processes to remediate negative impacts	4.4.3 Human Rights
	2-26 Mechanisms for seeking advice and raising concerns	2.4 Whistle-blowing System
	2-27 Compliance with laws and regulations	No violation during the reporting period
	2-28 Membership associations	1.1 Corporate Overview 1.1.5 Membership of Associations
Stakeholder engagement	2-29 Approach to stakeholder engagement	2.7 Stakeholder Management
	2-30 Collective bargaining agreements	Labor and Management Council is held regularly to communicate about issues on compensation and benefit.
GRI 3: Material Topics 2021		
	3-1 Process to determine material topics	1.4 Our Approach to Materiality
	3-2 List of material topics	1.4 Our Approach to Materiality
	3-3 Management of material topics	1.4 Our Approach to Materiality 2.6 Risk Management
GRI 201: Economic Performance 2016		
	201-1 Direct economic value generated and distributed	1.1 Corporate Overview
	201-2 Financial implications and other risks and opportunities due to climate change	2.6 Risk Management
	201-3 Defined benefit plan obligations and other retirement plans	4.3.4 Retirement Plan
	201-4 Financial assistance received from government	Our subsidiary, PUFsecurity, applied for the A+ Industrial Innovative R&D Program hosted by the Ministry of Economic Affairs. The project “PUF-based AIoT Secure Element R&D program” passed the review on January 14 <sup>th</sup> , 2022 with estimated budget of NT\$70,000 thousand and won NT\$28,000 thousand of government’s sponsorship. The actual amount received in 2022 was NT\$5,162 thousand. For details see <a href="#">Financial Report</a> .
GRI 202: Market Presence 2016		
	202-2 Proportion of senior management hired from the local	4.1.2 Diversity and Inclusion

GRI Standard	Disclosure	Location or Information
	community	
<b>GRI 203: Indirect Economic Impacts 2016</b>		
	203-1 Infrastructure investments and services supported	5.2 Community Engagement
	203-2 Significant indirect economic impacts	5.2 Community Engagement
<b>GRI 204: Procurement Practice 2016</b>		
	204-1 Proportion of spending on local suppliers	3.4 Supply Chain Management
<b>GRI 205: Anti-corruption 2016</b>		
	205-1 Operations assessed for risks related to corruption	2.3 Integrity and Ethics
	205-3 Confirmed incidents of corruption and actions taken	2.3 Integrity and Ethics
<b>GRI 206: Anti-competitive Behavior 2016</b>		
	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	There were no legal actions for anti-competitive behavior, anti-trust, or monopoly practices during the reporting period
<b>GRI 301: Materials 2016</b>		
	301-1 Materials used by weight or volume	Not applicable; eMemory is a SIP provider and does not manufacture tangible products
	301-2 Recycled input materials used	Not applicable; eMemory is a SIP provider and does not manufacture tangible products
	301-3 Reclaimed products and their packaging materials	Not applicable; eMemory is a SIP provider and does not manufacture tangible products
<b>GRI 302: Energy 2016</b>		
	302-1 Energy consumption within the organization	3.1.1 Power and CO2 Emissions Management
	302-2 Energy consumption outside of the organization	3.1.1 Power and CO2 Emissions Management
	302-3 Energy intensity	3.1.1 Power and CO2 Emissions Management
	302-4 Reduction of energy consumption	3.1.1 Power and CO2 Emissions Management 3.1.3 Energy Saving and Waste Reduction
	302-5 Reductions in energy requirements of products and services	3.2 Clean Tech for Green Product Development
<b>GRI 303: Water and Effluents 2018</b>		
	303-1 Interactions with water as a shared resource	3.1.2 Water and Waste Management
	303-2 Management of water discharge-related impacts	3.1.2 Water and Waste Management

GRI Standard	Disclosure	Location or Information
	303-3 Water withdrawal	3.1.2 Water and Waste Management
	303-4 Water discharge	Information not retrievable
	303-5 Water consumption	Information not retrievable
<b>GRI 304: Biodiversity 2016</b>		
	304-1 Operational sites owned, leased, managed in, or adjacent to protected areas and areas of high biodiversity value outside protected areas	eMemory does not own, lease, manage in, or adjacent to protected areas and areas of high biodiversity value outside protected areas
	304-2 Significant impacts of activities, products, and services on biodiversity	eMemory is a SIP provider and does not manufacture tangible products or own any factories, having low impacts of activities on biodiversity
	304-3 Habitats protected or restored	Not applicable, eMemory does not have habitats protected or restored
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	No IUCN Red List species and national conservation list species with habitats in areas affected by operations
<b>GRI 305: Emissions 2016</b>		
	305-1 Direct (Scope 1) GHG emissions	3.1.1 Power and CO2 Emissions Management
	305-2 Energy indirect (Scope 2) GHG emissions	3.1.1 Power and CO2 Emissions Management
	305-3 Other indirect (Scope 3) GHG emissions	3.1.1 Power and CO2 Emissions Management
	305-4 GHG emissions intensity	3.1.1 Power and CO2 Emissions Management
	305-5 Reduction of GHG emissions	3.1.1 Power and CO2 Emissions Management
	305-6 Emissions of ozone-depleting substances (ODS)	No ODS emission during the reporting period
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	No significant air emissions during the reporting period
<b>GRI 306: Effluents and Waste 2020</b>		
	306-1 Waste generation and significant waste-related impacts	3.1 Environmental Management
	306-2 Management of significant waste-related impacts	3.1.2 Water and Waste Management
	306-3 Waste generated	3.1.2 Water and Waste Management

GRI Standard	Disclosure	Location or Information
	306-4 Waste diverted from disposal	3.1.2 Water and Waste Management
	306-5 Water bodies affected by water discharges and/or runoff	3.1.2 Water and Waste Management
<b>GRI 308: Supplier Environmental Assessment 2016</b>		
	308-1 New suppliers that were screened using environmental criteria	3.4 Supply Chain Management
	308-2 Negative environmental impacts in the supply chain and actions taken	3.4 Supply Chain Management
<b>GRI 401: Employment 2016</b>		
	401-1 New employee hires and employee turnover	4.1.2 New Hire and Turnover
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	4.3 Benefit and Welfare
	401-3 Parental leave	4.3.2 Leave Program
<b>GRI 402: Labor Management Relations 2016</b>		
	402-1 Minimum notice periods regarding operational changes	eMemory provides notice of significant operational changes which could substantially affect the employees based on governmental regulations
<b>GRI 403: Occupational Health and Safety 2018</b>		
	403-1 Occupational health and safety management system	Based on Occupational Safety and Health Act, there is no need to implement occupational health and safety management system given that the number of employees
	403-2 Hazard identification, risk assessment, and incident investigation	4.4.1 Occupational Health and Safety Management
	403-3 Occupational health services	4.4.2 Health Checks and Insurances
	403-4 Worker participation, consultation, and communication on occupational health and safety	4.4.1 Occupational Health and Safety Management
	403-5 Worker training on occupational health and safety	4.4.1 Occupational Health and Safety Management
	403-6 Promotion of worker health	4.4.2 Health Checks and Insurances
	403-8 Workers covered by an occupational health and safety management system	Based on Occupational Safety and Health Act, there is no need to implement occupational health and safety

GRI Standard	Disclosure	Location or Information
		management system given that the number of employees
	403-9 Work-related injuries	4.4.1 Occupational Health and Safety Management
	403-10 Work-related ill health	4.4.1 Occupational Health and Safety Management
<b>GRI 404: Training and Education 2016</b>		
	404-1 Average hours of training per year per employee	4.2.2 Diversified Learning Courses
	404-2 Programs for upgrading employee skills and transition assistance programs	4.2.3 Performance Management and Career Development 4.3.4 Retirement Plan
	404-3 Percentage of employees receiving regular performance and career development reviews	4.2.3 Performance Management and Career Development
<b>GRI 405: Diversity and Equal Opportunity 2016</b>		
	405-1 Diversity of governance bodies and employees	4.1.1 Basic Demographics
<b>GRI 406: Non-discrimination 2016</b>		
	406-1 Incidents of discrimination and corrective actions taken	4.4.3 Human Rights
<b>GRI 407: Freedom of Association and Collective Bargaining 2016</b>		
	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	3.4 Supply Chain Management 4.4.3 Human Rights
<b>GRI 408: Child Labor 2016</b>		
	408-1 Operations and suppliers at significant risk for incidents of child labor	3.4 Supply Chain Management
<b>GRI 409: Forced or Compulsory Labor 2016</b>		
	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	3.4 Supply Chain Management 4.4.3 Human Rights
<b>GRI 410: Security Practices 2016</b>		
	410-1 Security personnel trained in human rights policies or procedures	Not applicable, security personnel is hired and trained by Tai-Yuan Science Park
<b>GRI 413: Local Communities 2016</b>		
	413-1 Operations with local community engagement, impact	5.2 Community Engagement

GRI Standard	Disclosure	Location or Information
	assessments, and development programs	
	413-2 Operations with significant actual and potential negative impacts on local communities	No significant actual or potential negative impacts on local communities during the reporting period
<b>GRI 414: Supplier Social Assessment 2016</b>		
	414-1 New suppliers that were screened using social criteria	3.4 Supply Chain Management
	414-2 Negative social impacts in the supply chain and actions taken	3.4 Supply Chain Management
<b>GRI 415: Public Policy 2016</b>		
	415-1 Political contributions	No political contributions during the reporting period
<b>GRI 416: Customer Health and Safety 2016</b>		
	416-1 Assessment of the health and safety impacts of product and service categories	eMemory is a SIP provider and does not manufacture tangible products
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	No such incidents happened during the reporting period
<b>GRI 417: Marketing and Labeling 2016</b>		
	417-1 Requirements for product and service information and labeling	eMemory is a SIP provider and does not manufacture tangible products
	417-2 Incidents of non-compliance concerning product and service information and labeling	No such incidents happened during the reporting period
	417-3 Incidents of non-compliance concerning marketing communications	No such incidents happened during the reporting period
<b>GRI 418: Customer Privacy 2016</b>		
	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	No such complaints happened during the reporting period

## SASB Standards Index

Disclosure Topics	Code	Accounting Metric	Location
<b>Greenhouse Gas Emissions</b>	TC-SC-110a.1	(1) Gross global Scope 1 emissions	3.1.1 Power and CO2 Emissions Management
		(2) Amount of total emissions from perfluorinated compounds	Total emission was 0, no such situations happened during the reporting period
	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	3.1.1 Power and CO2 Emissions Management
<b>Energy Management</b>	TC-SC-130a.1	(1) Total energy consumed	3.1.1 Power and CO2 Emissions Management
		(2) Percentage grid electricity	97.49% of electricity of total energy consumed
		(3) Percentage renewable	0% · no use of renewable energy
<b>Water Management</b>	TC-SC-140a.1	(1) Total water withdrawn, percentage of each in regions with High or Extremely High Baseline Water Stress	0%, Operation location not in regions with High or Extremely High Baseline Water Stress
		(2) Total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	0%, Operation location not in regions with High or Extremely High Baseline Water Stress
<b>Waste Management</b>	TC-SC-150a.1	Amount of hazardous waste from manufacturing, percentage recycled	3.1.2 Water and Waste Management Total amount of hazardous waste from manufacturing was 0
<b>Employee Health &amp; Safety</b>	TC-SC-320a.1	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	1.3 Our Responses to COVID-19
	TC-SC-320a.2	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	No such situations happened during the reporting period
<b>Recruiting &amp; Managing a Global &amp; Skilled Workforce</b>	TC-SC-330a.1	(1) Percentage of employees that are foreign nationals	4.1.2 Diversity and Inclusion
		(2) Percentage of employees that are located offshore	4.1.2 Diversity and Inclusion

Disclosure Topics	Code	Accounting Metric	Location
Product Lifecycle Management	TC-SC-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	eMemory is a SIP provider and does not manufacture tangible products and does not have revenue that contain IEC 62474 declarable substances
	TC-SC-410a.2	Processor energy efficiency at a system-level for: (1) servers, (2) desktops, and (3) laptops	3.2 Clean Tech for Green Product Development
Materials Sourcing	TC-SC-440a.1	Description of the management of risks associated with the use of critical materials	4.4.3 Human Rights 3.4 Supply Chain Management
Intellectual Property Protection & Competitive Behavior	TC-SC-520a.1	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	There were no legal actions for anti-competitive behavior, anti-trust, or monopoly practices during the reporting period

Activity Metric	Code	Location
Total production	TC-SC-000.A	1.1 Corporate Overview
Percentage of production from owned facilities	TC-SC-000.B	0%, eMemory is a SIP provider and does not manufacture tangible products

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