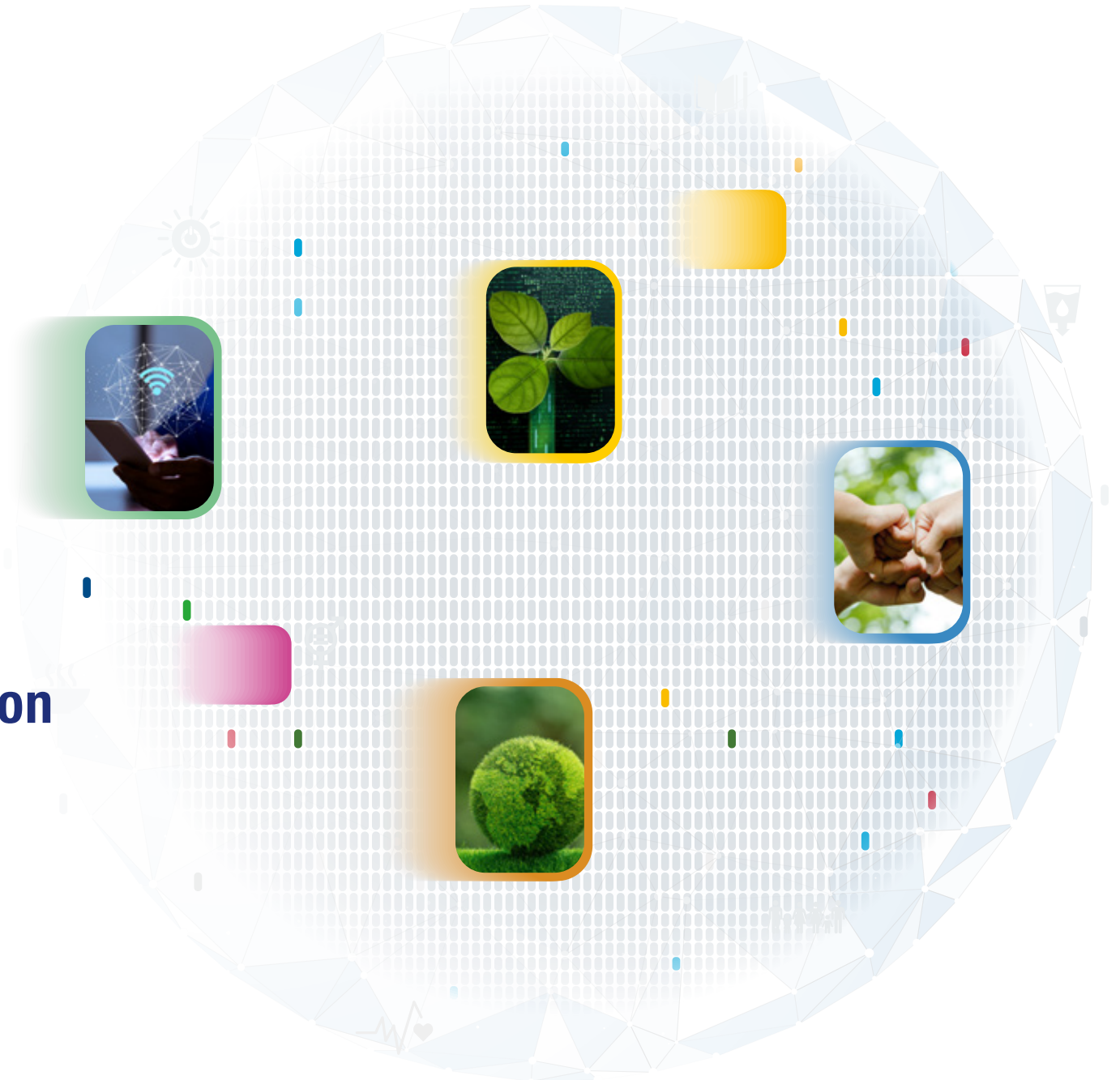




**2022**

**RichWave  
Technology Corporation  
Sustainability Report**



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## Chairman's Words

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In 2022, in response to market changes and the impact of the overall economic situation, we faced significant challenges in operations. However, we still adhere to the original entrepreneurial philosophy of "persistence", face negative impacts with an unrelenting spirit, review mistakes to make them the cornerstone of future progress, and start from a new perspective after restructuring.

In the new year, we will further integrate corporate social responsibility into our daily operations, strengthen relevant indicators of corporate governance, and strive to build an effective corporate governance structure to protect shareholder rights, strengthen the effectiveness of board supervision, respect the rights and interests of stakeholders, and regard improving company information transparency as the highest principle. At the same time, we will strengthen the connection between sustainable performance and operational management, and promote sustainable development through integration with our profession to let this persistence become the driving force for innovation.

In terms of sustainable environment, in response to the international trend of net-zero carbon emission, we take environmental protection as our responsibility, continue to research and develop low energy consumption and high efficiency products, and regard them as one of the key research and development projects. In this regard, we work together with suppliers to promote green supply chain and ensure that the supply chain achieves goals such as improving energy efficiency, reducing carbon emissions, and making low-polluting products. At the same time, we lead by example, for example, in 2022 we obtained dual certifications for the ISO 14064-1:2018 greenhouse gas inventory standard and the ISO 14001:2015 environmental management system. We have gradually developed policies and operational methods, effectively implemented carbon reduction, energy conservation, water conservation, and waste management, comprehensively improved environmental management efficiency, and achieved significant results compared with the previous year.

As far as the friendly workplace is concerned, RichWave has always perceived our employees as our partners, thus we have strived to provide them with a LOHAS, healthy, positive, and open work environment to inspire their creativities and proactive attitude. This is complemented by a comprehensive training mechanism and remuneration/welfare system to offer our employees a progressive career development platform and opportunities, thereby advancing the company's overall technological innovation and development, as well as attaining a win-win situation for the company and the employees.

Looking forward to the future, the mobile communication and wireless communication industries will continue to flourish. In addition to continuously refining and improving Wi-Fi 6E products, we will mass produce Wi-Fi 7 products, continuously consolidate company resources, combine the strength of customers, suppliers, and employees, focus on our core business operations, adhere to the concept of green management, continuously strengthen corporate governance, care for the weak, and fulfill corporate social responsibility, in order to achieve the sustainability vision of coexistence and prosperity.





## **Vision and Philosophy**

Innovation, Dedication,  
to Brilliance  
the trusted RF provider

RichWave is a company that specializes in the design of RF front-end components and transceivers for wireless systems.

Our mission is to differentiate our products with innovation, technology, unique marketing positions, and outstanding performance.

At RichWave, we respect the ideas and creativity of every team member, hoping to materialize a brighter future through dedication and teamwork.



# About the Report

## Introduction of the Report

RichWave Technology Corp. (hereinafter referred to as RichWave) started publishing FY21 Sustainability Report in 2022 in order to demonstrate the company's commitments, actions, and accomplishments in ESG-related issues, as well as facilitating good communication and interaction with our stakeholders. The scope of the report's disclosure includes RichWave's business locations in Taiwan. During the reporting period, the company's organizational scale, structure, ownership, and supply chain did not undergo significant changes.

## Reporting Time, Scope, and Publication Period

RichWave's second Sustainability Report discloses data and content for 2022 (January 1 to December 31, 2022). Some of the performance data used is originated from 2021, 2020, and earlier to present relevant trends and fluctuations.

- Publication time of this report: July 2023
- Scheduled publication time of next report: July 2024

## Report Preparation Guideline

The disclosure of information in this report is based on the GRI Universal Standards 2021 published by the Global Reporting Initiative (GRI), and a GRI Standards Index Table is attached at the end of the report for readers to compare and search. The report's relevant statistics and data are derived from RichWave's in-house surveys and various departments' daily operations/management. Moreover, local regulations, internationally accepted indicators, industry standards, or industry customs are taken into consideration when performing the calculations.

## Feedback

If you have any questions or valuable opinions about the report, please do contact us.

### RichWave Technology Corp

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- Contact number: (02)8751-1358
- Contact person: Wendy Juan
- E-mail : wendyjuan@richwave.com.tw

## RichWave Accolades

2021

05

- ⊗ Awarded 9<sup>th</sup> place among the Top 200 Resilience Companies by *CommonWealth Magazine*.



06

- ⊗ Awarded 7<sup>th</sup> place in the "2020 Top 100 High-Value Companies" in Taiwan by "Business Next".



11

- ⊗ Received the "Promising Product of the Year" Award of 2021 EE Awards Asia hosted by ASPENCORE.



2022

10

- ⊗ Ranked among the top 500 outstanding import and export manufacturers for 2021 by the Bureau of Foreign Trade.



12

- ⊗ The number of certified patents exceeded 500.



- ⊗ Obtained the environmental management system (ISO14001:2015) certification and greenhouse gas (ISO14064-1:2018) certification from the French Standards Association "AFNOR".





# Sustainability Highlights

## » 2022 annual highlights



### Governance

- Ranked among the top 500 outstanding import and export manufacturers for 2021 by the Bureau of Foreign Trade, MOEA, and awarded the "Certificate of Excellent Import and Export Manufacturer Certification Stamp".
- A new Product Research and Development Team has been established under the Sustainability Project Management Office to link and manage the company's core products with sustainability performance, and promote sustainable development through integration of our profession.
- In 2022, the board of directors held a total of **7** meetings, with an average attendance rate of **98%**; the attendance rate of the Audit Committee and the Compensation Committee reached **100%**.
- There were no cases of violating ethical corporate management in 2022, and no accusation cases of unethical corporate management behavior.
- In 2022, a total of **300** people participated in ethical corporate management training, with a training coverage rate of **99%**.
- There were no penalties for violating environmental regulations in 2022.
- There were over **500** patents accumulated worldwide in 2022.
- The number of target patent proposals in 2022 was **51**, and the cumulative number of proposals was **50**, with an achieve rate of **98%**.
- In 2022, we invested NT\$**602,470,000** in R&D, accounting for **18%** of the company's income.
- **100%** of our major suppliers have obtained ISO 14001 environmental management system certification, ISO 9001 quality management system certification, and IATF 16949 automotive industry quality management system certification.
- In 2022, the execution rate of ESG related audits reached **100%**, and the pass rate reached **100%**.
- In 2022, the proportion of local production procurement amount reached **69.9%**.
- The quality management system tracked that **100%** of the materials in 2022 met the requirements of RoHS, Halogen-Free, and REACH.
- Customer satisfaction reached **98** points in 2022.
- Continuously and actively optimized the corporate governance system and improving sustainable performance; the score of the 9<sup>th</sup> (2022) Corporate Governance Evaluation improved by **11%** from that in the previous year (2021).



## Environment

- On June 27, 2022, the ISO 14001 environmental management system and ISO 14064 greenhouse gas inventory were simultaneously imported, and we obtained dual international certifications on December 7, 2022 and November 28, 2022, respectively
- In 2022, Energy Use Intensity (EUI) decreased by **5.8%** compared to last year.
- Energy conservation and carbon reduction solutions in 2022 reduced external electricity purchase by **6,857.59** kWh, equivalent to lowering **3.4905** tCO<sub>2</sub>e GHG emissions.
- The water intensity in 2022 decreased by **2.3%** from that in 2021.
- Waste emissions in 2022 decreased by **31.03%** from that in 2021.



## Social

- In 2022, RichWave organized numerous professional and general knowledge courses across different disciplines, training a total of **1,135** persons and accumulating **1,969** hours of training.
- In 2022, **100%** of RichWave's employees regularly received performance appraisals and career development reviews, regardless of their gender or rank within the company.
- We value our employees' health by hiring medical staff to conduct regular on-site health services **3 to 4** times a month.
- Conduct employees' health examinations, with a usage rate of **87%** in 2022.
- There were no occurrence of any occupational disasters in 2022.
- A Wi-Fi science popularization education event was held at the Institute of Electrical Engineering of National Taiwan University with **3** volunteer teachers and a total of **150** students participating.
- Collaborated with schools such as the Institute of Electronics of National Taiwan University and the Institute of Telecommunications Engineering of National Yang Ming Chiao Tung University for industry-academia research, **13** students who respectively own degrees of Doctor, Master, and Research Graduate participated.
- Donated a total of **3** batches of QA desks to government organizations to create a better environment for people with dementia, disability, physical or mental disabilities, and the elderly.
- Christmas Warmth Activity: **10** employees from the volunteer group participated in **4** events, and a total of approximately NT\$ **9,000** was sponsored for fund raising boxes and postcards.
- Sponsored NT\$ **105,000** to participate in the co-adoption and planting of **200** trees by the organizer "Tse-Xin Organic Agriculture Foundation" to promote the concern and attention of the company's employees and the public towards tree planting and the environment, and contribute to the reduction of carbon emissions on the planet.



## CHAPTER

# 1

# Sustainable Management

- 1-1 About RichWave
- 1-2 Sustainable Practices
- 1-3 Stakeholder Communication and Materiality Analysis

### Chapter Highlight

- ◎ Continuously and actively optimized the corporate governance system and improving sustainable performance; the score of the 9th (2022) Corporate Governance Evaluation improved by 11% from that in the previous year (2021).
- ◎ Listed among the top 500 companies on the Ministry of Economic Affairs' Bureau of Foreign Trade's annual list of outstanding export-import performance for 2021, and awarded the "Award for International Trade Outstanding Export/Import Business Certificate" in 2022.
- ◎ Within the Sustainable Project Management Office, a new product research and development team has been established to connect and manage the company's core products with sustainable performance, thereby promoting sustainable development through integrated professionalism.
- ◎ Under the name RichWave, the company has established profiles on LinkedIn, YouTube, and Youku, and participates actively in the ESG community. Specialized personnel have been assigned to manage social media operations, and a new sustainable news page has been added to the sustainability section of the company's website in order to provide stakeholders with real-time updates.

# 1.1 About RichWave

## » Company introduction

Founded in 2004, RichWave is devoted to radio-frequency integrated circuit (RF IC) development and design. Our product lines include RF front-end components for WiFi 802.11n/ac/ax wireless networks, 5G/4G/LTE mobile communication, as well as microwave sensors, digital broadcasting receivers, and RF transceivers for wireless video transmission. RichWave provides complete RF front-end product solutions and applications for various wireless communication markets. The expertise of the company's team members encompasses system design, RF microwave IC, semiconductor engineering, and back-end technology development. RichWave focuses on the establishment and sharing of fundamental technology, where creative and advanced IC design, intricate and rigorous quality control, differentiated product marketing strategy, and comprehensive customer service have earned the recognition and support of our customers.

RichWave applies multiple process design technologies involving SiGe, GaAs, SOI/CMOS, and IPD. Focusing on the products' price/performance ratio, we have successfully tapped into the global market under RichWave, our private brand. Now, RichWave is one of the major global suppliers of WiFi RF front-end components. We continue to develop new technologies to provide our clients with more competitive solutions and strive to become a world-class leading manufacturer of RF IC.

### RichWave Technology Corp.

Founded on	January 7, 2004
HQ location	3F., No. 1, Alley 20, Lane 407, Sec.2, Tiding Blvd., Neihu District, Taipei City 11493
Industry	Semiconductor
Main services	R&D and sales of RF IC front-end components R&D and sales of RF IC wireless video transmission technology
Product category	The main products and services of the company and its affiliated businesses include wireless communication product IC design and sales, as well as the R&D, sales of WiFi RF IC front-end chips (such as PA, LNA, SW, and FEM), 2.4GHz wireless video transmission RF IC, SoC, and general investment services.
Number of employees	347 employees worldwide
Business location	Taiwan: Taipei, Hsinchu
Capital (NT\$)	2,000,000,000

### RichWave's main products



R&D and sales of WiFi RF IC front-end chips including PA, LNA, SW, and FEM.

**PA (Power Amplifier):**  
The PA's main function is to amplify the signal of baseband processed signals so that they can be transmitted.

**LNA (Low Noise Amplifier):**  
The LNA's main function is to amplify the signals received and lower the noise so that they can be used by back-end systems.

**SW (Switch):** The SW's main function is to allow or prevent a signal from being transmitted along the transmission path through the phenomenon of charge accumulation or displacement driven by a voltage.

**FEM (Front-end Module):**  
The FEM's main function is to integrate the PA, LNA, and SW.



R&D and sales of RF IF and SoC (System on Chip) used for 2.4GHz wireless video transmissions, including 2.4GHz RF transceiver and video compression/decompression SoC.



R&D and sales of RF IC FEM used for 3G/4G LTE femtocell, including PA and SW.



Wi-Fi, LTE, and other wireless network applications, along with RF signal filter development and sales for IoT applications such as GNSS and Bluetooth, including various processes such as SAW/BAW/LTCC, and integration modules composed of RF IC FEM such as LNA.



Development and sale of 5.8GHz/10GHz CMOS radar sensor solutions, including sensor ICs, algorithms, reference designs, reference antennas and circuit board designs, and sample programs.



## » Business Performance

Steady profits and continual growth are important prerequisites of sustainable corporate development. In 2022, the consolidated operating revenue was NT\$3.42937 billion and the consolidated net profit after tax was NT\$55.06 million, as a result of the lack of Wi-Fi master chips and the effect of COVID-19 lockdowns in mainland China. In the upcoming fiscal year, it is anticipated that the Mobile Communication and Wireless Communication industry will continue to expand. RichWave's growth and revenue in RF IC front-end chip products will be driven by the increasing demand for Wi-Fi 6E and Wi-Fi 7, as well as the rising demand for RF IC front-end chips as a result of the rise of multi-mode multi-frequency smartphones. As the shortage of Wi-Fi master chips eases and the pandemic situation in China improves, it is anticipated that the company will embrace a new round of development opportunities. Additionally, the company's consistent export performance led to the inclusion in the Ministry of Economic Affairs' Bureau of Foreign Trade's annual list of outstanding export-import performance for 2021, earning the "Award for International Trade Outstanding Export/Import Business Certificate" in 2022. In 2022, the economic values generated and distributed by the organization are as illustrated below:



For more management performance-related information, please refer to the company's Investors' Corner or the MOPS.



### Economic value statistics

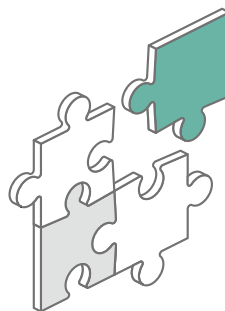
Unit: NT\$1,000

Item	Year	2020	2021	2022	Compared to the previous year
Operating income		5,350,200	5,316,267	3,429,371	-35.5%
Operating costs and expenses		4,342,248	4,782,659	3,446,576	-27.9%
Net operating profit		1,007,952	533,608	-17,205	-103.2%
Net profit before tax		1,017,107	526,906	61,289	-88.4%
Income tax		150,891	61,389	6,230	-89.9%
Net income		866,216	465,517	55,059	-88.2%
Employee remuneration and benefits		484,336	519,786	562,847	8.3%
Cash dividend		8	3.5	0	-100.0%
Gross profit margin		36.00%	29.00%	31.00%	7.2%
EPS (NT\$)		9.87	5.26	0.62	-88.2%

## » Participation in External Organizations

### Participation in international industry societies and associations

RichWave is dedicated to developing the field of RFIC (radio-frequency integrated circuit). By partaking in international technology exchange activities, offering technical support in professional fields, and striving to develop more sound, reliable designs and products in conjunction with industries, governments, and academia both in Taiwan and abroad, we aim to prolong our products' life cycle and minimize resource consumption, so as to assist the international industrial organizations to develop industry white books, guidelines, and standards. The ultimate objective is to facilitate the comprehensive development of the industry and society.



The main industry societies and associations RichWave is involved in include:

#### ◎ IEEE RFIC Symposium

RichWave has sponsored the activity for numerous years in a row with VP Deng Wei-Kang acting as its technical committee member. The goal of the symposium is to bolster the design and R&D of high-energy efficiency products.

#### ◎ The Industry Council on ESD Target Levels

RichWave participates and assists in the group's discussions, questionnaire preparation and analysis, and technical document review in a bid to help formulate standards as well as develop more durable, reliable products and increase their lifespan.

#### ◎ Taiwan ESD Association

RichWave's VP Chao Chuan-Chen has served as the director of the Taiwan ESD Association since 2003 and its international convention's technical committee member. Since 2021, she has been appointed as the association's chairman.

#### ◎ Ultra Wide Band Alliance

RichWave has been an active participant in the Ultra Wide Band Alliance since 2021, engaging in numerous discussions and applications concerning UWB (Ultra-Wideband) technology. The company seeks to comprehend and influence the establishment of global UWB frequency regulations, as well as to encourage the adoption of UWB protocol in relevant applications.

#### RFIC Conference 2022

IEEE RFIC Symposium is one of the most representative international IC design conferences focusing on the exchange of radio frequency (RF), microwave, mmWave IC system, and circuit-related technologies.

The conference in 2022 was co-hosted by IMS, ARFTG, among other organizations. The event took place from June 19 to June 21, 2022 in Atlanta. RichWave has sponsored this technical conference for a number of years, and the company participated online in 2022. This demonstrates our dedication to and support for the growth of industry technologies and society.

#### List of societies and associations participated by RichWave

Number	Name of organization	Applicable country or region	Members' qualification (such as director/supervisor)
1	TSIA	Taiwan	Member
2	WOB	Taiwan	Member
3	MIPI Alliance	Global	Member
4	IEEE	Global	Individual member
5	The Industry Council on ESD Target Levels	Global	Member
6	Taiwan ESD Association	Taiwan	Individual member
7	Ultra Wide Band Alliance	Global	Member

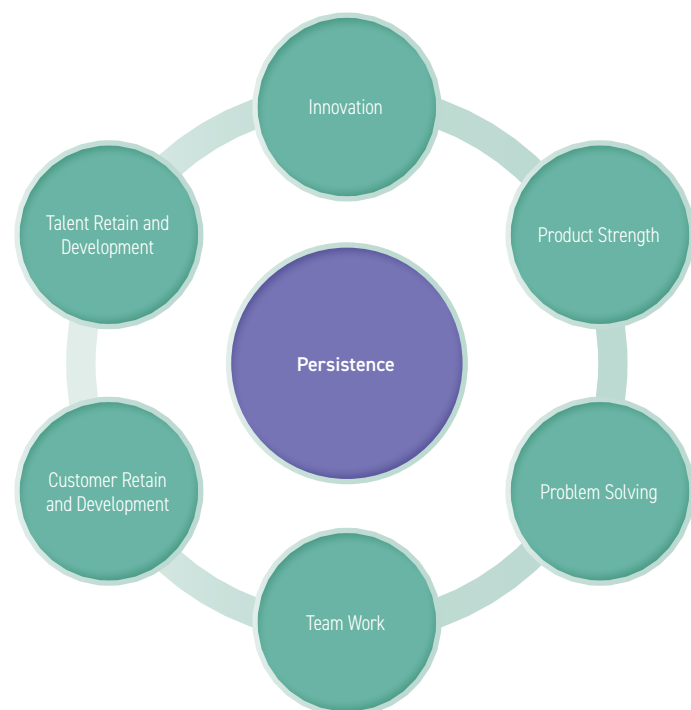


## 1.2 Sustainable Practices

### » Sustainable visions and strategies

#### Sustainable visions

"Striving for excellence with innovation and dedication to become an RF component supplier offering market differentiation and outstanding performance" is RichWave's corporate vision. Since the company was founded, we have always upheld the corporate philosophy of "perseverance," focusing on sustainable corporate development and our six major core values of "innovation, products, problem solution, teamwork, customers, and talents" to promote sustainable development and ethical management, green manufacturing and environmental protection, innovation and quality, talent development and friendly workplace, hoping to shape a brighter future with every team member.



### Development Strategy

#### ◎ Short-term development plan:

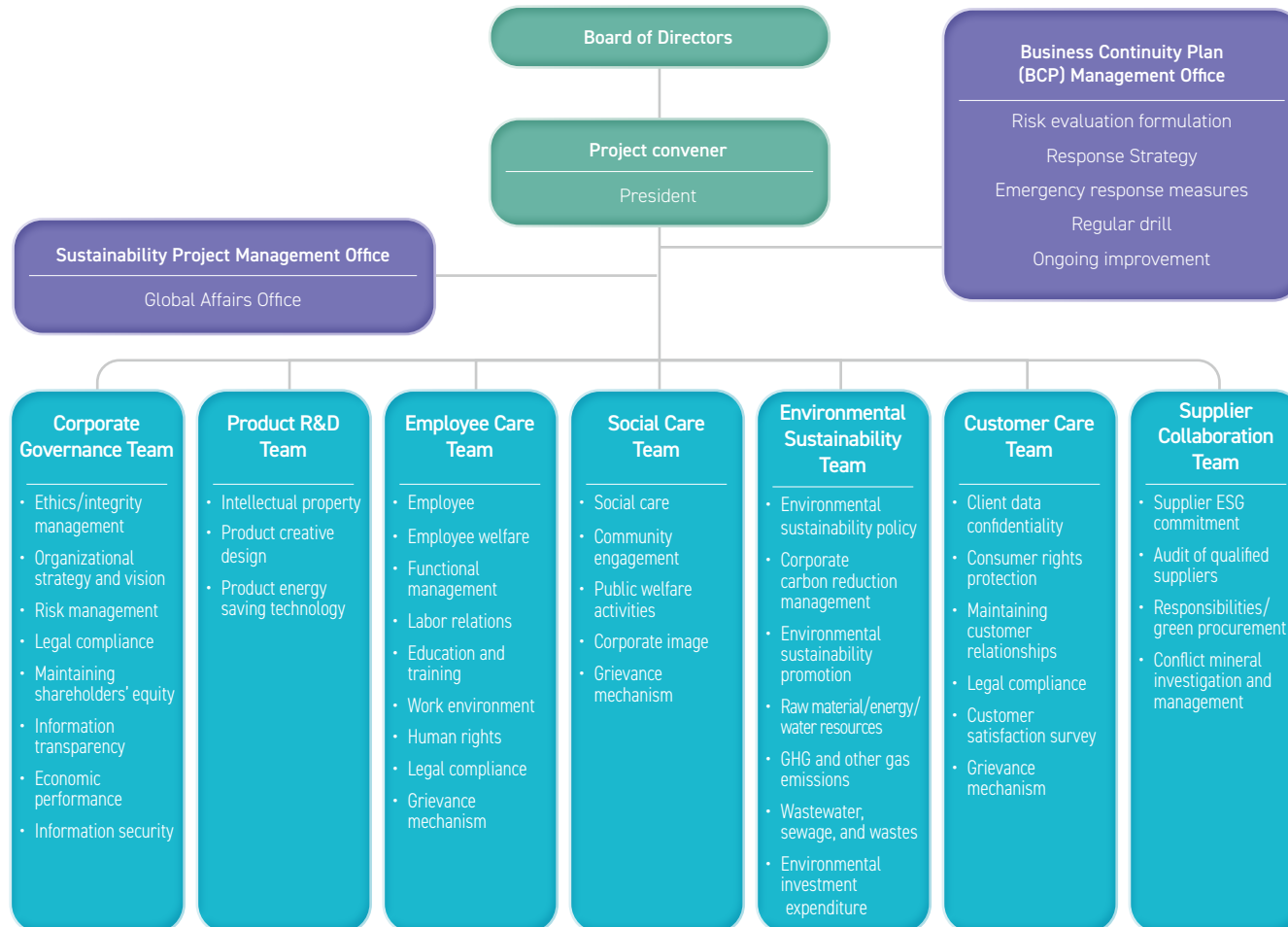
1. Develop various wireless products based on the market development trends of the information, communication, and consumer electronics products to accommodate our customers' needs, thereby expanding the market share of our products.
2. Utilize the company's accumulated technological know-how to create technical differentiation. Besides enhancing existing products, we also research cost reduction approaches and develop other products to be sold on the market to improve our product quality and strengthen product competitiveness.
3. Capitalize on Taiwan's vertical specialization in semiconductors and excellent manufacturing capability to offer the versatility of customization, as well as maintain close collaboration with domestic foundries and packaging and testing plants to uphold production capacity and accurate product delivery dates for the sake of catering to the needs of our clients and the market.
4. Reinforce partnership with our clients and trust to provide quick, excellent technical service, as well as use channel agents to reach every corner to increase profitability and product market share.
5. Value our employee welfare policy, implement a bonus and performance reward system to boost employee morale and increase workplace cohesion.

#### ◎ Long-term development plan:

1. Take into consideration the market's application needs, provide a comprehensive production collection, develop the breadth and depth of our product lines, and apply more advanced technologies to develop high-end products, to satisfy the needs of our clients and the market through a diverse product lineup.
2. Seek technical exchanges with domestic and overseas academic institutions and research organizations, as well as to forge a long-term strategic partnership with systems companies to establish our exclusive technology brand.
3. Forge a long-term partnership with SoC manufacturers, and develop and deploy reference designs for the platform in advance to expand RichWave's market share.
4. Continue to maintain a long-term partnership with our upstream foundries, packaging, and testing plants, turning them into strategic partners to jointly develop processes with unique niches, lower production costs, and develop high-quality, competitive products.
5. Master key technologies, optimize product applications and engage in the integrated development of more advanced and sophisticated products in a bid to become a world-class industry leader.
6. Promote the concept of internationalization and harness the management capabilities of international enterprises, vigorously cultivate international talents, and aim to become an international enterprise.
7. In supporting the growth of the company's long-term operational scale, we have applied to diverse financial management tools in the capital market to strengthen RichWave's financial structure. Meanwhile, we have also utilized sound, diverse funding channels to assemble the most suitable capital combinations that can support the company's operational development.

## Corporate Sustainability Organization

The company established the Business Continuity Planning (BCP) Management Office in June 2020 in order to align with the Sustainable Development Goals of the United Nations and promote ESG policies. In addition, the Sustainable Project Management Office was established in April 2021, with the President serving as project coordinator and the Global Affairs Office concurrently operating. The Sustainable Project Management Office is responsible for ESG and risk assessment matters. It consists of seven groups: Corporate Governance, Customer Care, Supplier Collaboration, Environmental Sustainability, Employee Well-being, Social Responsibility, and Product Development. These groups consist of representatives from various departments, each with a distinct set of abilities, experiences, and origins. The office provides periodic updates to the board of directors on the status of sustainability initiatives. The report on the company's sustainability initiatives was presented to and approved by the board of directors on December 22, 2022.



## » Sustainability Performance

The year 2021 was RichWave's first year in implementing sustainable management, where the Sustainable Project Management Office was officially launched under the leadership of the President, consisting of department heads, the task force conducted an inventory of the company's ESG status based on seven major dimensions, implementing important corporate governance systems such as the risk management policy and information security management policy approved by the Board of Directors. Project refinements are carried out focusing on key ESG issues recommended by the corporate governance evaluation, while the inaugural issue of the company's e-newsletter was published, serving as a crucial platform for internal communication and establishing sustainable corporate values. In 2022, the Sustainable Project Management Office established a new product research and development division. This team aims to integrate and manage the company's primary products with sustainable performance, promoting sustainable development through the incorporation of professionalism and the cultivation of an internal culture of sustainability. Corporate governance systems and sustainable performance are continuously improved. In 2022, the company's score on its ninth corporate governance evaluation increased by 11% compared to the previous year (2021). Moreover, the company cultivates an ESG community presence by establishing RichWave profiles on LinkedIn, YouTube, and Youku. Specialized personnel are assigned to administer community engagement on these platforms. In order to provide stakeholders with real-time updates on the latest sustainability news, a dedicated sustainable news page has been introduced to the sustainability section of the company's website.





## 1.3 Stakeholder Communication and Materiality Analysis




### » Stakeholder engagement



RichWave has taken into consideration "stakeholder inclusiveness" of the GRI standards to define the internal/external groups or individuals that have an impact on the company or are being impacted by the company's actions as RichWave's stakeholders. Furthermore, the definition is used to identify seven major stakeholder groups that exert an influence on the company or are being influenced by the company in three dimensions such as governance, environment, and society. These groups include the government, RichWave's shareholders and investors, media, communities, our customers/consumers, suppliers/contractors/distributors, and employees.

The opinions of stakeholders are fundamental to the ESG development of the company. The primary goal of engaging with stakeholders is to establish effective communication and exchange channels, ensuring a clear comprehension of their concerns and suggestions, which in turn serve as directions for the company's continuous improvement and expansion. We compile the priorities and concerns of various stakeholders through a variety of communication channels. RichWave establishes distinct communication channels for each stakeholder group based on their influence and areas of focus. We are able to actively respond to and meet the needs of stakeholders by nurturing effective communication channels between relevant departments and stakeholders. In addition, we annually divulge relevant information via public platforms, demonstrating the company's commitment to addressing stakeholders' concerns.

Stakeholder	Topic of concern	Communication channel/response method and communication frequency	Achievements in 2022	Contact person and method
 <b>Government agency</b>	Legal compliance	<ol style="list-style-type: none"> <li>Ensures the company's conducts are compliant with the law</li> <li>Communicate with the competent authorities from time to time</li> </ol>	<ol style="list-style-type: none"> <li>In 2022, the company did not receive any letter from securities and taxation authorities requesting us to make corrections.</li> <li>In 2022, the Labor Bureau conducted an inspection of the business and discovered no violations of significance. The company has taken steps to alter and enhance the overtime-related issues identified by regulatory authorities.</li> <li>In 2022, a building fire safety inspection was carried out in conjunction with the fire brigade, and no violations were found, nor were improvements necessary.</li> </ol>	<p>For labor and environmental protection regulation-related topics, please send your questions to Mr. Chang of the HR Administration Department (dennischang@richwave.com.tw)</p> <p>For securities or taxation regulation-related topics, please send your questions to Ms. Chin of the Finance Department (gloriachin@richwave.com.tw) or call the service hotline at 02-8751 1358/03-6008999</p>
 <b>Shareholders and investors</b>	Business Performance Ethical management Corporate governance	<ol style="list-style-type: none"> <li>Shareholders' meeting, annual report, meeting agenda handbook: annually</li> <li>Investor conference quarterly</li> <li>Monthly revenue announcement: monthly</li> <li>Domestic and foreign brokerage investment forum: 3 sessions per quarter</li> <li>Domestic and foreign investor interview meeting: 10 meetings per month</li> <li>Material information disclosure/news release: from time to time</li> <li>Investors calling or emailing to inquire about the company's conditions: daily</li> <li>Information disclosure on the MOPS and the IR Platform</li> </ol>	<ol style="list-style-type: none"> <li>Shareholders' meeting: Held on 5/26, the annual report and meeting agenda handbook are uploaded to the MOPS and IR Platform.</li> <li>Investor conference: On 2/24, 4/28, and 10/27, online investor conferences were held, with a total of 675 individuals participating in the live broadcasts.</li> <li>Monthly revenue announcement: The revenue information is disclosed on the MOPS and the IR Platform.</li> <li>We attended 57 domestic and foreign investor interview meetings/visits to engage in a dialogue with 124 investors.</li> <li>Material information disclosure/news report: There were 22 major Chinese/English announcements and 16 news reports.</li> <li>Investors calling or emailing to inquire about the company's conditions: On average, the company receives about 20 calls or emails daily.</li> <li>Information disclosure on the MOPS and the IR Platform: Annual reports, meeting agenda handbook, investor conferences, domestic and foreign brokerage investment forums, monthly revenue announcements.</li> </ol>	<p>For investor-related topics, please send your questions to Ms. Juan of the PR Department (wendyjuan@richwave.com.tw) or call the service hotline at 02-8751 1358/03-6008999</p>



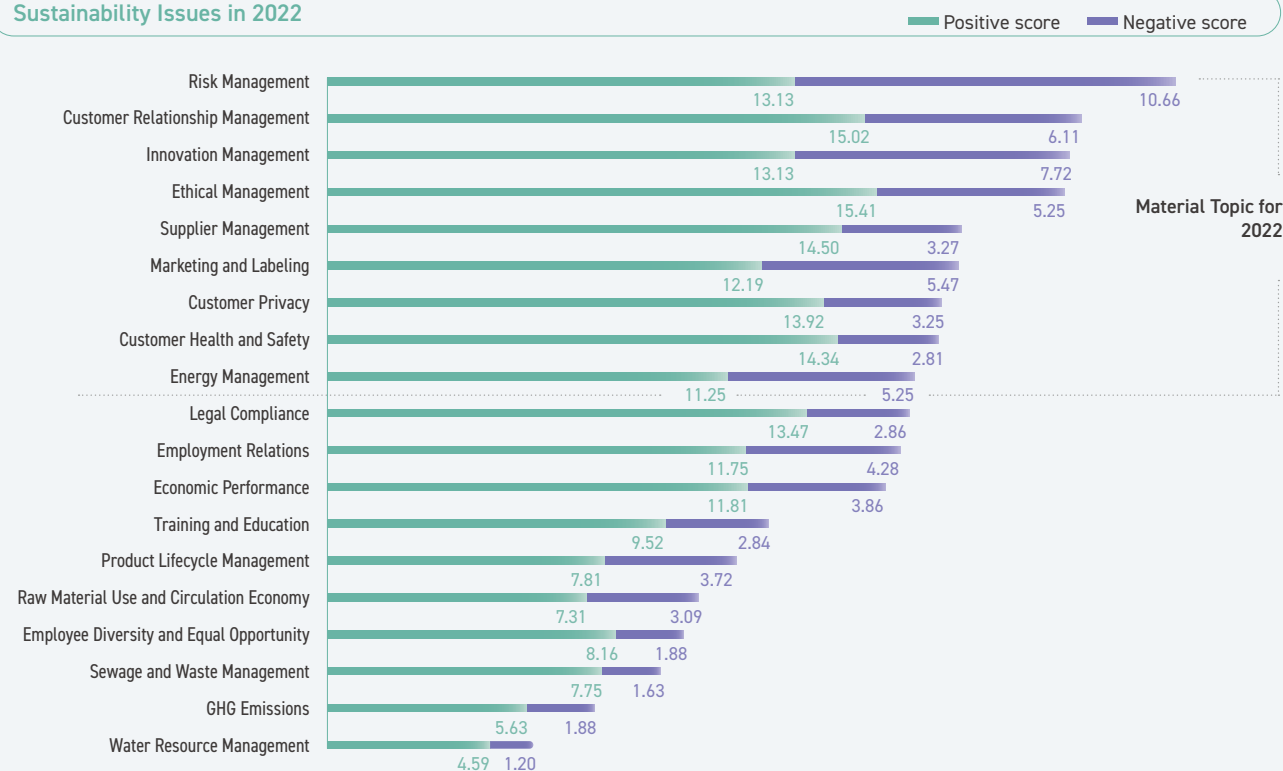
Stakeholder	Topic of concern	Communication channel/response method and communication frequency	Achievements in 2022	Contact person and method
 Media	Market brand image Social welfare activities	1. Phone interview: from time to time 2. Print media interview and reporting: from time to time 3. Shareholders' meeting: annually 4. Technical summit: annually 5. Disclose social welfare activities on the company's official website 6. Receive interviews at the company's public functions 7. Material information disclosure/news release: from time to time 8. Information disclosure on the MOPS and the IR Platform	1. Phone interview: from time to time 2. Print media interview and reporting: from time to time 3. Shareholders' meeting: Held on 5/26 4. Disclose social welfare activities on the company's official website: <ol style="list-style-type: none"> <li>RichWave planted peace trees and distributed sustainable seeds: in partnership with the "Tse-Xin Organic Agriculture Foundation," 200 trees were adopted and planted.</li> <li>RichWave promotes continuous RF education in campus: The President and colleagues from the Marketing and Research &amp; Development departments presented special lectures at the Department of Electrical Engineering at National Taiwan University.</li> <li>RichWave caring for and subsidizing students' education: Sponsors and donations to National Yang Ming Chiao Tung University.</li> </ol> 5. Receive interviews at the company's public functions: <ol style="list-style-type: none"> <li>Shareholders' meeting: 5/26</li> <li>Investors Conference: 2/24, 4/28, 10/27</li> </ol> 6. Material information disclosure/news report: There were 22 major Chinese/English announcements and 16 news reports. 7. Information disclosure on the MOPS and the IR Platform: Annual reports, meeting agenda handbook, investor conferences, domestic and foreign brokerage investment forums, monthly revenue announcements.	For relevant topics, please send your questions to Ms. Juan of the PR Department (wendyjuan@richwave.com.tw) or call the service hotline at 02-87511358/03-6008999
 Community	Market brand image Social welfare activities	1. Created the company's LinkedIn page 2. Created the company's YouTube page 3. Industry-academia Collaborations 4. Sponsorships and donations	1. Created the company's LinkedIn page and uploaded 15 posts 2. Created the company's YouTube page and uploaded 29 videos 3. Industry-academia collaboration: <ol style="list-style-type: none"> <li>Assisting the NTU GIEE's radar algorithm research</li> <li>Assisting the NTU GIEE's high-speed PLL research</li> <li>Assisting the NTU GIEE's millimeter-wave circuit research</li> <li>Assisting the Institute of Communications Engineering at National Yang Ming Chiao Tung University in RF circuit design research</li> </ol> 4. Sponsorships and donations: Sponsored the 2022 IEEE RFIC Symposium: Gold Sponsorship (US\$6,000/session)	For relevant topics, please send your questions to Ms. Juan of the PR Department (wendyjuan@richwave.com.tw) or call the service hotline at 02-87511358/03-6008999
 Customer/ consumer	Customer product development trend Maintaining customer relationships Market brand image Customer satisfaction survey	1. Daily, routine communication 2. Immediate handling 3. Customer satisfaction survey is conducted once a year	1. The 2022 customer satisfaction survey was completed in December, achieving an average score of 98 points. 2. At least 4 sales review meetings are held with important clients including new product presentations.	For product sales-related questions, please send your questions to Ms. Chen of the Customer Service Department (sunnychen@richwave.com.tw) or call the service hotline at 02-87511358/03-6008999

Stakeholder	Topic of concern	Communication channel/response method and communication frequency	Achievements in 2022	Contact person and method
 <b>Supplier/ contractor/ distributor</b>	Supplier audit Grievance channel	1. Quality meeting: weekly/quarterly 2. Annual supplier audit 3. Supplier audit	1. Completed 100% audit in Q4 2. The hazardous substance report has been updated to 613 in 2022, complying with international and customer requirements. 3. Conducted conflict minerals survey on 182 smelters, achieving a 100% pass rate.	For product quality control and supplier-related topics, please send your questions to Mr. Chang of the Quality Control Department (patrickchang@richwave.com.tw) or call the service hotline at 02-87511358/03-6008999
 <b>Employee</b>	Company policy and employee-related information	1. The labor-management meeting is convened quarterly 2. Welfare Committee meeting is convened quarterly	1. The labor-management meeting were held quarterly. There were a total of three meetings in 2022, occurring on 3/30, 6/29, and 10/5. The fourth quarter meeting will be merged with the first quarter meeting in 2023. 2. The Welfare Committee convened 6 meetings on 2/15, 3/30, 4/27, 6/22, 9/28, and 12/15 in 2022.	For labor and environmental protection regulation-related topics, please send your questions to Mr. Chang of the HR Administration Department (dennischang@richwave.com.tw) Sexual harassment complaint box: hr@richwave.com.tw or call 02-87511358, 03-6008999.

## » Material Topic Identification

To gain a deeper understanding of stakeholder concerns regarding sustainability issues and translate them into strategic directions for the company's sustainable development, we followed the four-step GRI Guidelines 2021: context analysis, impact identification, significance assessment, and review and confirmation. This process involved analyzing global sustainability trends, domestic and international relevant industries, and high-priority sustainability issues for stakeholders. We conducted a questionnaire survey to analyze the probability and extent of the potential positive and negative effects of these issues on the company after evaluating their potential positive and negative effects. This process resulted in the identification of a list of annually significant topics, which were subsequently confirmed and decided upon by the Sustainable Project Management Office's members. Through the aforementioned process, we identified 19 sustainability issues in 2022 and selected 9 major topics to serve as the basis for the preparation and disclosure of this sustainability report. We intend to evaluate the effectiveness of the company's sustainable governance and operations through this exhaustive review.

### Sustainability Issues in 2022



## » Material topic management guideline

Type	Material topic	Within the Organization	Outside the organization						Actual and potential positive and negative impacts	Policies/Promises	Actions	Effectiveness assessment
		RichWave/ Employees	Government	Shareholders and Investors	Media	Community	Customer/ consumer	Supplier/ contractor/ distributor				
Corporate governance	Ethical Management	✓	✓	✓	✓	✓	✓	✓	<p><b>Positive:</b> The organization provides ethics and compliance education and training, communicates anti-corruption policies and procedures based on the Ethical Corporate Management Best Practice Principles, and ensures employee conduct adheres to business ethics and societal norms. This helps prevent corruption within the organization and enhance the reputation.</p> <p><b>Negative:</b> Failing to establish an integrity management system can result in damage to the company's reputation and potential legal action, leading to market failure and substantial investor losses.</p>	The company has established the "Procedures for Ethical Management and Guidelines for Conduct" based on principles of fairness, honesty, trustworthiness, and transparency to promote integrity in business activities.	In addition to the "Procedures for Ethical Management and Guidelines for Conduct", the company emphasizes the importance of ethical corporate management through annual educational training programs.	1. The company aims for zero cases of integrity violations in its reporting system, and in 2022, none were reported. 2. 300 individuals participated in integrity training in 2022 for a total of 300 hours of training.
	Risk management	✓		✓	✓		✓	✓	<p><b>Positive:</b> The company conducts pre-assessment and planning for potential risks, reducing operational risks and minimizing potential losses. This helps prevent business disruptions and ensures continuous operations.</p> <p><b>Negative:</b> Failure to anticipate and prepare for potential risks can result in financial and reputational losses for the company, as well as missed business opportunities. In severe cases, it can lead to operational disruptions.</p>	The company has established a "Risk Management Policy and Procedures" to ensure efficient business operations and improve corporate governance. The policy also ensures the board of directors' oversight function in risk management, with sustainable operations serving as the ultimate objective of the company's business activities.	RichWave has formed an interdepartmental BCP (Business Continuity Planning) Office with the President as the chairperson and office members consisting of representatives from various business units. In order to prevent potential major risks from harming the company, the BCP office conducts rigorous risk evaluation to formulate response strategies, arrange for emergency response measures, as well as carrying out drills from time to time and engage in ongoing improvement.	No significant business-threatening events occurred.



Type	Material topic	Within the Organization	Outside the organization					Actual and potential positive and negative impacts	Policies/Promises	Actions	Effectiveness assessment	
		RichWave/ Employees	Government	Shareholders and investors	Media	Community	Customer/ consumer					Supplier/ contractor/ distributor
Corporate governance	Customer Privacy	✓			✓			✓	<p><b>Positive:</b> Protecting customer’s data effectively helps maintain their trust in the business.</p> <p><b>Negative:</b> The disclosure of trade secrets and the violation of customer data privacy rights can erode customer confidence and result in legal repercussions.</p>	<p>1. Through comprehensive information security mechanisms, the company ensures that customer data is effectively protected.</p> <p>2. The company’s “Information Security Risk Management Policy and Procedures” encompass employees, customers, suppliers, shareholders, as well as operational information systems and hardware. This policy includes relevant regulations, technological applications, and data security standards to safeguard company information. It is integrated into the management operating system to safeguard the privacy and information security of employees, suppliers, and clients during business interactions.</p>	<p>1. A cross-departmental Information Security Management Team has been established, convened by the President, with leadership and planning responsibilities shared between the Information Technology and Administrative Management departments. To assure the efficacy of information security management operations, business-related departments collaborate.</p> <p>2. The team is responsible for establishing information security management policies and conducting at least annual evaluations and revisions.</p> <p>3. The team conducts regular meetings to review the implementation status and provides at least one annual report to the board of directors with updates on the execution and reviews of information security management.</p>	There have been no security breaches or incidents of consumer data leakage.
	Supplier management	✓	✓					✓	✓	<p><b>Positive:</b> Implementing sustainable supply chain management not only ensures a secure supply of primary materials, but also improves the overall sustainability performance of the supply chain in accordance with international standards. This demonstrates the positive external impact of the company and enhances its reputation.</p> <p><b>Negative:</b> If ESG-related issues arise in the supply chain, it can lead to environmental violations or violations of human rights, resulting in negative perceptions among customers, investors, and the public. This may result in the revenue reduction and impact the stability of the supply chain.</p>	<p>1. Suppliers are required to comply with local laws and the company’s “Corporate Social Responsibility Code of Conduct.”</p> <p>2. Suppliers must comply with conflict mineral control requirements specified in the Environmental Substance Management Procedure.</p>	<p>1. Environmental substance management requirements have been outlined in the company’s “Environmental Substance Management Procedure” The entire supply chain is informed of this requirement to assure compliance.</p> <p>2. Conflict mineral investigations are conducted quarterly, and compliance lists are reviewed.</p> <p>3. For procurement activities, environmentally friendly products and services are prioritized.</p> <p>4. Regular supplier evaluations and audits are conducted periodically.</p> <p>5. Regular supplier meetings are held on a quarterly basis.</p>

Type	Material topic	Within the Organization	Outside the organization						Actual and potential positive and negative impacts	Policies/Promises	Actions	Effectiveness assessment
		RichWave/ Employees	Government	Shareholders and Investors	Media	Community	Customer/ consumer	Supplier/ contractor/ distributor				
Environment	Energy management	✓	✓	✓				✓	<p><b>Positive:</b> Effective energy management and energy conservation reduce operating costs, produce carbon reduction effects, and decrease the likelihood of power disruptions at operational sites.</p> <p><b>Negative:</b> Businesses with high energy consumption may fail to meet investors' and the general public's expectations regarding energy conservation and emissions reduction, resulting in a negative corporate image and funding difficulties. Failure to implement energy-saving measures can lead to an increase in electricity consumption, higher electricity costs, and negative environmental effects.</p>	As part of its management policy objectives, the company intends to achieve a 3% reduction in electricity consumption, greenhouse gas emissions, and other waste management within five years beginning in 2023.	<ol style="list-style-type: none"><li>Office energy conservation and carbon reduction initiatives.</li><li>Review and adjustment of Taiwan Power Company contracts and capacities.</li><li>Internal promotion and continuation of office energy conservation and carbon reduction measures.</li><li>Continuation of ISO 14001 and ISO 14064 certifications and inventory.</li></ol>	<ol style="list-style-type: none"><li>In 2022, Energy Use Intensity (EUI) decreased by 5.8% compared to last year.</li><li>Energy conservation and carbon reduction solutions in 2022 reduced external electricity purchase by 6,857.59 kWh, equivalent to lowering 3.4905 tCO<sub>2</sub>e GHG emissions.</li><li>The water intensity in 2022 decreased by 2.3% compared to 2021.</li><li>Waste generated in 2022 decreased by 31.03% compared to 2021.</li></ol>
Product and customer relationship	Customer health and safety	✓	✓	✓	✓			✓	<p><b>Positive:</b> Providing consumers with products that comply with national regulations increases customer confidence and ensures their safety.</p> <p><b>Negative:</b> Product safety incidents can impact customer health and safety, resulting in business losses, reputational harm, and a loss of consumer confidence in the company's products and brands. In extreme circumstances, legal action and sanctions may be taken.</p>	<ol style="list-style-type: none"><li>Providing products that satisfy the hazardous substance management needs of customers.</li><li>Observing the environmental management regulations and requirements of the local government.</li><li>Environmental Substance Management Procedure.</li></ol>	<ol style="list-style-type: none"><li>Primary suppliers will be required to respond to inquiries twice per year regarding compliance with European REACH regulations.</li><li>Sending annually finished IC products for testing of hazardous substances to third-party notarization agencies.</li><li>Systematic management of third-party testing reports.</li></ol>	<ol style="list-style-type: none"><li>Obtaining 100% update and compliance rates for all raw material third-party testing reports.</li><li>100% compliance of finished IC products with RoHS and Halogen-Free requirements.</li><li>The quality management system kept track of all materials to make sure they comply with RoHS, Halogen-Free, and REACH requirements.</li></ol>
	Marketing and labeling	✓	✓		✓			✓	<p><b>Positive:</b> Using truthful and non-exaggerated marketing strategies can aid in establishing a trustworthy corporate image and boosting consumer and public confidence in a company's products and brand.</p> <p><b>Negative:</b> Negative marketing incidents can cause customers and consumers to lose faith in the company's brand, thereby affecting product sales. In extreme circumstances, legal action and sanctions may be taken.</p>	Marketing and labeling adhere to regulations or customer requirements in the sales region, with pertinent specifications and material labeling prominently displayed.	Clear labeling of RoHS, Lead-Free, and Halogen-Free symbols on product packaging and specifications, as well as the provision of third-party ICP test reports for each material based on product models.	In 2022, RichWave has confirmed that 100% of our materials comply with RoHS, Halogen-Free, and REACH requirements through the management system, and there were no product and service-related health and safety violations.

Type	Material topic	Within the Organization	Outside the organization					Actual and potential positive and negative impacts	Policies/Promises	Actions	Effectiveness assessment
		RichWave/ Employees	Government	Shareholders and investors	Media	Community	Customer/ consumer				
Product and customer relationship	Innovation management	✓		✓			✓	<p><b>Positive:</b> Establishing product innovation advantages assists in maintaining market competitiveness and increasing revenue. Good secret protection prevents market fluctuations and investor losses. Consideration of ESG in research and development promotes sustainable market development and facilitates the emergence of sustainable business models.</p> <p><b>Negative:</b> Failed product development or extended timelines can devour substantial company resources and time, impacting market position and competitiveness. Ineffective patent management may also result in financial losses and litigation for the business.</p>	Bolster the company's innovation capability and product competitiveness to protect the company's achievements in cutting-edge technology. The company stipulates the number of additional patent certificates that must be obtained for the year from the annual operational target, encouraging colleagues from various R&D units to vigorously attain the target.	<ol style="list-style-type: none"> <li>1. Actively engage in patent management with plans in the US, China, and Taiwan. Ensure that the expansion of product lines does not infringe upon competitors' patents and harm the company.</li> <li>2. To attain ESG objectives, we actively expand the layout of RFIC peripheral circuit components, such as filters and duplexers, and develop smaller integrated RF front-end products.</li> <li>3. Set patent targets for each department of research and development, not limited to IC patents alone, but also encouraging the generation and submission of patents relating to algorithms and antennas, among others.</li> </ol>	<ol style="list-style-type: none"> <li>1. Settlement until December 31 2022, the target number of proposals was 51, and 50 were submitted for a 98% success rate.</li> <li>2. Settlement until December 31 2022, 82 patent applications and 75 patents were granted.</li> </ol>
	Customer Relationship Management	✓					✓	<p><b>Positive:</b> Developing a positive and trustworthy relationship with customers and effectively resolving their issues can increase consumer brand loyalty and trust in the company, bringing stable business opportunities and enhancing its reputation.</p> <p><b>Negative:</b> Poor customer relationships can contribute to negative customer experiences and hinder the successful utilization of products, resulting in losing orders and potentially affecting the company's external perceptions and long-term growth.</p>	The company has established customer complaint management procedures and customer return/exchange operation guidelines.	<ol style="list-style-type: none"> <li>1. Product satisfaction surveys are conducted quarterly.</li> <li>2. At least 4 sales review meetings are held with important clients including new product presentations.</li> </ol>	<ol style="list-style-type: none"> <li>1. Average customer satisfaction score of 98 in 2022.</li> <li>2. Defective Parts Per Million (DPPM) for every one million products in 2022 was 2.4.</li> </ol>

\*In 2022, no significant topic-related activities or business relationships had negative effects.

## CHAPTER

# 2

## Corporate Governance

- 2-1 Management Governance
- 2-2 Ethical Management
- 2-3 Risk Management
- 2-4 Information Security and Customer Privacy
- 2-5 Legal Compliance

### Chapter Highlight

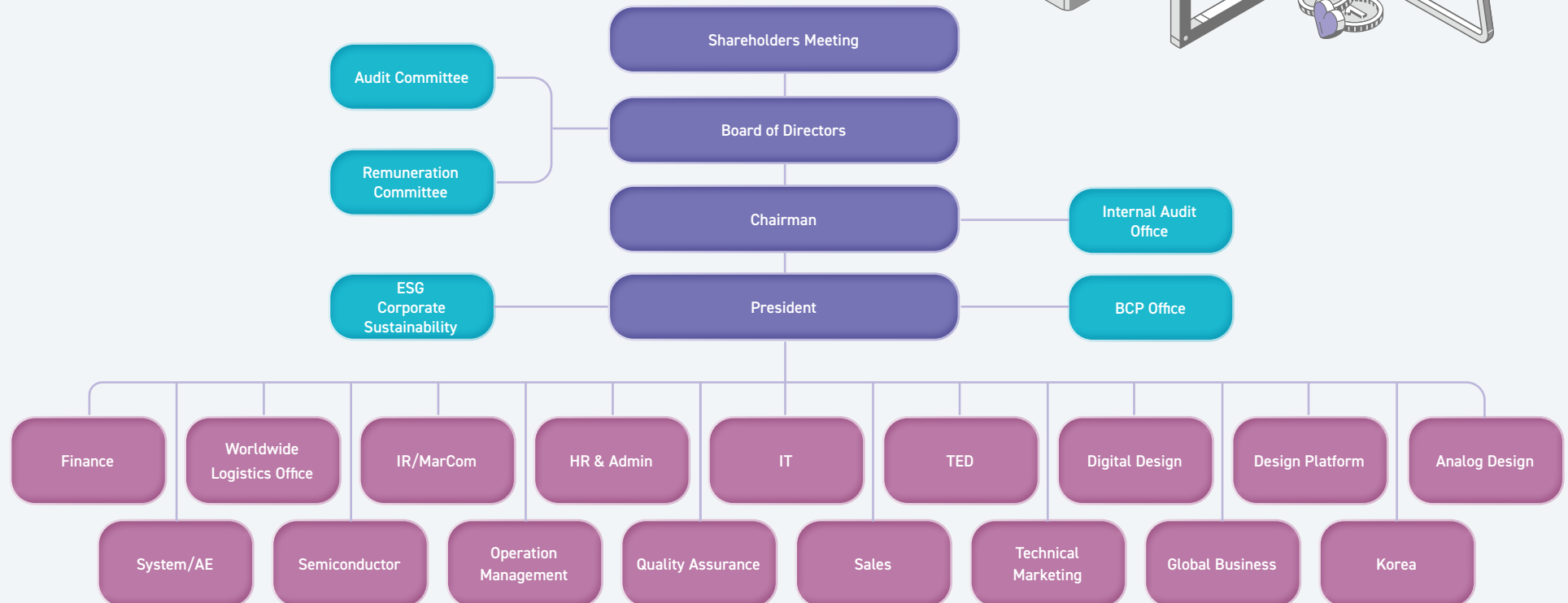
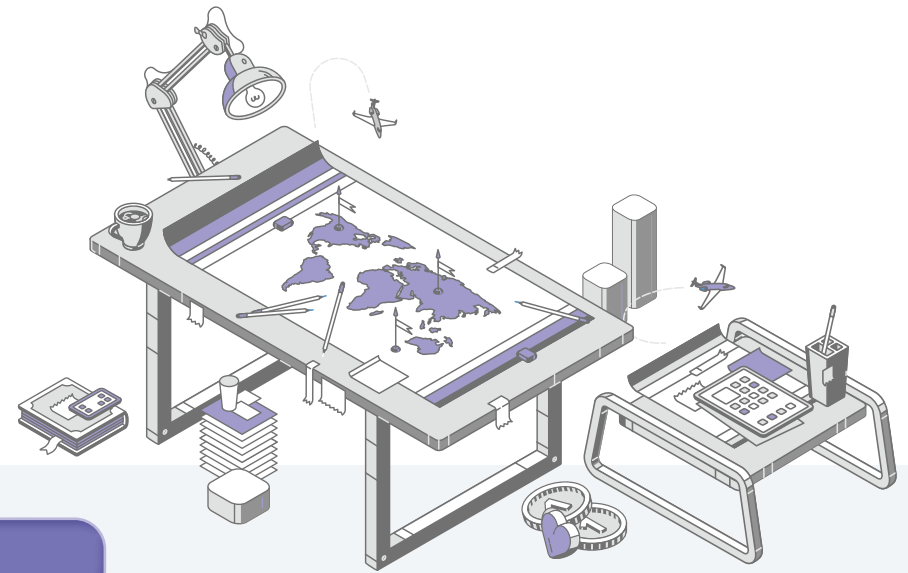
- ☉ In 2022, the board of directors held a total of 7 meetings, with an average attendance rate of 98%; the attendance rate of the Audit Committee and the Compensation Committee reached 100%.
- ☉ There were no cases of violating ethical corporate management in 2022, and no accusation cases of unethical corporate management behavior.
- ☉ In 2022, a total of 300 employees received training on Ethical Corporate Management, Trade Secrets Protection and Insider Trading prevention, achieving a coverage rate of 99%.
- ☉ In 2022, 299 employees were trained for a total of 299 hours on information security.
- ☉ In 2022, no violations of environmental regulations resulted in any penalties.



## 2.1 Management Governance

### » Corporate Governance Structure

A sound corporate governance system is the key to sustainable corporate management, and a well-functioning Board of Directors is not only the cornerstone of outstanding corporate governance but also facilitates the company's sustainable development. RichWave has formulated the "Corporate Governance Best-Practice Principles" to reinforce the Board of Directors' functions, protect the shareholders' equity, and respect the stakeholders' rights. Furthermore, the "Articles of Incorporation" regulate the selection and formation of the Board of Directors. The Audit Committee and Remuneration Committee subsidiary to the Board of Directors are responsible for fortifying the independence of corporate governance and enhancing the company's remuneration system.



» Operation of the Board of Directors

RichWave has appointed 7-9 directors according to the Articles of Incorporation. Adopting the candidate nomination system, the directors are selected from the roster of director candidates by the shareholders' meeting, and they may be reelected. In particular, there shall be more than three independent directors and should make up for no less than 1/5 of the directors' seats, serving a term of 3 years. The Board of Directors will exercise its powers according to the law, the Articles of Incorporation, and decisions made by the shareholders' meeting. The board of directors of our company is composed of members with diverse backgrounds in management, science and technology, accountancy and finance, and law. There are industry executives, professors specializing in science and technology, as well as accounting professors and lawyers, all of whom bring diverse perspectives and expertise. The board members provide professional guidance to direct the company's strategies, supervise management to ensure sustainable performance, and safeguard the rights and interests of stakeholders. RichWave's Board of Directors has nine directors, consisting of five directors and four independent directors.

In order to effectively implement corporate governance and improve the efficacy of the board of directors, our company annually enrolls directors in external training programs. In 2022, newly appointed directors received a minimum of 12 training hours, while reappointed directors received a minimum of 6 training hours. This satisfies the requirements for director training hours. The training covers topics pertaining to the economy, the environment, and society, such as corporate governance, regulatory compliance and internal controls, impact investing, supply chain cybersecurity management, sustainability and carbon neutrality, climate change, and TCFD-related climate financial disclosure. Additionally, the board of directors is evaluated annually by the company. A questionnaire is used to assess the overall operations of the board of directors and functional committees, board participation, understanding of the company, awareness of responsibility, and continuing education. The evaluation functions as a guide for board members' ongoing development. On February 23, 2023, the performance evaluation for the year 2022 was concluded, and the result was outstanding.

Board of Directors Performance Evaluation	Board Member Performance Evaluation	Functional Committee Performance Evaluation
<div>1. Level of engagement in the company's operations.</div> <div>2. Improve the Board of Directors' decision-making quality.</div> <div>3. Board of Directors formation and structure.</div> <div>4. Director selection, appointment, and further education.</div> <div>5. Internal control</div>	<div>1. In control of the company's goals and missions.</div> <div>2. Awareness of the directors' responsibilities.</div> <div>3. Level of engagement in the company's operations.</div> <div>4. Internal relationship management and communication.</div> <div>5. Directors' professional and further education.</div> <div>6. Internal control.</div>	<div>1. Level of engagement in the company's operations.</div> <div>2. Awareness of the functional committees' responsibilities.</div> <div>3. Improve the functional committees' decision-making quality.</div> <div>4. Formation of the functional committees, election, and appointment of committee members.</div> <div>5. Internal control.</div>

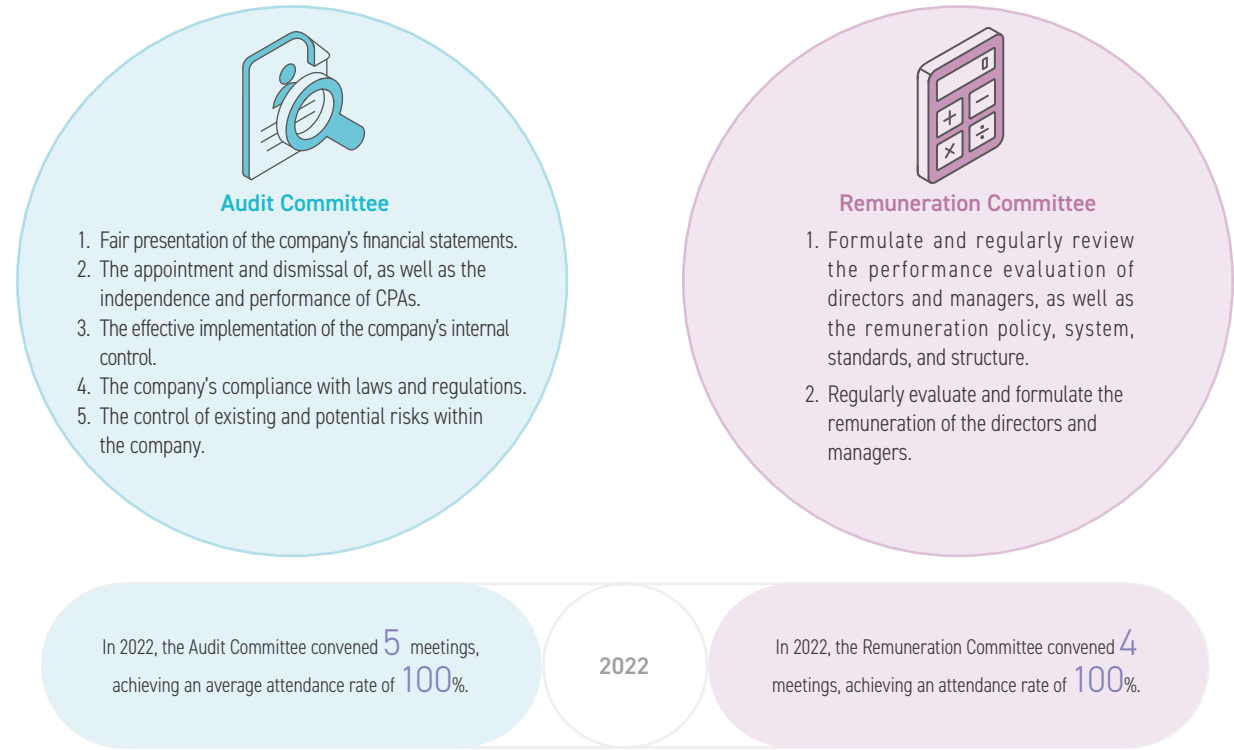


» Functional Committees

The company has established an Audit Committee and a Remuneration Committee under the Board of Directors to assist the board in fulfilling its responsibilities of strategic leadership and carrying out its supervisory function. The Audit Committee consists of independent directors who are in charge of supervising the hiring (dismissal) of the company's CPA, internal control effectiveness, legal compliance status, and performing potential risk control. In addition, RichWave has formulated the Audit Committee organizational regulations, stipulating that Audit Committee meetings must be conducted at least once every quarter, and the meeting may be convened at any time if necessary. In 2022, the Audit Committee convened five meetings, achieving an average attendance rate of 100%.

The company's Remuneration Committee is also made up of four independent directors who propose recommendations concerning the remuneration of directors and managers to the Board of Directors from an independent, objective point of view. The recommendations serve as a reference for the Board of Directors during its decision-making process. According to the company's Remuneration Committee organization regulations, at least two Remuneration Committee meetings should be convened annually, and the meeting can be convened at any time if necessary. In 2022, the Remuneration Committee convened four meetings, achieving an attendance rate of 100%.

The company's remuneration policy for directors and senior management is established based on industry standards and practices regarding remuneration. This includes considering the practices, standards, composition, and procedures for determining remuneration. The process involves referencing the salary levels of peer companies and receiving recommendations from the Remuneration Committee before presenting them to the Board of Directors for approval. The following mechanisms are in place:



◎ Directors:

The remuneration of directors is derived from the distribution of profits, with the allocation of profits for their remuneration not exceeding 1%. The remuneration is assessed according to the level of involvement and contributions made by the directors to the company's operations. When the company achieves net income in its annual financial statements, after accounting for losses, allocating statutory surplus reserves or special surplus reserves, and distributing dividends to special stockholders and employee remuneration, the Board of Directors shall assess the industry environment and the company's capital requirements. The company will propose a profit distribution plan that includes remuneration for the directors. This plan will be distributed after receiving approval from the shareholders' meeting.

◎ President and Vice President:

The remuneration for the President and Vice President comprises salary, bonuses, and employee dividends. The determination is based on the positions held, responsibilities undertaken, performance evaluation, contributions to the company, and the achievement of sustainability (ESG) indicators such as ISO14001 and ISO14064-1 certification. The remuneration also considers industry benchmark.

## 2.2 Ethical Management

### » Ethical Management and Anti-corruption Regulations

#### Ethical Management Regulations and Responsible Unit

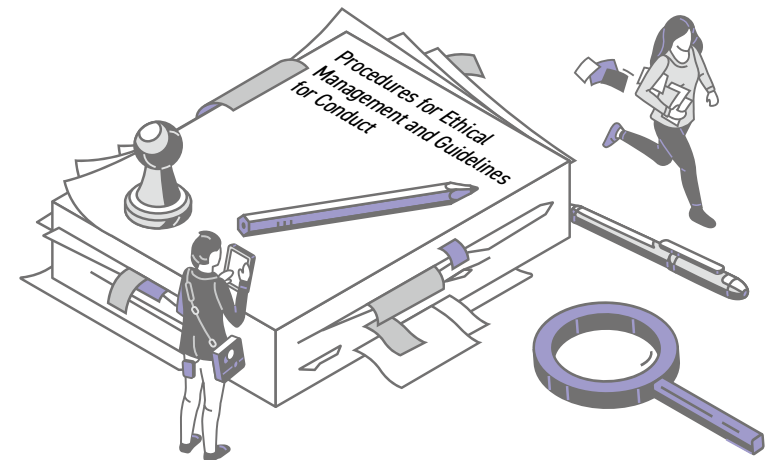
Ethical management is the root of corporate management, hence RichWave conducts business activities based on the principle of fairness, honesty, integrity, and transparency. The Board of Directors has approved the "Procedures for Ethical Management and Guidelines for Conduct" that applies to the group's parent company and subsidiaries. The guideline outlines the precautions RichWave employees should observe while implementing services, so as to materialize the company's ethical management policy, vigorously prevent unethical conduct, and prevent the company employees from, in the course of their duties, directly or indirectly providing, accepting, promising or requesting improper benefits, or committing a breach of ethics, unlawful act, or breach of fiduciary duty to acquire or maintain benefits. The guideline stipulates that the company's colleagues should avoid unethical conduct including corruption, bribery, political donation, conflict of interest, and anti-competitive practices. The guideline also states the possible disciplinary actions against unethical conduct and proposes a clear reporting procedure.

The President's Office of RichWave is responsible for promoting and implementing ethical management, and it must report to the Board of Directors regularly (at least once a year). It is also obligated to report to the Board of Directors at any time about the following:

1. Help to incorporate ethical and moral values into the corporate management strategy, as well as cooperate with the law to formulate ethical management-related fraud prevention measures.
2. Regularly analyze and evaluate the risks of unethical conduct within the business scope to formulate solutions to prevent unethical conduct, as well as to define work-related SOPs and guidelines within various solutions.
3. Plan the internal organization, structure, and allocation of responsibilities and set up check-and-balance mechanisms for mutual supervision of the business activities within the business scope which are possibly at a higher risk for unethical conduct.
4. Promote and coordinate awareness and educational activities concerning ethics policy.
5. Develop a whistleblowing system and ensure its operating effectiveness.
6. Assist the Board of Directors and management in auditing and assessing whether the prevention measures taken to implement ethical management are operating effectively, and prepare reports on the regular assessment of compliance with ethical management in operating procedures.
7. Prepare and maintain the ethical management policy as well as the compliance statement and documented information such as the materialization of commitments and implementation status.

The ethical management promotion status was reported to the Board of Directors on 12/22, 2022, and received the board's approval.

The company must review the risk of potential unethical conduct at all times based on the principle of "Procedures for Ethical Management and Guidelines for Conduct" and bolster education and promotion. The company has established and announced an internal independent whistleblowing email and hotline on the company's website and intranet or commissioned other external independent organizations to provide a whistleblowing email and hotline for the company's internal and external person. To encourage internal and external personnel to report unethical conduct or misconduct, a reward of less than NT\$500,000 will be provided depending on the severity of the offense to increase the company's ethical management performance and foster an ethical culture with our colleagues in the company. In 2022, the company had no cases of integrity violations and no cases of reported integrity violations.




	2020	2021	2022
Number of unethical conducts reported	0	0	0

Codes of Ethical Conduct


RichWave believes that ethical conduct should begin at the top, leading by example to guide the company's colleagues, thus the "Codes of Ethical Conduct" has been stipulated, describing the eight good conducts expected of the company's directors and managers in regard to ethical standards including the prevention of conflict of interest and the pursuit of personal gains, confidentiality responsibility, fair transactions, protection and the appropriate use of the company's properties, legal compliance, encouraging the reporting of any illegal or unethical conducts, as well as disciplinary measures. The guideline defines the conflict of interest that occurs involving personal interests or the company's overall interests, stipulates conflict of interest prevention policies, and provides adequate channels for the directors or managers to voluntarily explain whether a potential conflict of interest with the company exists; when the company is given an opportunity to gain profits, the directors and managers are reminded of their duties to increase the company's legitimate profits; it also stipulates that the directors or managers are bound by the duty of confidentiality for information pertaining to the company, suppliers or customers, unless otherwise authorized or disclosure is required by the law; The directors or managers should treat the company's suppliers, customers, competitors, and employees fairly. The company is now allowed to manipulate, conceal, and misuse the information they received at work, and it is not permitted to obtain improper profits through false statements or other unfair transactions; it regulates that the directors or managers have the responsibility to safeguard the company assets and to ensure that they can be effectively and lawfully used for official business purposes; The company should reinforce the internal promotion of ethical awareness and encourage employees to report suspected or confirmed violations of law or unethical conduct to the managers, internal audit supervisors, or other appropriate staff. The company has stipulated a clear whistleblowing system that allows for anonymous whistleblowing; when the directors or managers violate the codes of ethical conduct, the company should deal with the problem per the disciplinary measures in place and immediately publish information such as the date of violation, reasons for violation, the code violated, and the actions adopted to remedy the situation on the MOPS. Through the regulatory document, we can forge an ethical consensus among our directors and managers, as well as allow the company's stakeholders to further understand the company's ethics regulations.

The company incorporates the codes of conduct for its employees into the standard employment contracts. All employees are required to sign and adhere to the code of conduct. The content of the code encompasses principles of ethics, equal employment, and ethical conduct, the prohibition of harassment and violence, respect for privacy, respect for the intellectual property rights of others, the prevention of conflicts of interest, fair dealings, and the prevention of anti-corruption and bribery. The code also explicitly states the disciplinary measures that will be taken in the event of violations. The policy ensures that all employees possess a comprehensive understanding of and adhere to the ethical standards and moral principles of the company.

Employee Work Regulations



Procedures for Ethical Management and Guidelines for Conduct



Codes of Ethical Conduct

» Training for Ethical Corporate Management, the Protection of Trade Secrets, and the Prevention of Insider Trading

The company stipulates that the responsible unit should conduct at least one internal promotion of ethical management every year, where the Chairman, President, or senior management communicate the importance of ethics to the directors, management, and company colleagues. To ensure that employees are well-informed about the company's regulations and to maintain a fair competitive environment, the company conducts orientation lectures for new employees. The lectures provide comprehensive explanations of the Codes of Ethical Conduct. Furthermore, the company arranges an annual training program that specifically emphasizes the safeguarding of trade secrets and the prohibition of insider trading. The program emphasizes the importance of ethical behavior and compliance with relevant laws and regulations. The company extends invitations to external lawyers who are assigned the responsibility of delivering lectures to the managers and employees. The lectures aim to provide a comprehensive understanding of trade secrets and insider trading, thereby enhancing participants' knowledge in this area. By engaging in the analysis of practical case studies and participating in discussions, employees are able to acquire a heightened understanding of the potential adverse consequences on both themselves and the company. Furthermore, individuals gain awareness of the civil and criminal liabilities associated with violations in this specific domain. The company has scheduled its annual training on ethics, trade secret protection, and prevention of insider trading for December 27, 2022. The training had a total of 300 participants and lasted for a duration of 300 hours. With the exception of three employees who were on assignment abroad, all the remaining employees attended the training session, resulting in a training coverage rate of 99% and successfully meeting the company's annual training objective.



Training for Ethical Corporate Management, the Protection of Trade Secrets, and the Prevention of Insider Trading	2022 Attendance	2022 Number of trainees	Training coverage	2022 Training goals	2023 Goals
Total number of people trained	300	303	99%	98% (target achieved)	98%
Total training hours (1hr/person)	300	303			

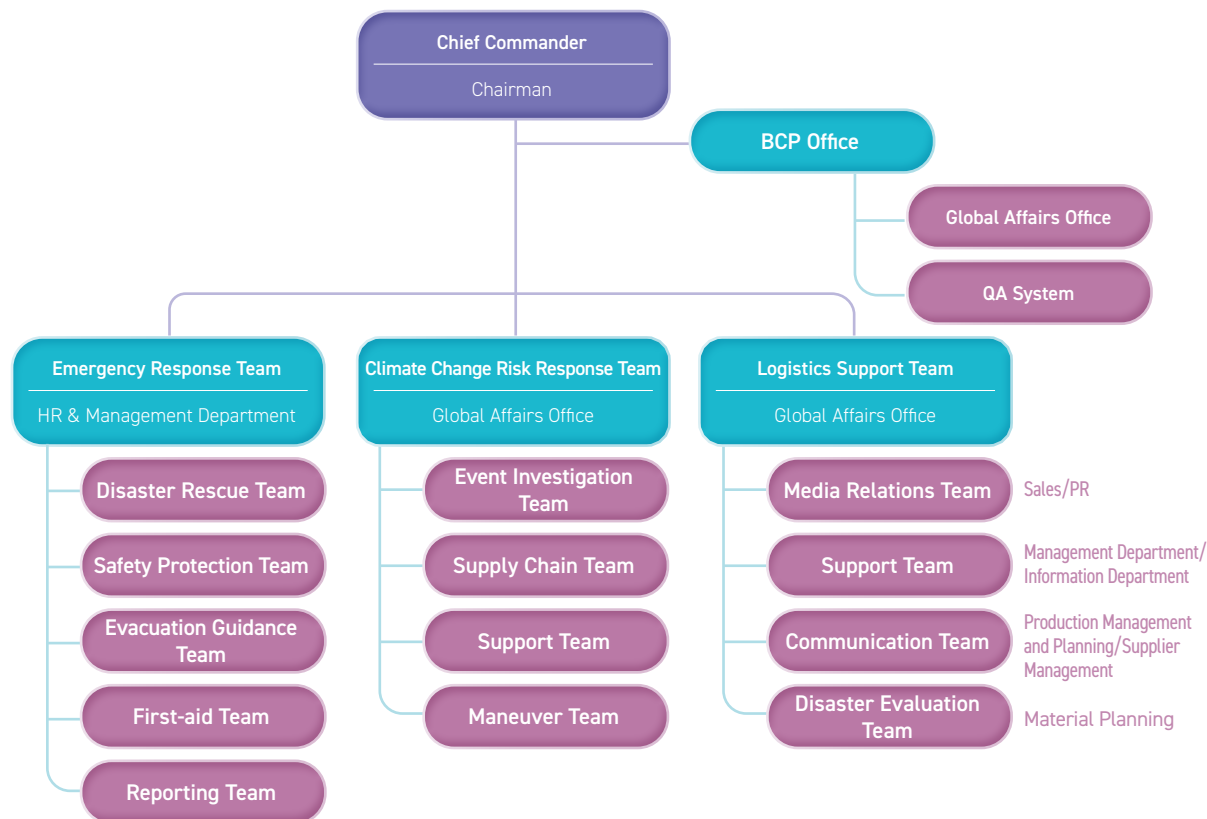


## 2.3 Risk Management

### » Risk Policy

#### Risk Management Organization

RichWave has established a cross-functional Business Continuity Planning (BCP) Office comprising an Emergency Response Team, Logistics Support Team, and Climate Change Risk Response Team. The President functions as the coordinator of the Office, and individuals from different business units are designated to take part in the coordination process. In order to prevent potential major risks from harming the company, the BCP Office conducts rigorous risk evaluation to formulate response strategies, arrange for emergency response measures, as well as carrying out drills from time to time and engage in ongoing improvement.



#### Risk Policy and Management Process

To ensure that the company operates in a proactive and cost-effective manner, it integrates and manages a variety of strategic, operational, financial, and hazard-related risks that may affect its operations and profitability. The company enhances the oversight function of its board of directors in the area of risk management. RichWave has established a "Risk Management Policy and Procedures" which has been approved by the board of directors. The company conducts a comprehensive evaluation and management of existing risk factors through the processes of risk identification, risk analysis, risk assessment, risk response and control, and risk monitoring. The company maintains regular monitoring of emerging risks that may potentially have an impact, and endeavors to acquire a comprehensive understanding of the extent of each risk. The company implements appropriate measures and allocates resources to ensure the effective management of relevant risks.





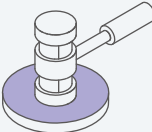
#### Business Continuity Plan (BCP) Management Process

The SOP of BCP management and its performance are included in the ISO 9001 management review meeting.



## Risk Item Identification and Management

By analyzing the global conditions, industry trends, and regulatory trends, RichWave can identify risks related to five dimensions including strategy, operation, finance, hazardous events, and legal compliance:

				
<b>Strategy</b>	<b>Operation</b>	<b>Finance</b>	<b>Hazardous Event</b>	<b>Legal Compliance</b>
<ol style="list-style-type: none"> <li>1. Industry changes and technological innovation</li> <li>2. Technical R&amp;D and competitive situation</li> <li>3. Policy or regulation changes</li> <li>4. Developments in global politics and economy</li> </ol>	<ol style="list-style-type: none"> <li>1. Market demand</li> <li>2. Business continuity risk (risk of interruption of service including supply chain interruptions and production interruptions)</li> <li>3. Information security</li> <li>4. Supplier management</li> <li>5. Intellectual property</li> <li>6. Credit risk (including clients and suppliers)</li> <li>7. Corporate image</li> <li>8. Loaning of funds to others and endorsements or guarantees for others</li> <li>9. Strategic investment</li> </ol>	<ol style="list-style-type: none"> <li>1. Interest rate, exchange rate, inflation</li> <li>2. Liquidity</li> <li>3. High-risk/high-leverage financial investment, derivative transactions</li> </ol>	<ol style="list-style-type: none"> <li>1. Climate change, natural disasters</li> <li>2. Occupational safety and health</li> <li>3. Fire and other manmade disasters (including the use of hazardous substances in products and processes)</li> <li>4. Influence of an epidemic</li> <li>5. Water and power supply</li> </ol>	<ol style="list-style-type: none"> <li>1. Company Act, Securities, and Exchange Act, Business Entity Accounting Act, insider trading</li> <li>2. Financial reporting procedure</li> <li>3. Personal Data Protection Act</li> </ol>

In regard to the risk items that may be encountered during the company's day-to-day operations, RichWave has developed a risk and opportunity management protocol to conduct a SWOT analysis based on the company's background. Furthermore, the stakeholders' concerns and appeals are included in the stakeholder risk analysis and controlled by the risk analysis team. In 2022, the three major high-risk items identified include product competitiveness, price competitiveness, and supplier management. Response measures planned and implemented include strengthening product audit, establishing BCP, fortifying supplier management protocol, and the resident management of key suppliers.

To effectively manage and respond to major operational risks, the company has implemented the BCP system, and the following main items were implemented in 2022:

### ◎ Pandemic risk management:

In response to COVID-19-related risks, RichWave has established corresponding response measures, carried out disinfections regularly, as well as enforced the compulsory wearing of masks and daily body temperature measurements. To prevent the pandemic from affecting the company's operation, RichWave has implemented the WFH (work from home) and staggered shift system, encouraged video conferencing and phone communication, as well as prohibited visitors and commuting between offices in Taipei and Hsinchu. For those working in the office, RichWave has made plans to examine the employees' health conditions on a daily basis. The company also offers them flexible working hours to avoid peak hours of public transport, and we have lunch box ordering and subsidy to encourage staffs to have lunch in the office.

### ◎ Water/power shortage and pandemic risk analysis at various plants:

Analyses are conducted for our Taipei/Hsinchu office and plants with suppliers located in Taoyuan, Hsinchu, Taichung, and Tainan to assess the possibility and possible impact of droughts, blackouts, and the pandemic, categorizing them into three risk levels (low, medium, and high), so as to mitigate their potential impact on the company.

The company's risk management, identification status, and response measures were reported to the Board of Directors on December 22, 2022, while instructions and recommendations were also received from the Board of Directors.

## » Audit and Internal Control

RichWave has established the "Internal Control System Self-Assessment Procedures," which apply to the company and its subsidiaries and cover all operational activities. The internal control system comprises five primary components: the control of the environment, risk assessment, control of operations, information and communication, and monitoring operations. Each component possesses a distinct set of detailed items.

### ◎ The control of the environment:

Refers to the various factors that contribute to the formation of an organizational culture and impact employees' awareness of control. Employees' integrity, values, and capabilities; the board of directors' and management's philosophy and management style; methods of recruiting, training, organizing, and assigning employees; and the board of directors' attention and guidance all influence the control environment.

### ◎ Risk assessment:

Refers to the process of identifying internal and external factors that may prevent a company from attaining its goals and evaluating their impact and likelihood.

### ◎ Control operations:

Refers to the establishment of a robust control framework and the creation of control procedures at multiple levels to assist the board of directors and management in ensuring that their directives are carried out. Control operations include approval, authorization, verification, adjustment, review, periodic inventory, record reconciliation, division of duties, safeguarding physical assets, and monitoring subsidiary policies and procedures.

### ◎ Information and Communication:

Information refers to the identification, measurement, processing, and reporting of financial and non-financial information by information systems related to operational, financial reporting, or compliance objectives. Communication is the dissemination of information to the appropriate personnel, both inside and outside the organization. The internal control system should include mechanisms for generating and delivering the information required for planning, monitoring, and information users' timely access.

### ◎ Monitoring:

Refers to the process of self-evaluating the quality of the internal control system, which includes evaluating the adequacy of the control environment, the timeliness and accuracy of risk assessment, the adequacy and effectiveness of control operations, and the reliability of information and communication systems.

The effectiveness of the internal control system in the organization is evaluated using the above evaluation criteria. We concluded the internal control operations for 2022 on February 23, 2023, confirming the effectiveness of the operations in the company, the achievement of efficiency objectives, and compliance with laws and regulations, and releasing an internal control system statement which was approved by the board.

## 2.4 Information Security and Customer Privacy

### » Information Security Measures

#### Information Security Organization

Amid the digital trend, the importance of the network, IT system, and data security is becoming increasingly important, while the demand and expectations of the competent authorities and stakeholders for the company's information security are also on the rise. If the quality of the company's system is not up to standard, information leaks or service interruptions will result in expensive costs and damage the company's reputation. In light of this, RichWave has formed an interdepartmental information security management team with the President as the convener, while the Information Department and Administrative Management Department are in charge of offering directions and planning, with support and cooperation coming from various business units. The information security team convenes regular meetings to review the company's information security system operations, and it must report information security-related implementation status to the Board of Directors at least once a year to obtain advice and guidance from the highest level of the company. This is to ensure the operational effectiveness of RichWave's information security management. The internal control operations for 2022 were concluded on February 23, 2023. During this assessment, it was determined that the company's operations were effective, efficiency objectives were achieved, and compliance with laws and regulations was maintained. Subsequently, a statement regarding the internal control system was released, which was approved by the board.



## Information Security Policy

Board-approved "Information Security Risk Management Policy and Procedures" have been established by RichWave in order to protect the confidentiality, integrity, and availability of information assets related to employees, suppliers, and customers and to ensure the stable use of the company's information services. This policy governs the company's actions regarding information asset inventory, information security awareness, company data confidentiality, information equipment maintenance and backup, personal computer security system maintenance, and the reporting of information security incidents. With these measures, we hope to ensure the continued viability of the company's information business.

By implementing information security management procedures, the company ensures the security and veracity of electronic data in various systems and meets the policy objectives of sustaining the company's normal business operations. The policy applies to all of RichWave's system data and information equipment, regulating the company's information security control operation (including authorization control, file management, and anti-virus measures), data processing operation, information equipment management and maintenance, form filling operation and form storage period, thereby guaranteeing that the company's system can engage in effective hierarchical control, important data can be kept, reviewed adequately, and the information system can be comprehensively protected and backed up. Additionally, the company regularly establishes a data backup system to conduct disaster recovery drills and engender an effective data security protection environment in conjunction with the information security system for the sake of ensuring the company's sustainable operation. A total of 13 information system security updates, six application system security updates, six mail server system security updates, one firewall upgrade, one internal endpoint scanning (health check), and employee computer EDR scanning (health check) were conducted in 2022. Through these multi-layered system updates and health tests, we safeguard the information systems of the company.

### 2022 Information Security Management Plans

1. Arrange for an external information security firm to conduct an information security inspection/drill once a year (including email social engineering drill/weak spot detection)
2. Arrange for an annual data recovery drill focusing on the recovery and verification of backed up data to ensure the correctness of the recovered data
3. Arrange for a system security update at least once a year, focusing on the patch updates of major system loopholes
4. Establish an information security reporting mechanism and an information security team to conduct comprehensive information security management

### RichWave's information security management measures

Work Item	Work Details
 <b>Information equipment management</b>	<ul style="list-style-type: none"> <li>Establish an annual inventory and list of information assets, conduct risk management according to the information security risk evaluation, and implement various control measures.</li> </ul>
 <b>Information security promotion and implementation</b>	<ul style="list-style-type: none"> <li>The company regularly carries out information promotion operations by organizing one information security education and training session annually. All new employees must sign the information confidentiality agreement.</li> <li>All personnel must comply with legal regulations and the information security policy requirements. Executives should supervise the implementation status of the information security system, and bolster our colleagues' information security and legal awareness.</li> </ul>
 <b>Software management</b>	<ul style="list-style-type: none"> <li>Anti-virus software should be installed on personal computers and the virus database should be regularly updated. The use of unauthorized software is strictly forbidden.</li> </ul>
 <b>Account protection</b>	<ul style="list-style-type: none"> <li>The colleagues' accounts, passwords, and authorization should be kept and stored responsibly, and they should be changed regularly.</li> </ul>
 <b>Information security incident management</b>	<ul style="list-style-type: none"> <li>Stipulate the SOP for information security incident response and reporting, to resolve information security issues immediately and prevent the damage from escalating.</li> </ul>
 <b>Supplier information security control</b>	<ul style="list-style-type: none"> <li>All employees, contractors, and third parties of the company must sign the confidentiality agreement to make sure that those use the information of the company while providing information services or carrying out related information services have the responsibility and obligation to protect the information asset of RichWave, thereby preventing unauthorized access, tampering, destruction, or improper disclosure.</li> </ul>
 <b>Data backup</b>	<ul style="list-style-type: none"> <li>Important information systems or equipment should be equipped with adequate backup or surveillance mechanisms, and a drill must be performed once a year to maintain its availability.</li> </ul>

## » Information Security Training and Education

To instill information security awareness in our colleagues and make every employee an integral part of the company's information security protection network, RichWave has conducted information security education and training for all new employees, and we have promoted information security to them from time to time through email. The new employees' information security training includes an introduction to the company's information system, document management system, electronic form operations, computer and network regulations, and USB regulations. RichWave's information security supervisor will brief the new employees to make sure they can comply with the information security system and regulations of the company. Furthermore, the corporation maintains a constant vigilance over the prevailing state of information security in society and endeavors to create educational materials aimed at enhancing awareness regarding highly significant matters pertaining to information security. The distribution of these materials to all employees is done in an effort to prevent dangerous incidents. Multiple information security awareness campaigns were conducted in 2022 through the internal announcement system. These campaigns covered various topics, including account security management and fraudulent emails. The purpose of this initiative was to enhance employees' understanding of cybersecurity and promote vigilance in email usage. Additionally, it served as a reminder for employees to regularly update their system login passwords. In November, all employees participated in an annual online cybersecurity education training session. The training session focused on discussing domestic and international cybersecurity incidents, as well as the associated losses. The training session emphasized the importance of common cybersecurity threats, malware techniques, social engineering, and best practices for password management. A total of 299 participants attended the training, accumulating a total of 299 training hours. The recorded sessions were uploaded to the company's document management system, allowing employees to access them at their convenience.

### 2022 Information Security Training and Education Plans

1. Biannual information security education and training sessions are held, with each session lasting at least one hour (including information security awareness/social engineering)
2. Announce relevant information security reports from time to time (provide analysis report for special information security incidents)

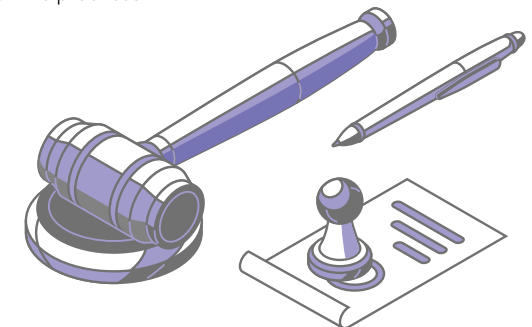


## » Customer Privacy

RichWave values our customers' personal data and privacy, hence we uphold the most stringent approach to collecting and managing our customer's information. When signing a contract with our customers, we have included the confidentiality agreement as part of the official contract to ensure that our colleagues and partners comply with confidentiality through formal document regulations. After obtaining our clients' information, it will be stored in a digital format and maintained by the information security management system of the company in conjunction with the account authorization management mechanism to ensure that RichWave can effectively control the use of our customer's confidential information. Furthermore, RichWave has established a hotline and email to process the consumers' rights-related complaints and problems to make sure consumers' complaints are responded to in a fair and timely manner. **In 2022, RichWave did not receive any customer privacy violation-related complaints.**

## 2.5 Legal Compliance

Legal compliance is the fundamental duty of corporate citizens, while the proactive understanding of regulatory changes in a bid to make the necessary adjustments is the embodiment of corporate social responsibility. RichWave upholds a rigorous attitude of honesty and integrity to interact with our stakeholders; to ensure legal compliance, the company has established a legal affairs unit responsible for reviewing the legality of our contacts, and various units have also appointed colleagues to monitor and follow domestic/foreign policies and regulations that have a potential impact on the company's business and finance, such as the Company Act, Patent Act, Occupational Safety and Health Act, and Labor Standards Act. Moreover, changes to the laws and regulations are reported to the supervisor followed by internal regulation adjustments to ensure the company's operations are in compliance with the law. In addition, RichWave holds a long-term partnership with professional teams from law firms to study high-risk topics, and an external legal education and training course is held annually to strengthen the legal competency of the company's management team. In 2022, there was one violation of the Labor Standards Law in which RichWave imposed a fine of NT 100,000 for missing payment to a labor who worked overtime, and the improvement was made by the end of the year. For the rest of the year, there were no violations of environmental laws and regulations, health and safety laws and regulations on products and services, information and representations on products and services, laws and regulations on marketing and communications (including advertising, promotion and sponsorship), and anti-competitive practices.





## CHAPTER

# 3

## Product Management

- 3-1 Innovation Management
- 3-2 Sustainable Supply Chain
- 3-3 Customer Care

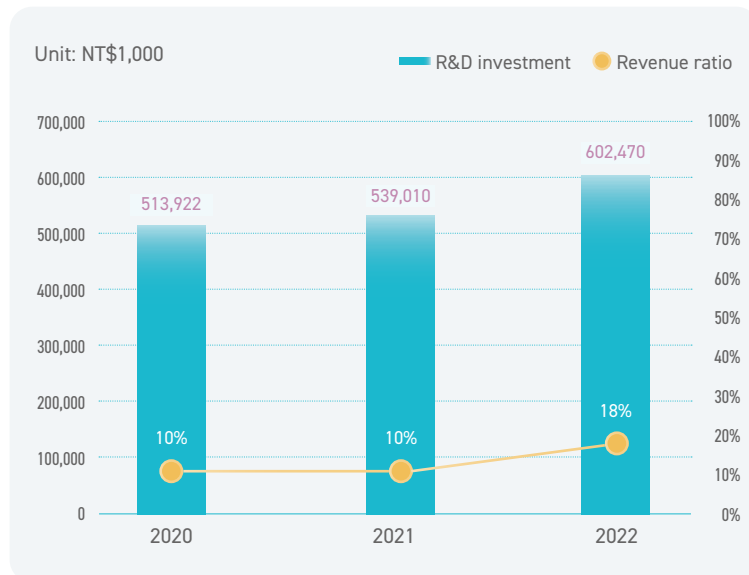
### Chapter Highlight

- ☉ There were over **500** patents accumulated worldwide in 2022.
- ☉ The number of target patent proposals in 2022 was **51**, and the cumulative number of proposals was **50**, with an achieve rate of **98%**.
- ☉ In 2022, we invested NT\$**602,470,000** in R&D, accounting for **18%** of the company's income.
- ☉ **100%** of our main suppliers received ISO 14001 environmental management system, ISO 9001 quality management system, and IATF 16949 automotive quality management system certifications.
- ☉ In 2022, the execution rate of ESG related audits reached **100%**, and the pass rate reached **100%**.
- ☉ In 2022, the proportion of local production procurement amount reached **69.9%**.
- ☉ The quality management system tracked that **100%** of the materials in 2022 met the requirements of RoHS, Halogen-Free, and REACH.
- ☉ Overall customer satisfaction score was **98** in 2022.

## 3.1 Innovation Management

### » Innovative Measures

Innovation is one of RichWave's six major core values and a core element of corporate growth. We adhere to the quality policy of "Ongoing quality refinement – Customer satisfaction comes first" to achieve market differentiation and develop products with outstanding performance through innovation, technology, and unique market positioning. In the field of WiFi wireless communication and IC, we have constantly developed new products to accommodate the market's needs. RichWave monitors technological changes and developments in the industry closely to maintain a high level of understanding of industrial dynamics while persistently elevating our R&D capabilities. At the same time, we have hired external professional consultants to introduce new technologies and engage in industry-academia collaborations, where the patent mechanism is applied to protect RichWave's innovative ideas and R&D outcome, thereby maintaining our technological leadership position, allowing us to strive to become the leader in the global RFIC market through innovative technology. We will vigorously invest resources to perform innovative R&D; in 2022, RichWave's R&D totaled NT\$602,470,000, accounting for 18% of the company's revenue.

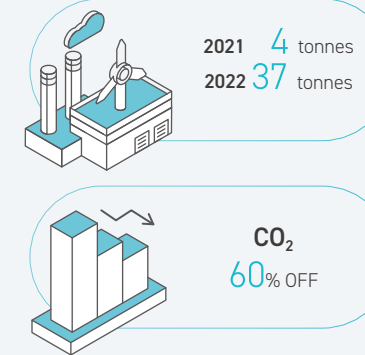


### Energy-saving Performance of Green Products

RichWave specializes in chip design, and our chips are sold worldwide for a wide range of wireless communication product applications. The company is committed to developing more energy-efficient products with lower carbon emissions through chip design in an attempt to minimize environmental impact and enhance product competitiveness. RichWave can achieve the objective of energy-saving, carbon reduction, and environmental friendliness by improving the performance of the products, such as lowering power consumption, minimal design, and changing the production process.

#### ④ Saving GHG Gases Through Manufacturing Materials

Design and process innovation is one of the company's primary concerns; besides demonstrating RichWave's pursuit of product quality, we also want to contribute to environmental sustainability. Through chip design's control over the surface area and innovations in the production process, we can significantly increase the die yield per wafer to lower GHG emissions by approximately 60%. Based on the calculation of the product shipments in 2022, the CO<sub>2</sub> emissions reduction is about 4 tonnes. Based on 2023 product shipments plan, the estimation of CO<sub>2</sub> emissions will be reduced by 37 tonnes.

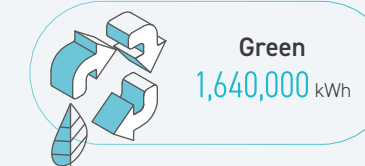
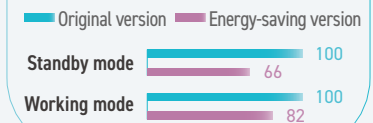


#### ④ Energy-saving Technology of Flagship Products

For products with an advantage in transmission range, RichWave has completed a "green innovation" design in 2022 to improve power consumption under various scenarios (reducing power consumption by 32% and 30% respectively while in the standby mode or working mode). Our customers have already proposed such need for energy-saving products in 2023, saving 1.64 million kWh of electricity annually (calculation based on 12 hours of standby mode and 12 hours of transmission mode).

##### Power Consumption Improvement of 2022 Flagship Products

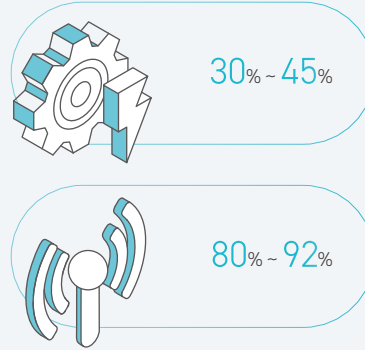
Comparison Between Standby Mode and Working Mode





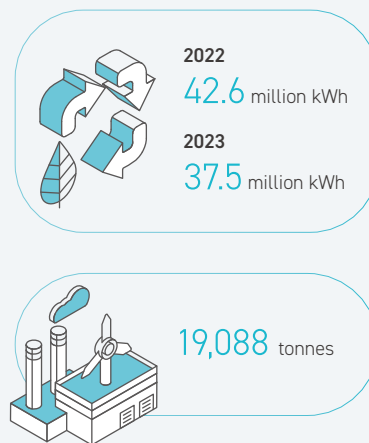
### ◎ Mobile Communication Product

Mobile communication products boast extremely low power consumption when in special standby mode, which only consumes roughly 30%–45% power compared to the normal mode. In transmission mode, the efficiency mode of the mobile communication product offers a transmission power comparable to that of the normal mode but only consumes 80%–92% of power compared to the normal mode, hence it can extend battery life and minimize battery pollution.



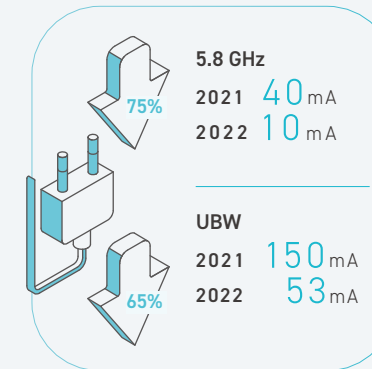
### ◎ Tablet and Smartphone Product

Under special standby mode and combined with the efficiency transmission mode, tablet and smartphone products can achieve the benefits of lowered power consumption. The technology has been applied to the tablet and smartphone project in 2022. If calculated based on 12 hours of standby mode and 12 hours of transmission mode daily, the products can save up to 42.6 million kWh of electricity. Based on the estimated product shipments in 2023, Due to the slowdown of global smartphone shipments in the year, the product series can save approximately 37.5 million kWh of electricity. If calculated based on the Electricity Carbon Emission Factor announced by the Bureau of Energy, MOEA in 2021, the products can decrease CO<sub>2</sub> emissions by about 19,088 tonnes.



### ◎ Microwave Radars with Integrated Signal Processing Sensor Products

Products continue to undergo the current drop design. The CW mode current of the 5.8GHz microwave radar front sensor was 40mA, but it was decreased to 10mA in 2022, showing a reduction of 75%. The pulse wave motion sensing mode current of the 10GHz ultra-wideband microwave radar (UBW) with an integrated signal processing sensor was originally designed to be 150mA, and was reduced to 53mA in 2022, which was better than the target, with a 65% reduction, and is expected to be further reduced to 15mA in 2023.



### ◎ Energy Conservation and Carbon Reduction Applications of Microwave Radar with Integrated Signal Processing Sensor

- Lighting fixtures or lightbulbs equipped with the automatic sensing function of the radar sensor can turn off the lights automatically when the room is unoccupied.
- Air conditioners equipped with radar sensors can detect the presence of occupants in the room and the angle and automatically adjust the fan volume to the lowest level or enter sleep mode, and the fan angle can be adjusted to achieve the best comfort and cooling effect.
- Desktop or notebook computers equipped with radar sensors can turn off the screen and enter sleep mode when the user is away from the screen.
- Surveillance systems equipped with radar sensors will automatically enter sleep mode when no object movement is detected for a while.
- The dashcam is equipped with radar sensor for anti-theft function, which can detect abnormal movement before turning on the recording system to reduce battery consumption.



### RichWave Masters Key Technologies, Increases Market Share and Garner International Recognition

In recent years, as Taiwan's RFIC industry and technology become more sophisticated, RichWave is the only domestic manufacturer utilizing the advanced material SiGe to produce and design PA, as well as designing SW using the SOI process, and our technological capability has already reached economies of scale. Moreover, the company has taken advantage of the technical exchanges between the technical team, our clients, and partners to develop highly integrated and price-competitive IC products that cater to the needs of domestic system manufacturers. What's more, RichWave has steadily increased production to become a contender amid fiercely competitive major international manufacturers. We have not only reshaped the market that was once monopolized by major domestic and foreign manufacturers but also indirectly increased the global market share of domestic RFIC products year after year. In terms of RFIC FEM products used for WiFi applications, RichWave has shipped over 100 million chips on average every month in 2022, totaling 1.243 billion chips for the entire year, hence the global market share in 2022 of RichWave WiFi products is estimated at approximately 15%.

### Proactive Participate in Academic Seminars to Establish RichWave's Industry-leading Position

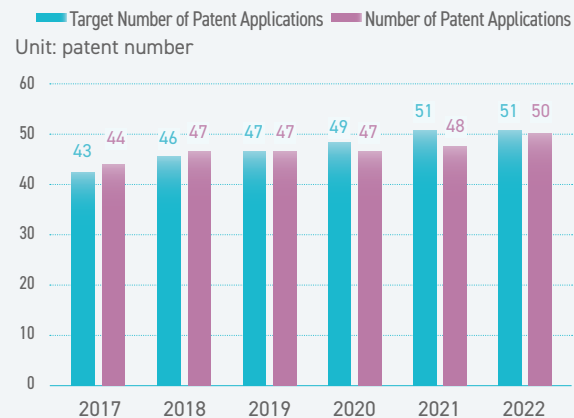
RichWave has been sponsoring the IEEE RFIC Symposium for 4 consecutive years since 2019, actively gaining publicity for the RichWave brand. Additionally, we also participate in TSIA's quarterly report presentations and the content production of NTU SoC Center's R&D quarterly report to disseminate RichWave's technological know-how through academic institution journals. In terms of international presence, for two consecutive years, the company has participated in the UWB alliance, expanding the application of UWB radar and exchanging ideas with related industries.

## » Patent Management

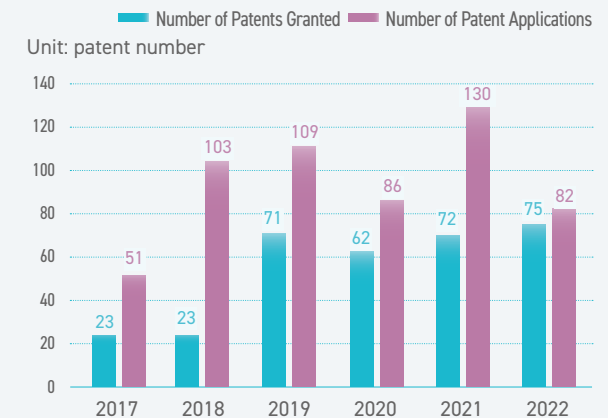
RichWave is eagerly promoting the smart intellectual property management project to reinforce the company's innovative ability and product competitiveness, as well as to protect our cutting-edge technological accomplishments. The company focuses on the strategic goals of "becoming the leader in the global RFIC market through the application of technology" and "market differentiation" to determine the number of patent applications and grants for the year, encouraging our R&D colleagues to achieve the target. RichWave has formulated the "patent management regulation" document to help our colleagues apply for patents systematically and keep the R&D outcome in the form of patents to safeguard the company's R&D achievements and patent rights. RichWave has established a Patent Review Committee headed by the President, in charge of reviewing patent applications' economic benefits, application countries, patent maintenance, as well as offering technical consultations and patent management policies, etc. To incentivize our colleagues to submit patent applications RichWave has set aside invention patent application bonus, invention patent grants bonus, new patent application bonus, new patent grant bonus, design patent application bonus, design patent grant bonus, and patent infringement reporting bonus to increase our patent quality and competitiveness.

#### Patent target achievement:

The company reports the number of patents and intellectual properties to the Board of Directors annually in Q4 and report to the Board of Directors on December 22, 2022 to close out the achievement to the end of November 2022. Settlement until the end of November 2022, the target number of patent applications for 2022 was 51, the cumulative number of proposals was 28, with a 54.9% achievement rate; settlement until the December 31 2022, the cumulative number of proposals was 50, with a 98% achievement rate, which was an important milestone for the company to exceed 500 global patents.



Note: Settlement until 2022/12/31





© 2022 representative patents: Position detection system (US11307301B2) and method and devices for detecting the presence of objects in an environment (TWI757802B)

CMOS radar sensors with functions such as motion detection, distance measurement, presence detection, angle detection and signs of life detection are used extensively in lighting, security protection, and smart home applications. As the leading brand in RF technology, RichWave offers clients comprehensive CMOS radar sensor solutions from sensor IC, and algorithm, to reference design. Currently, the company's product portfolio such as the 5.8GHz Doppler radar and 10GHz radar SoC. By installing the patented products US11307301B2 and TWI757802B, the company is able to accomplish the angle detection of installed objects for smart applications such as auto-start, auto-adjustment, and object presence detection.



[Personal Computer Applications]



Taking the corresponding product RTC6031 as an example, RichWave's CMOS radar sensor is installed on the desktop computer, where the system can automatically detect the user's movement. When the user nears the computer, it will automatically wake up the screen to enhance convenience; when the user leaves the screen, the system automatically locks the screen to ensure data security and increase energy efficiency. Besides this, the system can also detect the user's computer usage duration and physiological values such as breathing and heartbeat to kindly remind the user to adjust his/her computer habit in order to foster physical health.

[Smart Home Application]

Taking the corresponding product RTC6031/RTC60301 as an example, RichWave's microwave sensor can provide distance, direction, angle presence sensing, and headcount detection, etc. If the RTC6031/RTC60301 is installed in a home air conditioner, the system can determine the angle and distance of the presence of people through waveform monitoring, and adjust the direction of the air conditioner fan to achieve the best cooling effect. Air-conditioners are made a member of the smart home, allowing users to enjoy the most comfortable temperature and save energy and save money for the consumers at the same time. When this device is installed with other smart home appliances, it can perform smart home angle detection to adjust the air conditioning fan, automatically open the toilet or garbage can, and activate lighting. And when people are present in the space but not moving, it can also keep the lighting and air conditioning on, effectively improving the efficiency of home appliances, and achieving true smart home planning and green energy saving.

For relevant introduction videos



Computer applications



Home applications

© 2022 representative new product: WiFi 6E Dual Band FEM:RTC66918

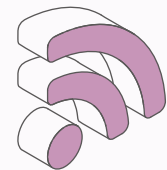
[Product introduction]

The RTC66918 is a 5.15 - 7.125 GHz Dual Band RF Front-End Module (FEM) that complies with the WiFi 6E platform performance planning. RichWave has launched the RTC66918 WiFi 6E FEM in response to the demand of mobile devices and other C-client products (e.g., laptops, TVs) that do not require high output power but can combine the WiFi 6E 5GHz & 6GHz bands and share the same FEM. The packaging is only 2\*2mm and can support 16dBm output power under WiFi 6E signal demand, and supports 3.6~4.2V power supply, which is suitable for mobile devices.

With the dual-band shared FEM design, the product only uses one FEM to operate in the 5/6GHz band, which can save more than 40% of current consumption and 50% of PCB area.

[Product applications]

1. WiFi 6E cellular phones, mobile devices, wearable devices, and other products that require circuit board space.
2. TVs, laptops, and other client products with WiFi functionality that do not require high output power but need to save current consumption.



- ◎ 2022 representative new product: WiFi 7 High Isolation DPDT Switch



#### [Product introduction]

For the simultaneous use of WiFi 7 in 5/6GHz similar frequency bands, and 6GHz opens up a large bandwidth of 320MHz, in order to make the two bands not to interfere with each other and cause a drop in the data transmission rate, it is a necessary task for the system design to increase the degree of isolation. RichWave introduces the RTC66015 DPDT RF Switch, which provides more than 50dB of isolation and supports 0.1 - 7.2GHz band to minimize the mutual interference in the 5/6GHz band, and supports 1.6-5V power supply to meet the requirement of direct battery power supply for today's mobile and wearable devices. If multiple SPDT switches are used in conjunction with each other, the PCB area will increase by more than 30%.

#### [Product applications]

WiFi 7 system: Wireless AP, Router, Gateway and 5-6GHz band for mobile and wearable devices.

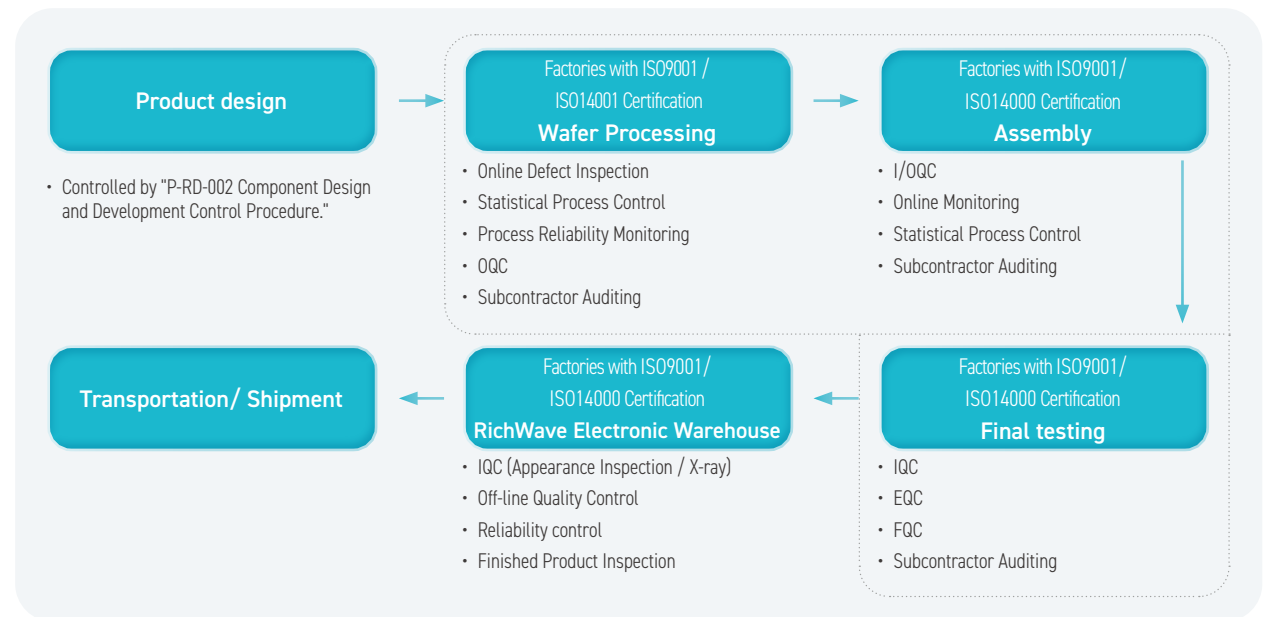
## 3.2 Sustainable Supply Chain

### » Supply Chain Management

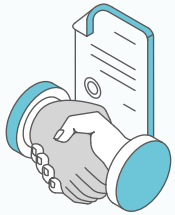
RichWave is a professional chip research and development company that does not engage in large-scale production. Raw material procurement, wafer fabrication, packaging, and testing of all products are carried out by our suppliers and partners. Since the raw material sourcing, design and manufacturing, and transportation stages of the product life cycle are all closely related to the supply chain, in order to avoid negative impacts on society and the environment, we are committed to cooperating with our suppliers. Through new supplier selection, existing supplier evaluation and auditing, we strictly require suppliers to comply with the local economic, environmental, and labor laws and regulations, fulfill their social and environmental responsibilities, and prohibit the use of conflict minerals, as well as to implement energy-saving, emission reduction, and pollution prevention to form a sustainable supply chain for RichWave products.

### Upstream, midstream, and downstream industry chain relationship

RichWave's products and services comply with the ISO9001 / ISO14001 quality/environmental management system standards from order taking, design and development, purchasing, manufacturing, quality control, packaging and delivery of finished products to after-sales services. Our operations are centered on the manufacturing and sale of established or customized products, and we control all the main processes and sub-processes related to the manufacturing and sale of products. From the communication of customer requirements, production, delivery of finished products, to the continuous improvement of processes and products, we follow international standards and regulations, and we continuously monitor and review the information of the above internal and external factors.



## Responsible Supply Chain



100% of our main suppliers received ISO 14001 environmental management system, ISO 9001 quality management system, and IATF 16949 automotive quality management system certifications.

In 2022, the execution rate of ESG related audits reached 100%, and the pass rate reached 100%.

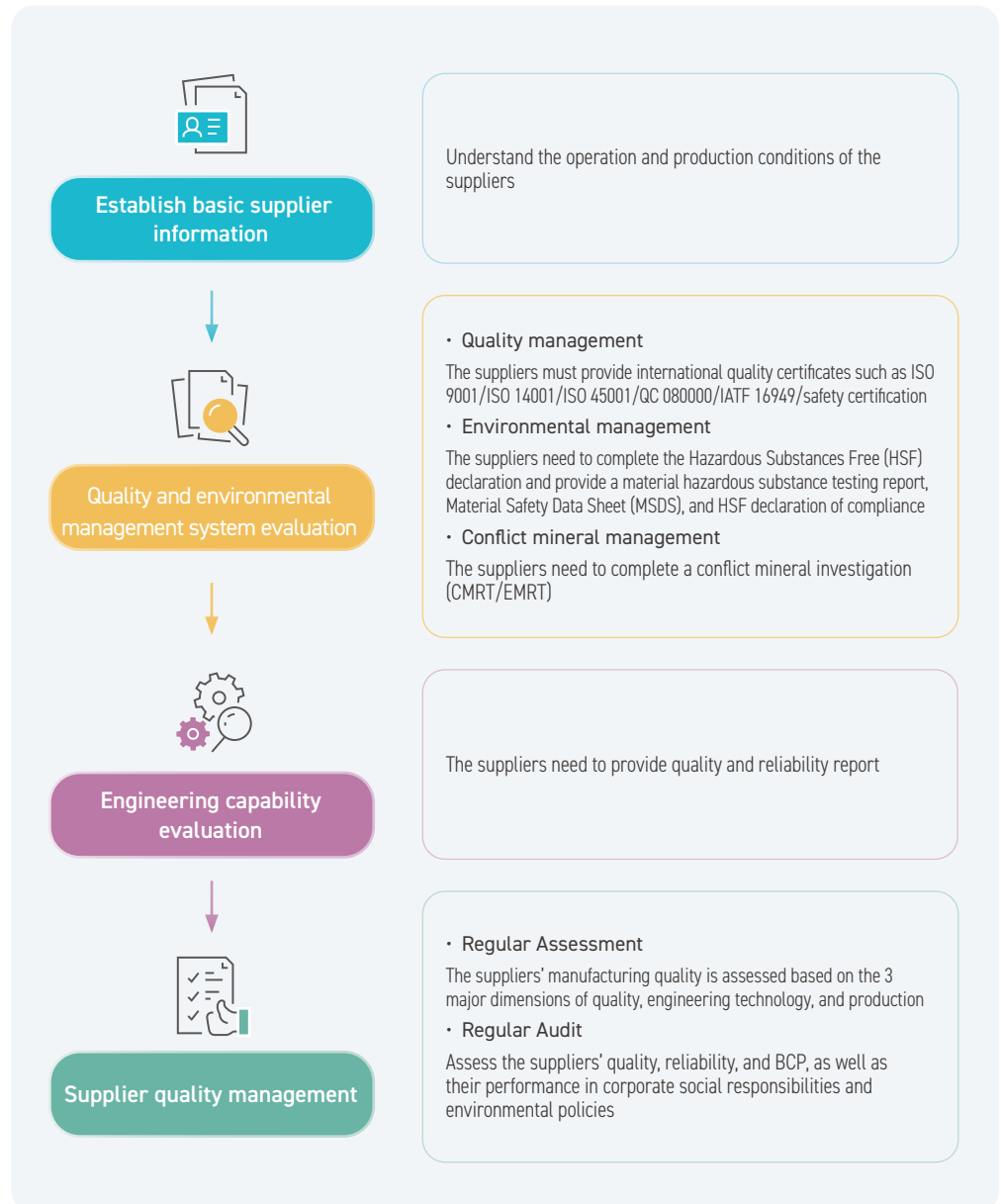
Starting in 2022, suppliers are required to comply with ISO 14064-1:2018 GHG inventory-related requirements

To mitigate the negative impact of the product value chain on the local environment and society, as well as to effectively manage potential risks, QA Department of RichWave is established to supervise suppliers' legal compliance in aspects such as environment, occupational safety and health, and labor rights, as well as to ensure the fulfillment of corporate social responsibilities. We have established a comprehensive supplier management process, where the screening stage of new suppliers involves a detailed review of their corporate social responsibility performance; apart from reviewing their engineering capabilities, we also demand our suppliers provide international quality certification, request a declaration that they do not use any hazardous substance, and complete the conflict minerals investigation before they can be registered as RichWave's suppliers.


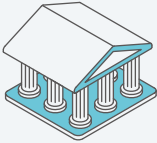

In terms of existing suppliers, we carry out regular supplier evaluations and supplier audits every year. In addition to evaluating the quality and reliability of suppliers, we also incorporate ESG-related scores into our supplier audits. For suppliers with scores below the required level, we will provide counseling to improve the situation, and if the results of the re-evaluation and tracking results still fail to meet the standards, we will stop purchasing or cancel the qualification of the suppliers. In 2022, we conducted audits on 20 of our main suppliers across three major categories (wafer, packaging, and testing), achieving an audit coverage rate of 100%, and no suppliers exhibited negative ESG impacts.

Furthermore, we convene quarterly supplier meetings to exchange quality, construction, delivery, and production capacity-related opinions with our suppliers, as well as share experiences and reach a consensus in the field of sustainability for the sake of forging a long-term and stable partnership, and bolstering the sustainability of the supply chain.

## RichWave's Supplier Management Process

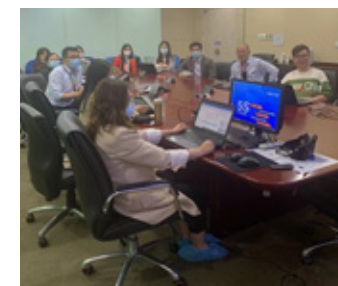


## RichWave's Supplier ESG Audit Plan

			
Management Dimension	E (Environment)	S (Society)	G (Governance)
Management strategy	Demand our suppliers devise and implement comprehensive environmental policies and environmental management systems; ensure that their production raw materials are Halogen-Free and comply with RoHS, REACH regulations, as well as environmental regulations. Furthermore, they must not cause harm to the environment and people.	We believe the suppliers should provide a fair, safe, and healthy workplace for their workers, hence we continue to monitor their labor rights and occupational safety performance to ensure that RichWave's supply chain does not violate labor rights.	To ensure the products' quality and steady supply, we value our suppliers' production technology, quality yield, and equipment production capacity. We collaborate with our supply chain partners to improve our products' competitiveness and promote technical upgrades in the supply chain.
Evaluation indicator	<ul style="list-style-type: none"> <li>Suppliers' environmental policy and management framework</li> <li>Environmental management system</li> <li>Environmental substance certification and management (including internal audit)</li> <li>Condition of environmental law compliance</li> <li>Test reports for packaging materials: SDS, HSF declaration of compliance</li> <li>Risk evaluation and control for hazardous substance of materials</li> </ul>	<ul style="list-style-type: none"> <li>Human rights commitment               <ol style="list-style-type: none"> <li>No child labors</li> <li>No compulsory labor</li> <li>Anti-discrimination</li> <li>No discrimination based on religion, race, social status, nationality, and disability</li> <li>No corporal punishment, coercion, and language abuse on the employees</li> </ol> </li> <li>Labor rights               <ol style="list-style-type: none"> <li>Working hours and remuneration comply with regulations and industry standards</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Performance of manufacturing system</li> <li>Quality system</li> <li>Reliability control</li> <li>Business Contingency Plan (BCP)</li> </ul>

## Certification Statistics of Suppliers

Compared to 2021, in 2022, one additional Assembly House obtained IATF 16949 Automotive Quality Management System certification, and one additional Testing House obtained QC080000/Sony GP Hazardous Substance Management/Hazardous Substance Compliance certification. And in 2022, 13 main suppliers obtained ISO 9001 Quality Management System, IATF 16949 Automotive Quality Management System, and ISO 14001 Environmental Management System certifications, and other certifications will continue to be obtained according to the progress of each supplier's planning.



RichWave's QBR meeting in Q3 2022

Dimension	Management Standards	FAB		Assembly House		Testing House		Total	
		Total:5		Total:5		Total:3		Total:13	
		Number of certified houses	Percentage	Number of certified houses	Percentage	Number of certified houses	Percentage	Number of certified houses	Percentage
Economy	ISO 9001 Quality management system	5	100%	5	100%	3	100%	13	100%
	IATF 16949 Automotive quality management system	5	100%	5	100%	3	100%	13	100%
Environment	ISO 14001 Environmental management system	5	100%	5	100%	3	100%	13	100%
	QC080000/SONY GP Hazardous Substance Management/Hazardous Substance Compliance	3	60%	5	100%	3	100%	11	85%
Society	ISO 45001 Occupational safety and health	4	80%	5	100%	3	100%	12	92%
	RBA/SA 8000 Social Responsibility Management	2	40%	2	40%	2	67%	6	46%

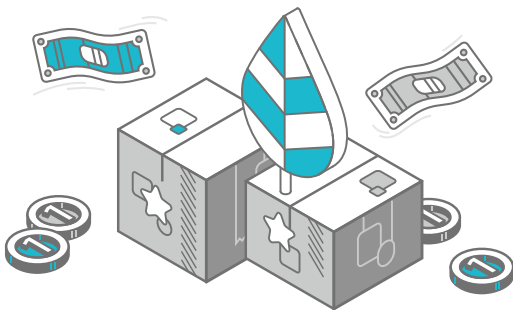


## Local Procurement

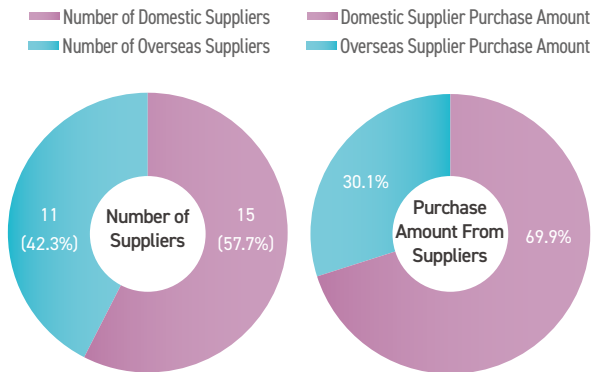
RichWave understands that transportation of raw materials is an important aspect of greenhouse gas emissions during the product life cycle, hence we have vigorously advocated the local procurement policy, which involves prioritizing local suppliers when making purchases. In 2022, RichWave's production-related procurement from domestic suppliers accounted for 69.9% of our total procurement amount, up slightly compared to 2021. In the future, we will continue to implement local procurement on the premise of prompt delivery and lowering supply risks; besides decreasing transport-related carbon emissions and costs, we can also foster development in the domestic industry and reduce our reliance on foreign manufacturers.

## Green Procurement

Green consumption has become an international trend. Thus, consumers and enterprises are leaning toward green products and services. At RichWave, we have internalized the concept of environmental sustainability into our procurement policy by choosing products that comply with green and environmental regulations such as domestic/overseas environmental labels, energy-saving labels, carbon footprint labels, carbon reduction labels, Energy Star, FSC, PEFC sustainable forest labels, etc. While mitigating the environmental impact of our operations, the company also benefits from decreased energy expenditures, thus we will continue to materialize green procurement to support the development of green products and industries through practical actions.



### RichWave's Local Procurement Proportion in 2022



### Products with the green international labels purchased by RichWave in 2022

Name of label	Product	Amount (NTD)
PEFC (Forest Certification) / Indonesian LEGAL Wood (Legal Wood Certification)	Photocopy paper	73,864
Taiwan Environmental Label	LED 23W Flat Panel Light/140lm/W	52,749
Forest Stewardship Council (FSC) Certification	Toilet paper	5,613
R33496 (RoHS)	Coffee maker	75,500
GREENGUARD / GREENGUARD GOLD	Door panels	92,500
Green building material label (GBM0102708)	Decoration works (Painting)	59,520
<b>Total</b>		<b>359,746</b>

## Raw Material Management

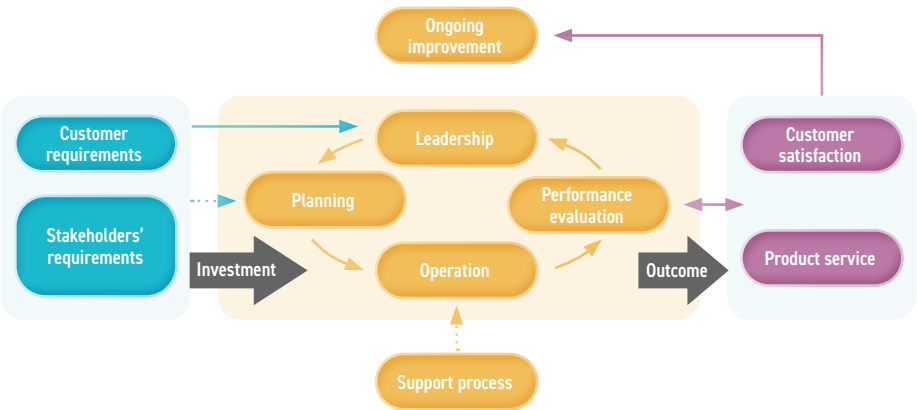


### Chemical Substance Management

Quality management system tracking all materials 100% comply with RoHS, Halogen-Free, and REACH requirements.

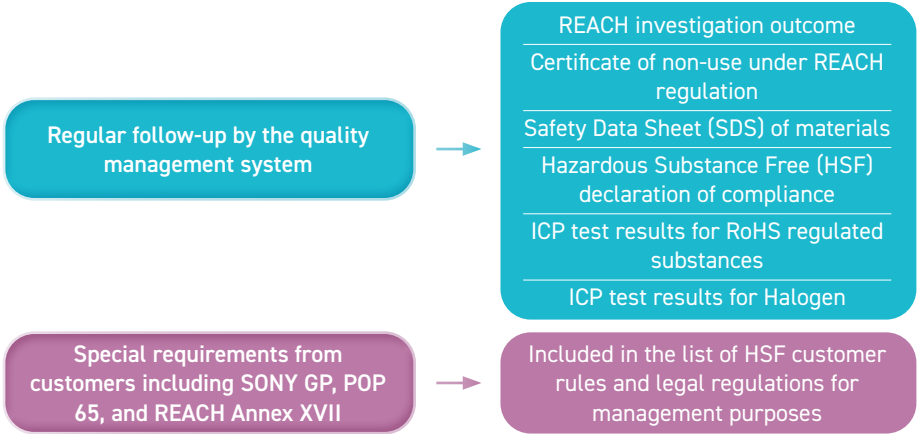
RichWave sees maintaining customers' health and safety and protecting the natural environment as our responsibility. We have not only obtained ISO 9001:2015 certification and maintained IECQ QC080000 compliance but also obtained SONY GP (Green Partner) and Samsung Eco-Partner certification by rigorously controlling the chemical substances of our raw materials. To ensure the safety and eco-friendliness of our products, we have stipulated the environmental substance control protocol, demanding our primary suppliers to respond to the survey results after the biannual EU REACH dossier updates are published, and all the suppliers must provide a REACH certificate of non-use, Safety Data Sheet (SDS), and Hazardous Substance Free (HSF) declaration of compliance. The finished ICs will be sent to a third-party certification organization for hazardous substance testing every year, and 100% of the finished ICs were RoHS compliant and Halogen-Free in 2022. In addition, all suppliers are required to provide third-party testing ICP reports within one year to RichWave for systematic management, and the reports must contain at least 10 items of RoHS and Halogen (for organic substances) test results. In 2022, the third-party test reports of all raw materials were all updated, and the compliance rate was 100%. For other special requirements from our customers including SONY GP, POP 65, and REACH Annex XVII, we will conduct individual reviews and include them in the list of HSF customer rules and legal regulations for management purposes.

RichWave's Quality Management Process



In 2022, RichWave has confirmed that 100% of our materials comply with RoHS, Halogen-Free, and REACH requirements through the quality management system, and there were no product and service-related health and safety violations. Furthermore, we have included the RoHS, Lead-Free, and Halogen-Free labels on the products' external packaging and product specifications, and third-party ICP test reports for various materials are provided based on the product model number so that consumers can prevent hazardous substances from endangering people's health and the surrounding environment while enjoying convenience made possible by modern technology.

RichWave's Chemical Substance Management Framework



Overview of green product certifications and labels obtained by RichWave



Key Raw Material Management

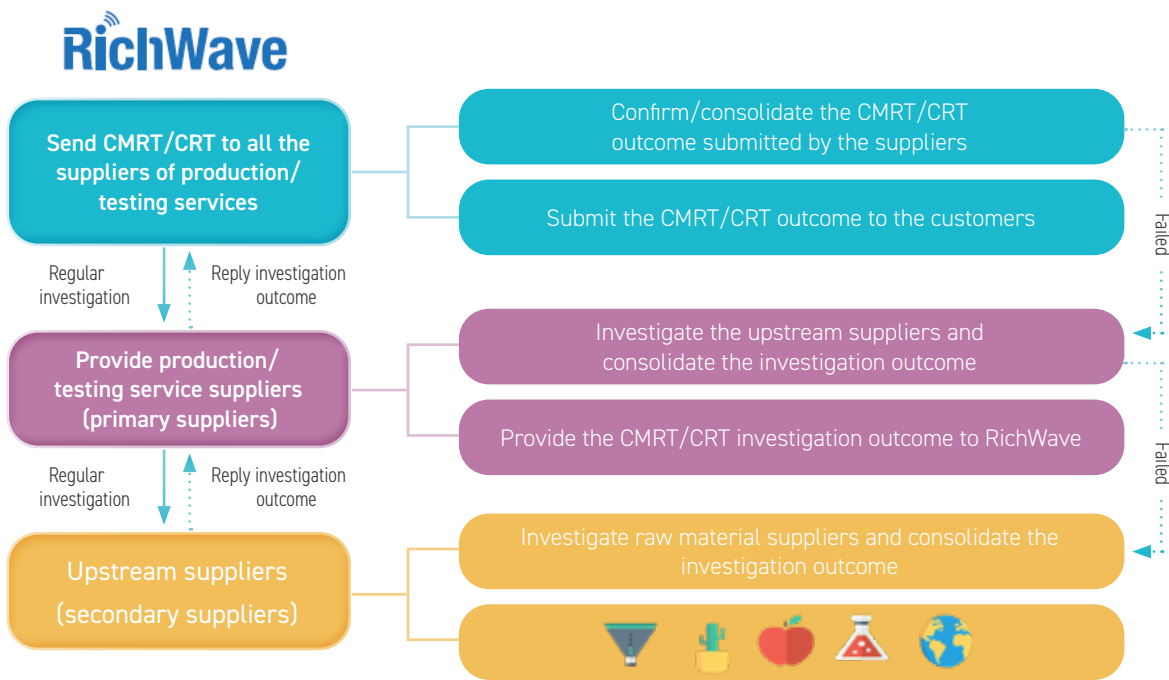
RichWave defines raw materials with high procurement amount as critical raw materials. In 2022, wafers accounted for 53% of the total raw material procurement amount, which is regarded as RichWave's critical raw materials. In order to ensure a stable and continuous supply of critical raw materials, two or more foundries are engaged for the same type of wafer manufacturing process (e.g., GaAs/SOI, etc.) so that production risk is minimized by avoiding the impact of sudden climate disasters, material shortages, transportation delays, and other factors on the production of products.

Conflict Mineral Management

Conflict minerals such as tantalum, tin, gold, and tungsten are obtained from the DRC that are often associated with armed conflicts, endangerment of the local environment, and human rights. Since tantalum, tin, gold, and tungsten are important raw materials in the manufacturing of electronic products, how to prevent human rights violations and environmental damages resulting from the purchase of conflict minerals has become a key challenge for the management of the electronic product supply chain.

RichWave has specified in its Environmental Substance Management procedures the conflict minerals control requirements that suppliers need to follow. We have prohibited our suppliers from using conflict minerals (including tantalum, tin, gold, tungsten, and other minerals or derivatives from the DRC and surrounding countries/regions that are deemed to have been associated with sponsoring armed conflicts in the said countries/regions. In addition, we have also established a comprehensive conflict mineral management process to conduct conflict mineral investigations on our primary and secondary suppliers. The system is used to identify and adequately control conflict mineral-related risks.

RichWave's conflict mineral management process



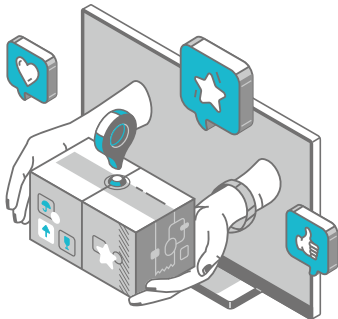
Implementation status of RichWave's conflict mineral investigation

Conflict Mineral Investigation Method		Implementation Outcome
Regular investigation	Irregular investigation	
When the Responsible Minerals Initiative (RMI) publishes a new version of the Conflict Minerals Report Template (CMRT) and Extended Mineral Reporting Template (EMRT), suppliers that did not cover the due diligence of minerals (Pilot Reporting Template, PRT) are required to update the results of the investigation of conflict minerals.	Download the latest approved smelter list from RMI's website about every 6 months and compare it to the details provided by our suppliers. Any unapproved smelters should be confirmed with the suppliers and an update should be conducted.	<p>In 2022, RichWave carried out CMRT and ERT investigations on 15 primary suppliers and smelters.</p> <ul style="list-style-type: none"><li>• Conflict mineral investigation response rate: 100%</li><li>• Conflict mineral investigation pass rate: 100%</li></ul>

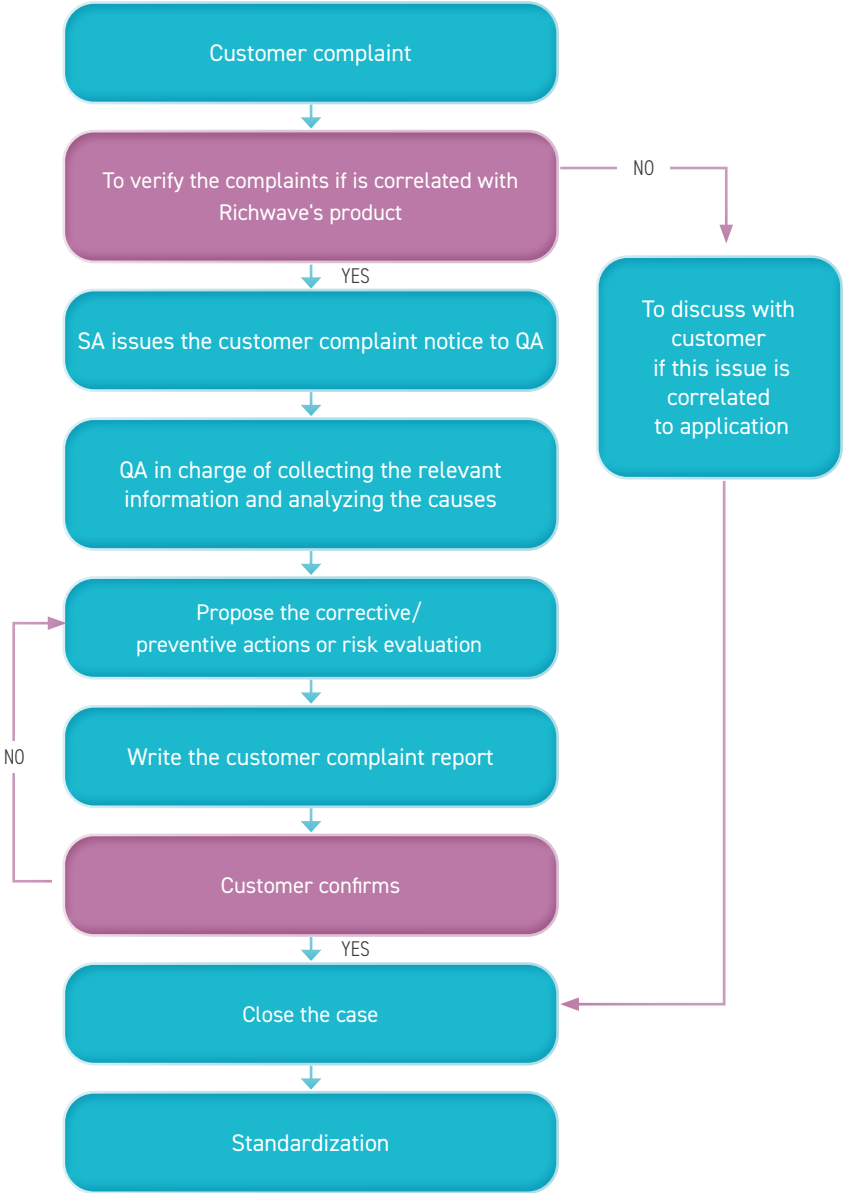
### 3.3 Customer Care

#### » Customer Relationship Management

Customers are one of RichWave's six major core values. We emphasize that customer satisfaction always comes first and continue to refine our product quality to meet the customers' needs. In terms of execution, we have engaged in multidimensional system communication through the global customer support system and think from our customer's perspectives to resolve their problems proactively. Moreover, we collaborate closely with the research and development team to convey the customers' needs and develop diverse products that cater to the customers' requirements. RichWave has created our market image and brand value through such an approach and in turn, engendered a high level of customer satisfaction and stickiness. We value the opinion of every customer, hence we have formulated the "customer complaint management protocol" to process customer complaints efficiently and actively review the potential cause of the complaint to prevent the problem from reoccurring. As for our customers' opinions, we will categorize and archive them and prepare the "customer complaint notice" to make sure that relevant data is processed and managed effectively. Next, we will strive to clarify the problem, collect relevant information, and coordinate various departments to implement improvements and offer responses; the customers' satisfaction with the improvement solutions is determined before the case is brought to a conclusion. Additionally, we have devised the "customer product return/exchange SOP" for product return/exchange operations that are closely associated with customer satisfaction to ensure that our customers can enjoy a good product return/exchange experience, thereby maintaining a high level of customer satisfaction towards the company's services.

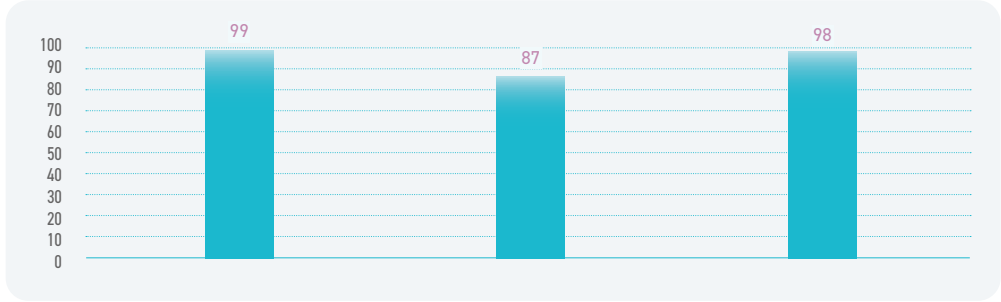


Customer complaint handling process



To ensure the customers' needs are documented, analyzed, and responded to effectively, RichWave has established an annual customer satisfaction survey mechanism using the 5-point Likert scale, while the customer satisfaction survey questionnaires are retrieved via email and fax. In 2022, RichWave conducted a satisfaction survey for its Top 5 end customers. The contents encompass dimensions such as product quality and package labeling, technical expertise and problem-solving efficiency, sales professionalism and service attitude/efficiency, product delivery, and return policy. Various business units of the company will propose improvement plans based on the outcome of different evaluation indicators to maintain customer relations and optimize RichWave's service capacity. In 2022, RichWave received high scores in all categories. Overall, RichWave faced tremendous pressure to work off stocks after the COVID-19 pandemic, demand reversal, sluggish demand for electronic end products, and inflation, etc. However, customers were still highly satisfied with RichWave's services, with an overall average satisfaction rate of 98%. The Company has also been reviewing and optimizing based on the suggestions made by customers, such as consolidating the packaging of products and increasing the abundance of 5G product models, in order to continue to accumulate and enhance the satisfaction and adhesion of end customers to the RichWave brand. In addition, the number of defective products per million products of the Company has been decreasing year after year, and the target set for the number of defective products each year has been achieved.

Average customer satisfaction in the last three years



Note: 1. Satisfaction level calculation = Total score of the item/full score of the item  
2. Investigation targets for 2020 consisted of the top 5 distributors; investigation targets for 2021 consisted of the top 5 end customers in the respective sales regions; investigation targets for 2022 consisted of the top 5 end customers.

RichWave's Product Defect Rate: DPPM (Number of Defective Chips/Total Shipment)

	2021	2022	2023
Target of Defective Parts per Million (DPPM)	Average ≤ 100	Average ≤ 50	Average ≤ 50
Defective Parts per Million (DPPM)	3.1	2.4	-



## CHAPTER

# 4

## Employee Care

4-1 Human Resource Management

4-2 Labor Relations

4-3 Occupational Safety and Health

### Chapter Highlight

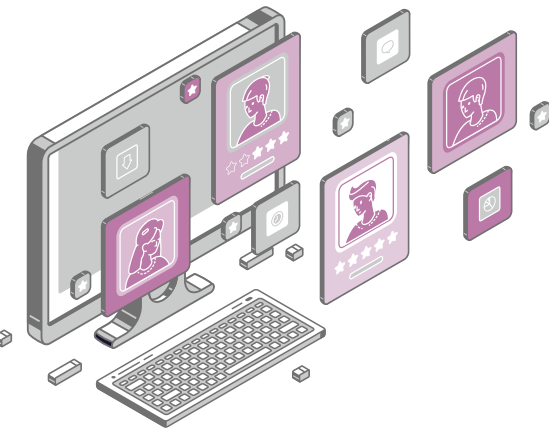
- © In 2022, RichWave organized numerous professional and general knowledge courses across different disciplines, training a total of 1,135 persons and accumulating 1,969 hours of training.
- © In 2022, 100% of RichWave's employees regularly received performance appraisals and career development reviews, regardless of their gender or rank within the company.
- © We value our employees' health by hiring medical staff to conduct regular on-site health services 3 to 4 times a month.
- © Conduct employee's health examinations, with a usage rate of 87% in 2022.
- © There were no occurrence of any occupational disasters in 2022.

# 4.1 Human Resource Management

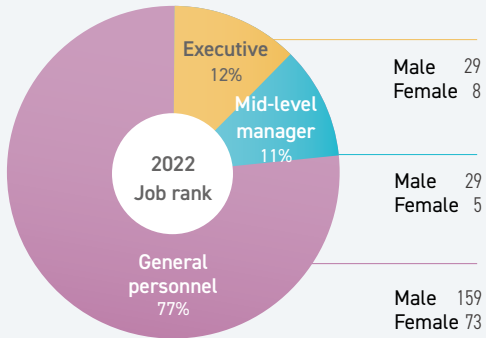
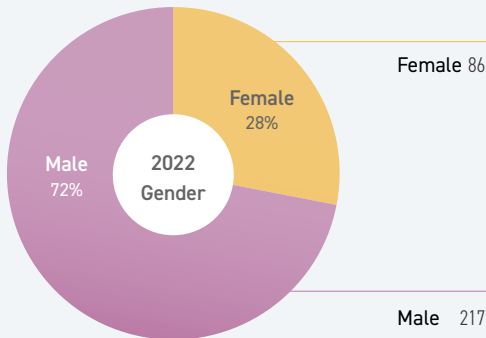
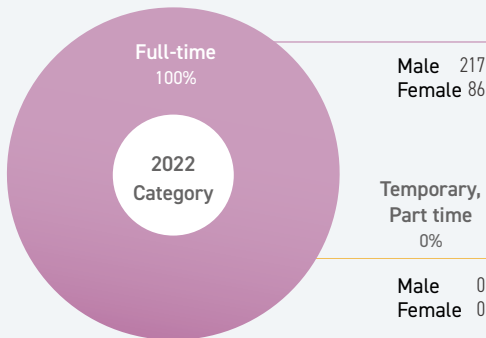
Talents are the core asset of the IC industry, thus RichWave actively invests resources in recruiting outstanding talents and establishing diverse talent recruitment channels, offering competitive remuneration to attract and retain suitable talents. Furthermore, we have established a comprehensive training system that caters to our employees' needs in a bid to enhance the company's competitive edge.

## » Talent Structure and Talent Recruitment

RichWave had 303 employees in 2022, consisting of 71.6% male and 28.4% female workers, with women accounting for 18.3% of the company's executive positions. During recruitment, RichWave offers everyone a fair employment opportunity based on their advantages and work experiences, regardless of their race, religion, nationality, and gender. However, since the industry requires more engineering and science-related talents, the ratio of male employees tends to be higher. RichWave continues to support workplace diversity and inclusiveness. In 2022, we have a total of 4 employees with disabilities, which is higher than the ratio stipulated by the government.



### RichWave's Employee Structure in 2022



#### Total number of employees at RichWave: by category

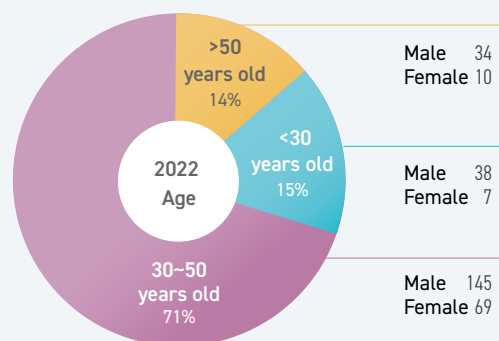
2022 <sup>(Note 1)</sup>	Male	Female
Full-time	217	86
Temporary	0	0
Total <sup>(Note 2)</sup>	217	86
Full-time	217	86
Part time	0	0
Total	217	86

Note: 1. The total number of employees was calculated based on the number of employees as of the end of the year (2022/12/31).  
2. In 2022, RichWave had no employees with "no guaranteed hours of work".

#### Total number of employees at RichWave: by job level

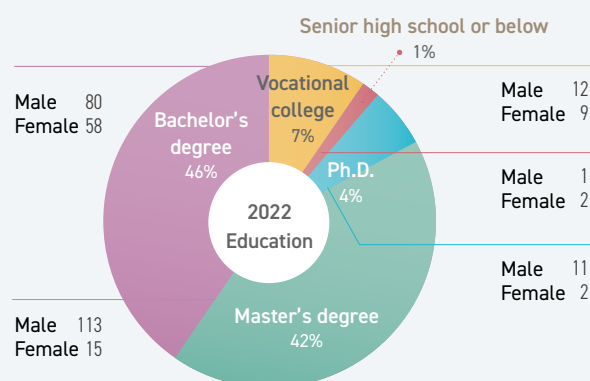
2022	Male	Female
Executive	29	8
Mid-level manager	29	5
General personnel	159	73
Total	217	86

Note: Executive-level positions include officers at or above the division level; middle-level managers include leaders at or above the departmental level; and general personnel include engineers, general supervisors, and other personnel.



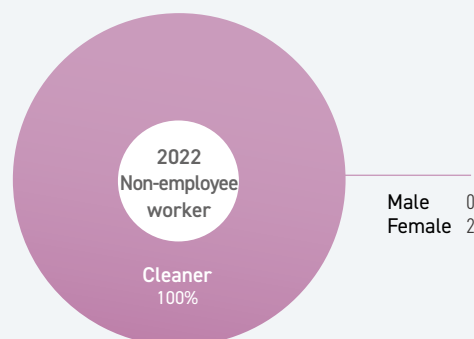
Total number of employees at RichWave: by age

2022	Male	Female
>50 years old	34	10
30-50 years old	145	69
<30 years old	38	7
<b>Total</b>	<b>217</b>	<b>86</b>



Total number of employees at RichWave: by education level

2022	Male	Female
Ph.D.	11	2
Master's degree	113	15
Bachelor's degree	80	58
Vocational college	12	9
Senior high school or below	1	2
<b>Total</b>	<b>217</b>	<b>86</b>



Total number of non-employee workers at RichWave

2022 <sup>(Note)</sup>	Male	Female
Janitress	0	2
<b>Total</b>	<b>0</b>	<b>2</b>

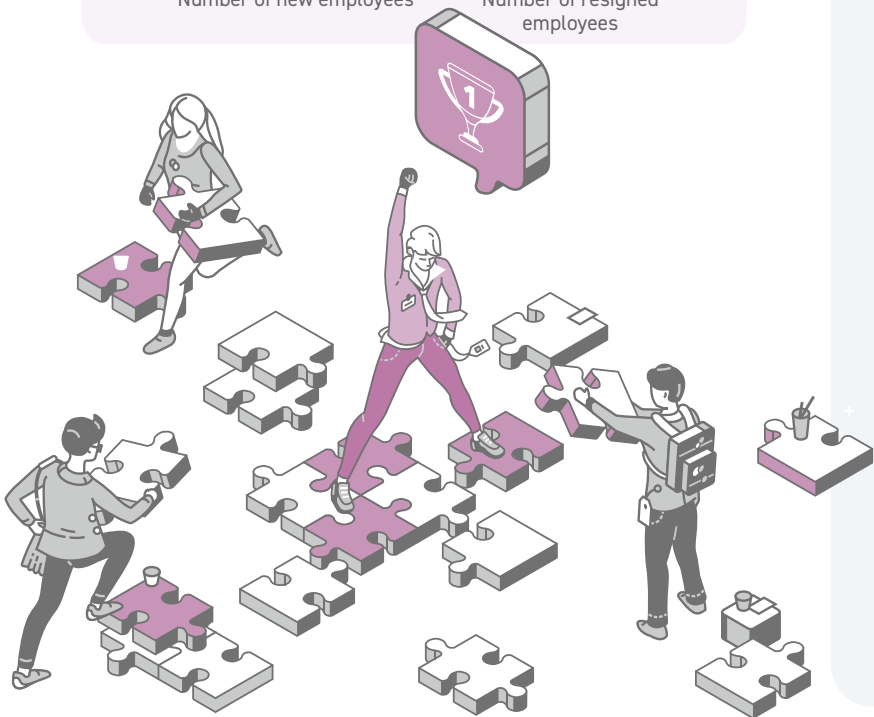
Note: The total number of non-employee workers was calculated based on the number of workers as of the end of the year (2022/12/31). There were only 2 cleaners (1 in Taipei and 1 in Hsinchu) from outside labor dispatch companies, and no guard or other dispatched workers.

To generate momentum for growth, RichWave vigorously recruits and retains key talents, searching for outstanding employees through 104 Job Bank and LinkedIn. Since the company values the cultivation of professional talents, we have forged a long-term and close partnership with schools to engage in industry-academe collaboration in higher technical education. We have developed a wide range of cutting-edge technologies in different technological fields with various schools for the sake of keeping abreast of the latest international trends and recruiting key talents.

In 2022, RichWave hired 58 new full-time employees (40 men and 18 women), accounting for 19% of the workforce. In the same year, 73 full-time employees (48 men and 25 women) resigned from RichWave, accounting for 24.1% of the workforce. The company strives to create a positive working environment for its employees by conducting exit interviews with employees before they leave the company. Through these interviews, the company actually understands the reasons why employees choose to leave the company, so that the company may find ways to keep them by transferring them to other roles or improving the working environment in order to eliminate the motivation to leave the company.



Number of Domestic Full-time New and Resigned Employees in 2022

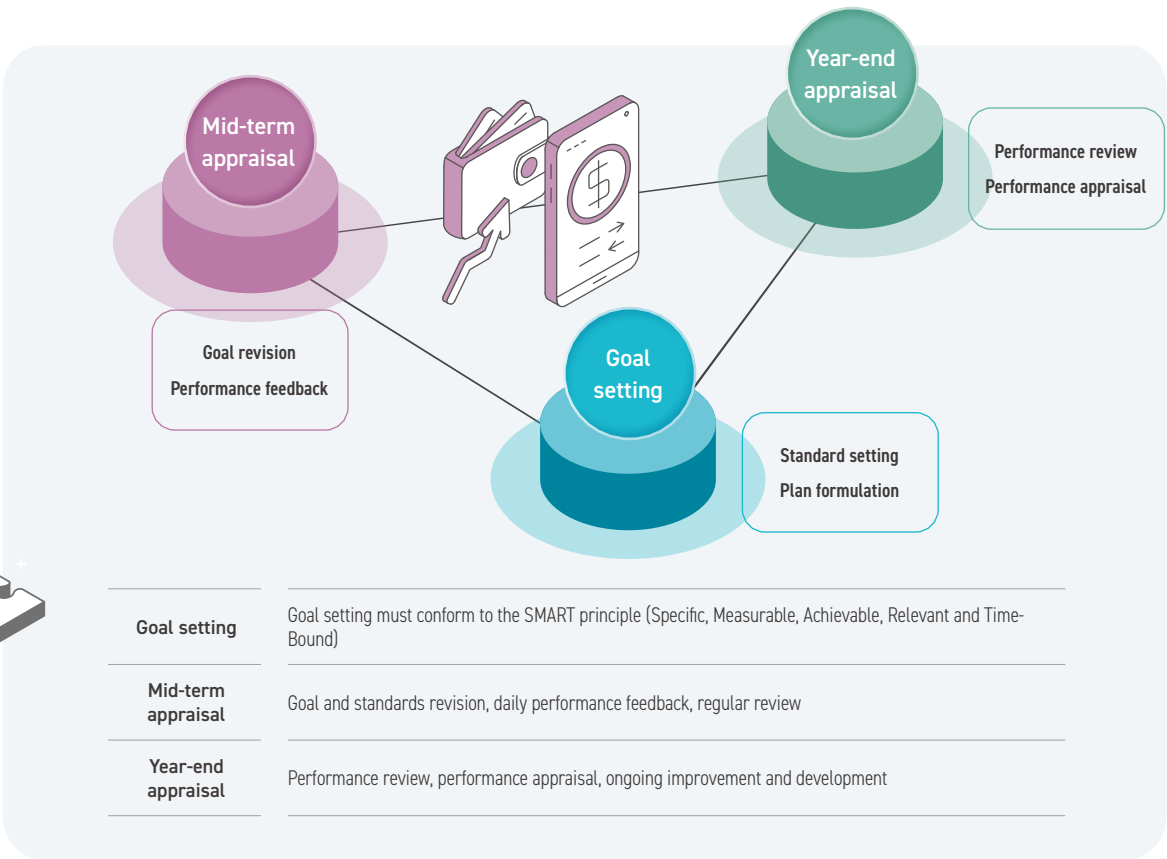


## » Employee Remuneration and Appraisal

### Performance Appraisal

RichWave's performance management system and development system help our employees to attain optimum work performance and showcase their core values through ongoing target focus, two-way dialogue, real-time feedback and performance evaluation, thereby realizing the best organizational and individual performance.

RichWave's employee performance evaluation takes place over different stages, assessing our employees' annual work performance and setting their future career development goals through target setting, mid-term appraisal and year-end appraisal. The performance appraisal outcome is used as a reference for making human resources-related decisions such as employee performance bonuses, promotion, as well as talent development. In 2022, 100% of RichWave's employees regularly received performance appraisals and career development reviews, regardless of their gender or rank within the company.



## Remuneration Policy

RichWave sees employees as important assets of the company and values their benefits and welfare. We provide a competitive remuneration system that adjusts our employees' salaries based on the overall performance of the company and personal performance. If the company has earned a profit for the year, we will set aside at least 8% of the profit as employee remuneration, which will be awarded to our employees in the form of stocks or cash dividends (to be decided by the Board of Directors) based on their performance.

Per information from the MOPS, RichWave's full-time, non-management employees' "average salary" in 2022 was NT\$1,453 thousand and the "median salary" was NT\$1,202 thousand. If broken down according to industry category, thousand average salary<sup>(note)</sup> is considerably higher than employees in other similar companies in the "Electronics Components Manufacturing Industry" based on the information from the Earnings Exploration and Information System by the Director-General of Budget, Accounting, and Statistics, Executive Yuan.

Note: According to the Earnings Exploration and Information System by the Director-General of Budget, Accounting and Statistics of the Executive Yuan, the average monthly salary of employees in the Electronics Components Manufacturing Industry in 2022 was NT\$90,320 (averaging NT\$1,084,000 per annum)

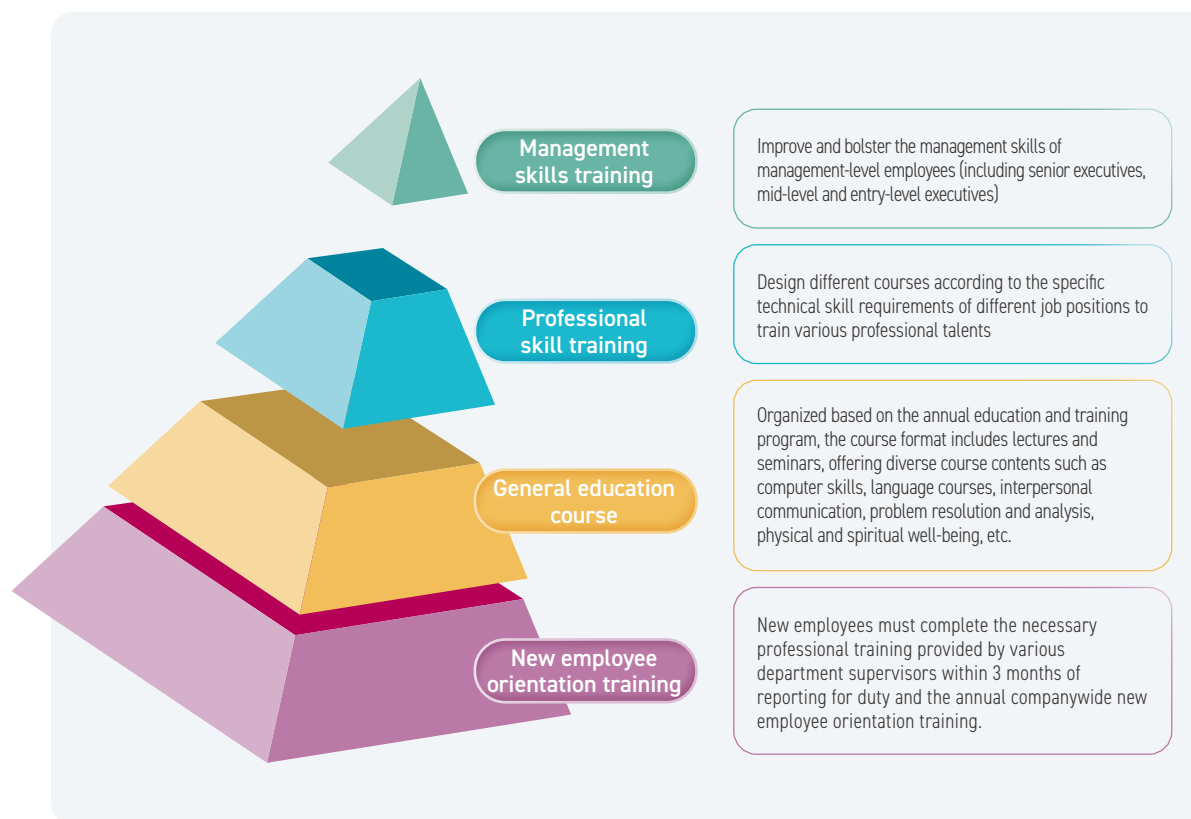
### Remuneration of Full-time, Non-Management Employees

	2020	2021	2022
Number of full-time employees	236	276	278
Total salary (NT\$1,000)	307,648	408,426	403,824
Average salary (NT\$1,000)	1,304	1,480	1,453
Median salary (NT\$1,000)	1,073	1,205	1,202

Note: full-time, non-management employees refer to an employee who has satisfied the company's regulations in terms of normal work hours and who are not managers as defined by Tai-Cai-Zheng-San-Zi No. 920001301.

## » Training and Education

RichWave continues to provide a comprehensive training structure including new employee orientation training, management skill training, professional skill training and general education. Diverse learning and development opportunities are provided to our employees during various stages of their careers to ensure that the talent training program meets the expectations of the company, the environment, and employees. In 2022, RichWave organized various professional and general education courses, including technical courses such as thermal management of power components, coupler and transformer, RF and microwave filters, negotiation skills, precise recruiting interviewing skills, and the importance of mind power from the perspective of technological development, training a total of 1,135 persons and accumulating 1,969 hours of training. In the past three years, the number of training hours for employees increased continuously. In the future, we will continue to plan more diversified and rich courses to help employees realize their potential and strengths and to enhance the competitiveness of our human resources.

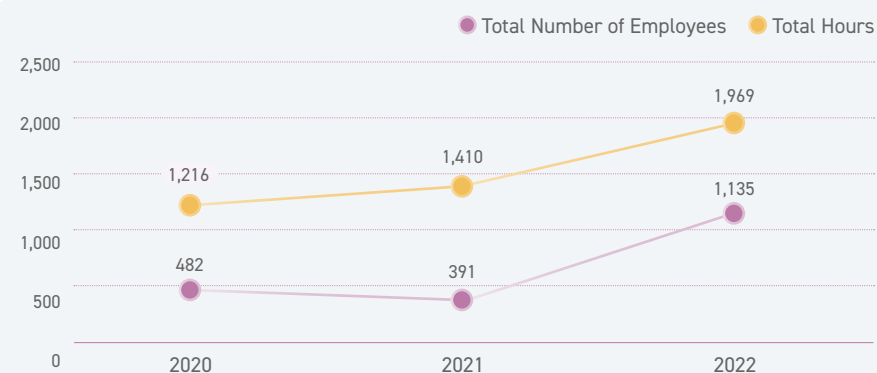




Type	2020		2021		2022	
	Number of trainees	Number of training hours	Number of trainees	Number of training hours	Number of trainees	Number of training hours
Management skills training	62	376	0	0	78	234
Professional skill training	52	104	333	1,294	336	930
General education course	368	736	58	116	721	805
<b>Total</b>	<b>482</b>	<b>1,216</b>	<b>391</b>	<b>1,410</b>	<b>1,135</b>	<b>1,969</b>

Type	2020		2021		2022	
	Number of trainees	Number of training hours	Number of trainees	Number of training hours	Number of trainees	Number of training hours
New employee orientation training (including safety and health education and training)	72	278	85	806	140	1,680
<b>Total</b>	<b>72</b>	<b>278</b>	<b>85</b>	<b>806</b>	<b>140</b>	<b>1,680</b>

Trend of total training hours and attendance of education and training in the last three years (excluding newcomer orientation)



○ Professional Knowledge Enhancement

### Physical and Spiritual Growth

Work-life balance engenders better performance and quality of life. Since 2021, RichWave has devised a series of physical and spiritual well-being lectures to let our employees take charge of their physical and spiritual conditions. By learning positive thinking techniques, they can alleviate their stress and emotions to overcome difficulties at the workplace and discover happiness. After the series of courses were held, we received enthusiastic feedback from the employees and a series of courses including Office Stretching Exercise, 3322 Natural Dietary Self-Healing Method, the Importance of Mental Strength from the Perspective of Technological Development, and The Code to a Happy Life for the Workplace and Life Series were held in 2022, and we will continue to plan for wellness courses in order to build a good workplace environment in the future.



## 4.2 Labor Relations

RichWave strives to create a harmonious, equal, and safe workplace by offering diverse employee benefits, establishing diverse employee communication channels, maintaining the employees' human rights and valuing workplace safety in order to minimize potential dangerous events.

### » Employee Health and Well-being

#### Insurance Benefits

On top of basic labor and health insurance, RichWave has also planned comprehensive group insurance that encompasses life insurance, major illness insurance, accidental injury insurance medical insurance, and cancer insurance, where all the insurance expenses are paid for by the company. Apart from caring about our colleagues, we also look after their families' health protection and life, where full-time employees may purchase RichWave's group insurance for their spouses, children and parents, thereby providing their families with the same level of protection from the company. For colleagues going on overseas business trips, we will provide them with travel insurance to offer them more adequate protection.

#### Maternity Policy

RichWave's "Workplace Maternal Health Protection Plan" is devised based on the "Occupational Safety and Health Act," adopting the necessary safety and health measures to ensure the physical and spiritual health of our pregnant, postpartum, and breastfeeding female employees. Additionally, RichWave offers on-site nurses and physicians to provide them with health services including employee interviews and health risk identification during the maternal health protection period, as well as offering them pregnancy and breastfeeding health guidance and consultation. When there are health-related concerns, they will engage in health protection interviews and relevant medical health instructions.

To offer our employees peace of mind when starting a family and to allow them to strike a balance between work and life, RichWave offers parental leave regardless of gender and it will not affect the employees' full attendance bonus, performance appraisal or result in other unfavorable disciplinary actions. In 2022, 6 people qualified for parental leave (including 3 women and 3 men), of which 33% of female workers applied for parental leave without pay and all of their applications were approved.

Item	2020		2021		2022	
	Male	Female	Male	Female	Male	Female
Number of qualified unpaid parental leave applicants (A)	3	3	9	3	3	3
Number of unpaid parental leave applications (B)	--	1	--	2	0	1
Number of employees who shall reinstate after parental leave (C)	--	1	--	2	0	1
Number of employees who have reinstated after parental leave (D)	--	1	--	1	0	0
Number of employees who have reinstated after parental leave the year before last (E)	--	0	--	--	--	1
Number of employees who have worked for one year after reinstatement (F)	--	0	--	--	--	1
Parental leave without pay application rate (B/A)	--	33%	--	67%	--	33%
Reinstatement rate (D/C)	--	100%	--	50%	--	0%
Retention rate (F/E)	--	100%	--	--	--	100%





#### Retirement System

RichWave has formulated retirement regulations for our full-time employees and we have established a Labor Pension Oversight Committee according to the Labor Standards Act, where a specific ratio of the employees' monthly salary is set aside as a retirement pension. The fund is handed over to the Labor Pension Fund Oversight Committee and deposited into the special account of the Bank of Taiwan.

The Labor Pension Act was promulgated on July 1, 2005, adopting the contribution system. The employees can choose the pension provisions from the "Labor Standards Act" or the Labor Pension Act and retain their service duration accrued from before. For employees applicable to the Labor Pension Act, the company will contribute no less than 6% of their salary to their personal pension account every month.

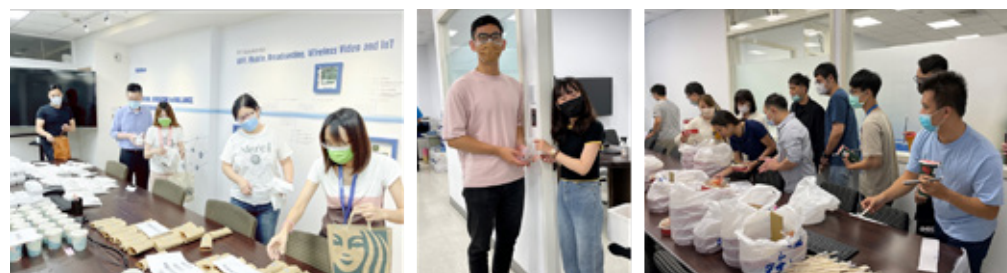
The retirement system of the company's employees is designed according to the regulations of the Labor Standards Act and the Labor Pension Act, where monthly contributions are made to the pension fund and handed over to the Labor Pension Oversight Committee's dedicated account for savings and expenditure purposes. Since the Labor Pension Act was promulgated on July 1, 2005, employees may choose between the pension provisions from the "Labor Standards Act" (old system) or the Labor Pension Act and retain their service duration accrued from before (new system). For employees applicable to the Labor Pension Act, the company will contribute no less than 6% of their salary to their personal pension account every month. Furthermore, the company has contributed pension on account and acknowledged pension as liability according to the pension actuarial report by a qualified actuary as stipulated by the International Accounting Standards (IAS) 19 "Employee Benefits."

## Other Employee Benefits

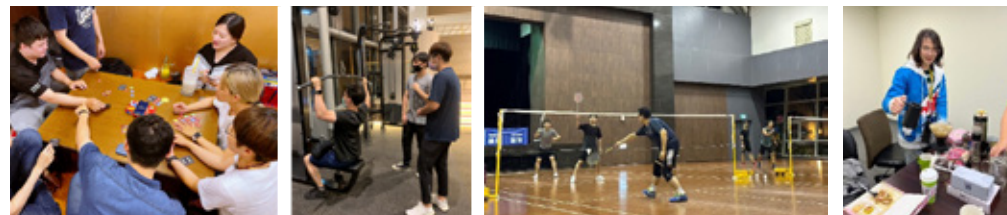
Item	Description
 <p><b>Bonus and allowance</b></p>	<p>Gift money for 3 major festivals and birthday vouchers, marriage, childbirth and funeral allowance, travel allowance, and other bonuses. Full-time employees are entitled to this benefit while other bonuses are given based on the company's business conditions.</p>
 <p><b>On-site healthcare service</b></p>	<p>Taipei office healthcare service: 3 times a month. Hsinchu office healthcare service: 4 times a month. The following health management services are performed:</p> <ol style="list-style-type: none"> <li>1. Analysis and evaluation of the results of labor physical (H=health) examinations, health management.</li> <li>2. Assisting in the selection of workers for appropriate tasks.</li> <li>3. Providing follow-up management and health counseling for those with abnormal health examination results.</li> <li>4. Assessment and case management of occupation-related high-risk workers.</li> <li>5. Coordination of health education, hygiene instruction, physical and mental health protection, and health promotion measures for workers.</li> <li>6. Prevention of work-related injuries and illnesses, and health counseling.</li> <li>7. Assisting in the consultation and recommendation on the evaluation of the competence, job redesign or adjustment of restored workers.</li> </ol>
 <p><b>Employee health examination</b></p>	<p>The company provides our employees with employee health examinations to bolster employee healthcare.</p>
 <p><b>7-day flexible holiday</b></p>	<p>To compensate our colleagues for their hard work, a 7-day flexible holiday is additionally provided for colleagues, which is superior to the Labor Standards Act.</p>

## Employee Welfare Committee

RichWave's Employee Welfare Committee consists of representatives from various departments and it is in charge of coordinating and planning diverse company activities. such as annual outdoor staff day and employee birthday celebration, allowing them to unwind and alleviate their stress, thereby achieving work-life balance. Furthermore, to enhance the physical and spiritual well-being of our colleagues, we have promoted proper entertainment and recreational activities to improve their work efficiency, foster camaraderie and bonding. RichWave encourages our colleagues to form clubs in the workplace.



○ Monthly employee birthday celebrations and afternoon tea activities are held from time to time during different festivals



○ Diverse clubs in the workplace



○ 2023 RichWave year-end banquet



## » Employee Communication

Various department supervisors at RichWave will convene meetings from time to time to establish a communication channel between management and the employees. The employees' attendance is closely monitored to offer them timely assistance and care in case of an emergency. To help our employees achieve various objectives including "understanding the company's operations," "understanding the executives," "improving the workplace," and "fostering rapport," RichWave has created a communication platform and organized communication meetings to efficiently assist our employees to understand the company, implement the company's policies, as well as resolving colleague and workplace-related problems. We strive to listen to the opinions and voices of our coworkers and provide an ongoing two-way communication platform to let our employees propose questions and receive speedy responses.

Taking the regularly hosted employee communication meetings and labor meetings as examples, RichWave invites employee representatives and senior executive representatives to engage in a face-to-face dialogue to discuss relevant issues. This is beneficial for fostering mutual understanding and rapport between the company and the employees.

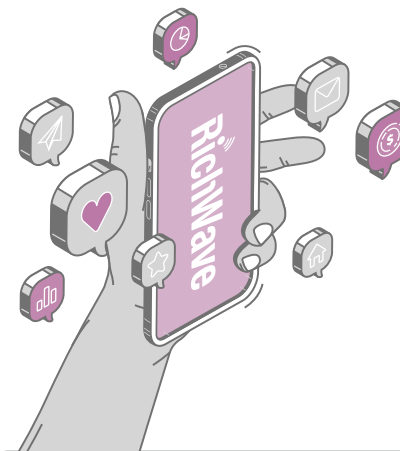


○ Company's quarterly meeting

Moreover, for matters pertaining to Article 11 & 13 of the Labor Standards Act, collective bargaining will be conducted according to the following advanced notification period:

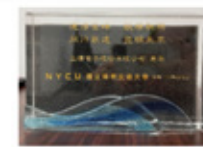
- ◎ For employees who have worked for more than 3 months but less than a year, a 10-day advanced notification is needed.
- ◎ For employees who have worked for more than a year but less than 3 years, a 20-day advanced notification is needed.
- ◎ For employees who have worked for more than 3 years, a 30-day advanced notification is needed.

To strengthen internal communication, RichWave published the inaugural issue of "RichWave News" in December 2021. We have published five electronic news messages to date and expect to publish one electronic newsletter per quarter in the future to let our employees understand the company's status and operational strategies; the newsletter also includes application columns and industry status, offering insights into the latest patent information and technological trends, thereby improving our employees' thinking and endowing them with an international business perspective. At the same time, it also serves to convey information about the Welfare Committee's activities to effectively achieve horizontal and vertical communication.



**種一棵小樹，綠一方水土**  
一起栽種樹、種下減碳林活動  
立積為實踐綠色永續的承諾，配合全球2050淨零碳排目標，近期提昇國際競爭力，今年與主辦單位「慈心發展基金會」合作認養種植200棵樹。

[閱讀文章](#)



**立積電子關懷社會公益**  
立積電子持續與新加坡明交大、聯能貢獻於培育半導體專業人才，發展台灣下一代半導體技術及鞏固台灣半導體產業於國際上之影響力。

[閱讀文章](#)



**立積電子雷達IC停電亮相**  
在中山舉行的第四十一屆AIOT&智能物聯網技術研討會上，立積電子的5.8G移動偵測和10.5G存在感應IC震撼亮相，現場得到了同行與客戶的高度關注，並且在研討會中引起了巨大反響，收穫一致好評！

[閱讀文章](#)



**企業永續是我們堅持營運目標**  
自公司成立以來，聯弘就秉承以重視客戶為營運中心的理念，積極回應客戶需求，面對挑戰尋求有效解決方案，在營運中求發展，除了重視公司獲利也滿足客戶需求為優先，積極進取，不斷學習，以達到成功及永續的目標。

[閱讀文章](#)

» Human Rights Assessment

Human Rights Policy and Measures





RichWave sees our employees as the most important asses, hence we strive to provide them with meaningful work and a safe and healthy workplace with outstanding remuneration and benefits. Furthermore, we also encourage our colleagues to strike a balance between work and life by looking after their family, making friends and developing personal hobbies. In the future, RichWave will continue to implement the company’s human rights policy based on the “UN Guiding Principles on Business and Human Rights” and “Responsible Business Alliance (RBA) Code of Conduct.”

RichWave has complied with government regulations and only accepts candidates over 18 year old to apply for the company's position. When reporting for duty, new employees' identity will be verified to ensure that the company abides by the regulation banning child labor.

RichWave provides equal employment opportunities according to personal strengths and work experience, and we will not discriminate based on race, andestry, language, ideology, religion, politial party affiliation, nationality, place of birth, gender, sexual orientation, age, marital status, appearance, facial features, disability, or union membership.




RichWave has formulated procedures to supervise and cooperate with the country's applicable affirmative action policies to address verifiable discrimination complaints. Any verifiable discrimination complaints will be invetigated and dealt with in a comprehensive and impartial manner. Let us work together in a fair, happy workplace.

Specific Goals and Mitigation Measures

Applicable Scope	Employees working shifts, nighttime hours, and long hours	All employees
 Policy	"Abnormal Workload-induced Disease Prevention Program"	"Prevention Plan for Workplace Violation" "Statement on the Prevention of Workplace Violence"
 Goals and Conducts	Prevent abnormal workload-induced illnesses including cerebrovascular and cardiovascular diseases among our employees by offering them protection measures.	Prevent employees from physical or mental harm at the workplace as a result of other people's behaviors. The annual goal is to achieve 0 incidents.
 Mitigation Measures	<ol style="list-style-type: none"><li>1. Use the blood test items in the employees' physical or health exam reports to estimate the risk level of cardiovascular disease before further evaluating the workload risk level.</li><li>2. On-site doctors conduct interviews with relevant employees and the follow-up is carried out by on-site nurses.</li><li>3. If the employees' health is not developing as expected or there are concerns about their health, it is important to contact the unit supervisor, the employee in question and the physician to discuss the situation.</li></ol>	<ol style="list-style-type: none"><li>1. Regularly organizes unit supervisor and employee training to let them understand and identify workplace abuse.</li><li>2. Provide an open workplace violence consultation and complaint channel:<ul style="list-style-type: none"><li>• Complaint hotline: 03-6008999 #333</li><li>• Complaint email: hr@richwave.com.tw</li></ul></li><li>3. Public announce the zero-tolerance principle towards workplace abuse during internal meetings and on the system bulletin board.</li><li>4. The HR and Administration Department has recalled a task force responsible for officiating task force meetings, guiding the investigation operation, implementing risk prevention and making resolutions.</li></ol>
 Remedies	Classify the employees' risk factors into low, medium, and high according to the evaluation outcome and implement remedies based on these 3 conditions.	<ol style="list-style-type: none"><li>1. If employees experience workplace abuse, they may file a complaint through the relevant channels. After the complaint is received, the company will appoint a case officer to coordinate the subsequent process.</li><li>2. A risk evaluation is conducted annually to ascertain the residual risk after the control measures have been applied and the new risks, as well as to review their suitability and effectiveness.</li></ol>



## Annual Implementation Status

Item	Content	Annual Goal for 2023
 <b>Company's internal communication regulations</b>	Provide relevant legal compliance promotion during the new employee orientation training.	Quarterly
 <b>Regular anti-bullying campaign</b>	Public announce the zero-tolerance principle toward workplace abuse during internal meetings and on the system bulletin board.	Annually
 <b>Risk assessment</b>	We conduct a risk assessment once a year to identify residual and new risks after control measures are taken and review their applicability and effectiveness. In 2022, an employee filed a complaint of unlawful assault (verbal bullying) and an ad hoc group was set up in accordance with the procedures to conduct an investigation and review. The result of the investigation was that there was no unlawful assault.	No violations of human rights took place

## 4.3 Occupational Safety and Health

RichWave sees employees as the company's most valuable asset, hence the Employee Manual was formulated in accordance with the Occupational Safety and Health Act and relevant bylaws. Besides regularly conducting workplace safety inspections and monitoring, training and promotions are also carried out to bolster the employees' emergency response capabilities. RichWave is a Type II business entity. Currently, its number of employees has not reached the threshold required by the Occupational Safety and Health Act to establish an occupational safety and health management system, and in the future, it plans to establish an occupational safety and health management system in accordance with the national standard CNS 45001 and above.



### » Creating a healthy and safe working environment

Through comprehensive management policies, crisis and risk management, health promotion activities, and education and training, RichWave did not have any occupational accidents in 2022, and the company will continue to create a healthy and safe working environment.

Catagory <sup>(Note 1)</sup>	Scope of coverage <sup>(Note 2)</sup>	Total number of working hours <sup>(Note 3)</sup>	Percentage of recordable occupational injuries <sup>(Note 4)</sup>	Percentage of serious occupational injuries <sup>(Note 5)</sup>	Percentage of fatal occupational injuries <sup>(Note 6)</sup>
<b>Employee</b>	Full-time employee, part time employee	602,728	0	0	0
<b>Non-employee worker</b>	Janitress, Guard	2,040	0	0	0

Notes: 1&2. Direct employees include employees on RichWave's payroll, with reference to "Employed Workers" of the Occupational Safety and Health Administration of the Ministry of Labor's Occupational Safety and Health Statistical Reporting Operations on Occupational Accidents; contract employees are those who are not on the company's payroll but are under the company's day-to-day supervision, with reference to other workers not classified as employed workers by the Occupational Safety and Health Administration of the Ministry of Labor.

3. The calculation of the total number of working hours also makes reference to the requirements of the Occupational Safety and Health Administration of the Ministry of Labor's reporting requirements for occupational accident statistics.





4. The number of recordable occupational injuries includes the number of deaths caused by occupational injuries; the percentage of recordable occupational injuries = (number of recordable occupational injuries/total working hours) x 200,000. The occupational injuries recorded in this table follow the definition of occupational accidents under the Labor Standards Act, which is consistent with the reporting of occupational accidents and does not include commuting accidents; in 2022, there were a total of 3 commuting accidents (with 2 lost days of incapacitating injuries). The company continues to strengthen employee awareness and cite the relevant information of the Road User Safety Manual of the Ministry of the Interior's National Police Agency in the education and training materials to enhance employees' awareness of commuting safety.






5. Serious occupational accidents refer to injuries that make it difficult for workers to return to their pre-injury state of health within 180 days, excluding fatalities. Percentage of serious occupational accidents = (Number of serious occupational accidents/Total working hours) x 200,000.

6. Percentage of occupational Injury fatalities = (Number of occupational injury fatalities/Total working hours) x 200,000.

## » Occupational Risk Management

RichWave's operating locations consist of mainly offices. To protect our employees' occupational safety, workplace protection measures implemented annually include public area fire safety inspection, labor work environment monitoring, new employee safety and health education and training, and access control system. Further details and implementation status are elaborated below:

Item	Frequency	The year of 2020	The year of 2021	The year of 2022	Annual Goal for 2023
 <b>Public area fire safety inspection</b>	Semi-annually	-	A public area fire safety inspection was carried out on September 6, 2021	A public area fire safety inspection was carried out on April 25, 2022	In accordance with the regulations of the Science Park
 <b>Conduct labor work environment monitoring</b>	Semi-annually	-	Labor work environment monitoring was carried out in Hsinchu and Taipei on August 23, 2021 and September 10, 2021 and the results comply with legal standards.	Labor work environment monitoring was carried out in Hsinchu and Taipei on July, 2022 and January, 2023 and the results comply with legal standards.	Semi-annually
 <b>Conduct employee health examination</b>	Annually	80% (241 employees)	100% (306 employees)	87% (263 employees)	85% annual utilization rate
 <b>New employee safety and health education and training</b>	As needed	Reinforce new employee education, training and promotion, endowing employees with emergency response capabilities and safety awareness. Bolster the employees' awareness and reduce accidents caused by unsafe behaviors. The education and training implemented in recent years include:  Number of sessions: 3 Education and training: 72 persons Education and training hours: 36 hours	Number of sessions: 3 Education and training: 85 persons Education and training hours: 380 hours	Number of sessions: 4 Education and training: 140 persons Education and training hours: 420 hours	Quarterly

Item	Frequency	The year of 2020	The year of 2021	The year of 2022	Annual Goal for 2023
 <b>First aider training</b>	As needed	-	-	A total of 6 employees were sent for training, all passing and obtaining licenses	Employees are sent for training and refresher training in accordance with the requirements.
 <b>Occupational safety personnel training</b>	As needed	-	-	A total of 1 employee was sent for training, passing and obtaining licenses	Employees are sent for training and refresher training in accordance with the requirements.
 <b>Fire safety and CPR promotion</b>	Semi-annually	The Hsinchu County Government Fire Bureau conducted a fire safety promotion and CPR demonstration at RichWave. Due to the pandemic, our colleagues in Taipei joined the Hsinchu office online to enhance their fire evacuation and emergency rescue-related knowledge, as well as their fire safety awareness.	Conducted on December 20, 2021	Self-guard Fire Protection Grouping Drills were already organized in June and October 2022	In accordance with the regulations of the Science Park
 <b>Health information bulletin</b>	Quarterly	The company's internal bulletin provides health education-related promotion to let our employees understand health and hygiene-related information.	April, July, October 2022 and January 2023		Quarterly
 <b>Access control system</b>	Ongoing	Integrated security systems in various areas provide access control and protect the safety of the company's properties.			Ongoing

### Regular internal safety and health publicity



### Self-guard Fire Protection Grouping Drills in 2022



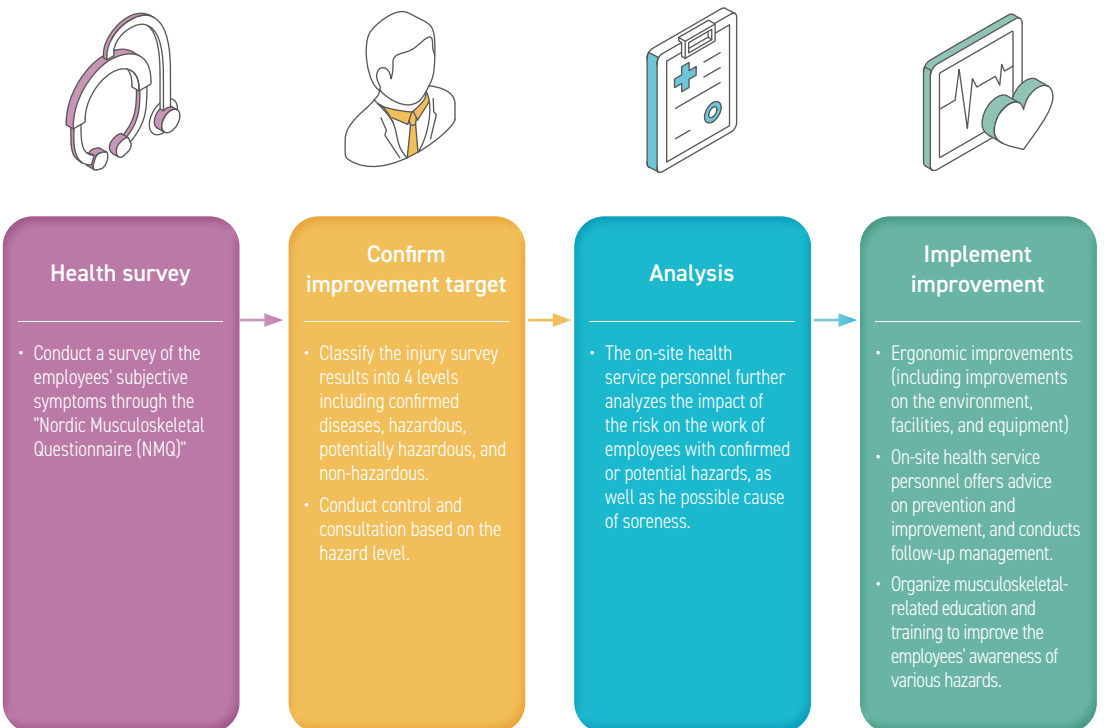
### RichWave's annual employee health examination in 2022

We provide new employees with free pre-employment physical examinations at contracted hospitals, and carry out annual health examinations for all employees in compliance with regulations. In 2022, a total of 73 new employees participated in physical examinations (100%) and 263 employees participated in health examinations (87%). Employees who are determined by a medical doctor to be in need of health management will be followed up by professional on-site caregivers and arranged for one-on-one consultation with a medical doctor to ensure the health of the employees.

Per the regulations of the "Occupational Safety and Health Act," RichWave reports relevant occupational accidents to labor inspection agencies within 8 hours. If danger is imminent in the workplace, the operations will be stopped immediately and all the workers will be evacuated to safety. When workers are faced with immediate danger at the workplace, they may stop their operations and retreat to a safe place without endangering other workers and report the incident to their direct supervisor immediately. RichWave rigorously adheres to the regulations of the "Occupational Safety and Health Act"; we do not dismiss or reassign the abovementioned employees, and we do not deduct their salaries during work suspension or enforce other disciplinary measures on them.

### » On-site healthcare service

To prevent employees from suffering occupational injuries and illnesses (such as muscle/bone injuries, ergonomic hazards) due to prolonged exposure to an ill-designed work environment, repetitive actions and incorrect postures, RichWave has stipulated the "Ergonomic Risk Prevention Plan" and implemented relevant measures to prevent work-induced muscle/bone injuries or diseases.



## CHAPTER

# 5

# Environmental Management

- 5-1 Climate Change Responses and GHG Management
- 5-2 Energy Management
- 5-3 Water Consumption
- 5-4 Waste Management

### Chapter Highlight

- ◎ On June 27, 2022, the ISO 14001 environmental management system and ISO 14064-1 greenhouse gas inventory were simultaneously imported, and we obtained dual international certifications on December 7, 2022 and November 28, 2022, respectively.
- ◎ In 2022, Energy Use Intensity (EUI) decreased by 5.8% compared to last year.
- ◎ Energy conservation and carbon reduction solutions in 2022 reduced external electricity purchase by 6,857.59 kWh, equivalent to lowering 3,490.5 tCO<sub>2</sub>e GHG emissions.
- ◎ The water intensity in 2022 decreased by 2.3% compared to 2021.
- ◎ Waste generated in 2022 decreased by 31.03% compared to 2021.



RichWave has always paid attention to environmental protection, striving to reach a balance between corporate operations and co-prosperity/co-existence with the environment by launching electronic products featuring exceptional performance and green concepts. Consequently, while materializing the environmental management policy and controlling the environmental impact of our operations, we also pro-actively engage in supply chain and environmental management, supervising and guiding our supply chain partners to fulfill their environmental responsibilities in a bid to create a green semiconductor value chain.



**Environmental management goal**

Beginning in 2023, RichWave will implement planned electricity use, greenhouse gas reduction, and other waste management over the next five years to achieve the management policy goal of reduction by 3%.

**RichWave's Environmental Management Policy**

**1. Compliance with International Laws – Support Green Environmental Protection**

We will continue to monitor changes in domestic and foreign environmental policies and regulations to ensure that the company's operations comply with the law. Launch green products that comply with the international environmental regulations and development trends, as well as satisfy the customers' sustainable requirements.

**2. Implement Environmental Management – Resource Recycling and Reuse**

Apply ISO 9001:2015, ISO 14001:2015 and ISO 14064-1:2018 management system to realize total environmental management; electronic wastes are recycled by qualified disposal contractors and reused as resources to unleash the benefits of a circular economy.

**3. Encourage Total Participation – Promote Ongoing Improvement**

Continue to promote environmental concepts and education to RichWave's colleagues and support relevant activities by the government and environmental groups; regularly review our environmental performance to examine and improve inadequacies.

# 5.1 Climate Change Responses and GHG Management

## » Climate Change

After the Paris Agreement, climate change has become a high-profile topic among governments and businesses around the globe. Particularly, changes in sustainability related regulations and extreme climate may bring about a significant impact on business operations and people's welfare. In this regard, RichWave referred to the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations in 2022 to establish a complete climate governance framework through the four dimensions of governance, strategy, risk management, and metrics and targets, formulate a greenhouse gas emission reduction plan, as well as phased goals and strategies, and identify climate-related risks and opportunities that may cause financial impacts to the company and further develop strategies and actions to enhance the Company's climate resilience.

### The four core elements of TCFD



① **Governance**

The company has established a "Climate Change Risk Response Team" within the previously established Business, Continuity Planning (BCP) Management Office, with the Board of Directors as the highest guidance and supervision unit and the President as the convener, business units send representatives to participate, and coordinated by Global Affairs Office, which is responsible for policies, plans, and promotion, as well as communication and coordination among various groups and across departments, and supervising the implementation of such policies. The "Climate Change Risk Response Team" includes the Incident Investigation Team, the Supply Chain Team, the Support Team, and the Tactical Team. Once a year, the teams regularly identify risks and opportunities, and report to the Board of Directors on the high-risk assessment reports and countermeasures.

② **Strategy**

1. The company is committed to the development and design of RFIC devices and provides customers with the best design services, while at the same time taking into account the trend of sustainability and developing innovative products that meet the needs of energy saving and carbon reduction.
2. We continuously evaluate the purchase of renewable energy, with a plan to begin a renewable energy use program within five years, and increase the percentage of renewable energy use each year.
3. We continuously plan for the replacement of old equipment and the procurement of energy-saving facilities to improve the efficiency of energy use.



## ◎ Risk management

1. Through Business Continuity Plan (BCP), RichWave utilizes a risk identification process to assess the potential risks of the business, compile significant climate risk issues and corresponding risk management measures, and conduct regular annual reviews.
2. RichWave conducts an annual risk and opportunity assessment of policies, regulations, technologies, markets, and business transformation, and periodically reviews the risks and opportunities through the risk identification process of major climate issues, and evaluates the results and makes revisions on a rolling basis.
3. We continuously address high-risk climate issues and propose improvement measures to reduce the risk to an acceptable level.

### Climate-related Risks and Opportunities and Response strategies

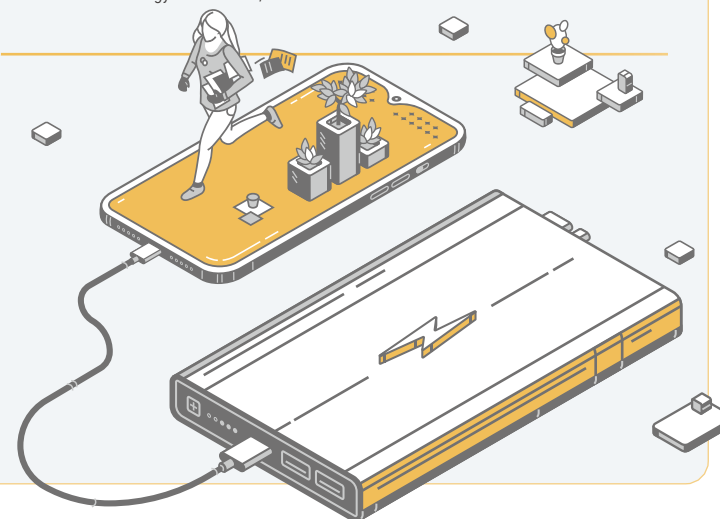
In 2022, RichWave's climate-related risks and opportunities were discussed based on the results of the Climate Change Risk Response Team's discussions, and the related corresponding strategies and annual results are shown below:

Risk/ Opportunity Type	Climate Risk/Opportunity Description	Potential Financial Impact	Corresponding Strategies/Actions	Annual Results
Physical Risk	Acute Risks: Drought, flood or typhoon due to extreme weather conditions	Directly or indirectly cause operational disruption or financial loss.	1. Regularly assess the internal risks of the company and develop and implement risk mitigation measures. 2. Establish emergency response procedures and conduct regular drills.	1. The internal risk assessment was performed in Q4 2022, and the results were presented to the Board of Directors on December 22, 2023. 2. The drills were completed in June and October 2022.
	Chronical Risks: Long-term heat wave due to persistent high temperature	Increase in operating costs is due to higher electricity consumption.	3. Regularly implement supply chain audits and improvement recommendations.	3. The BCP activities on the supplier side are continuously validated by questionnaires and annual Audit.
Transition risks	Policies and regulations	Government's carbon pricing mechanism shall increase operating costs.	<b>Short-term strategy:</b> Formulate and implement annual energy saving and carbon reduction plans. <b>Medium-term strategy:</b> Introduce the TCFD program to establish a complete identification of climate change risks and opportunities.	1. Passed ISO 14001 and ISO 14064-1 certification in 2022 to systematically manage the environment and control greenhouse gas emissions. 2. Reduced electricity consumption by 6857.59 kWh and greenhouse gas emissions by 3.4905 tCO <sub>2</sub> e in 2022.
	Market	Rising costs of raw materials, water, electricity, and waste disposal result in higher operating costs.	<b>Long-term strategy:</b> Formulate strategies to reduce climate change risks and continue the operation and management mechanisms.	3. Continuously implement supply chain management procedures and require suppliers to comply with relevant standards: ISO 9001/ISO 14001/ISO14064-1 and other international environmental certifications.
	Technology	In order to meet international standards or customer demands for low-carbon products, the company invests more money in design and incurs higher product costs.	<b>Short-term strategy:</b> Provide solutions to meet customer demands. <b>Medium to long-term strategy:</b> Continue to improve chip performance and reduce energy consumption through green and innovative design.	Through research and development technology of process and chip area control, to reduce greenhouse gas emissions. Based on the shipments in 2022, the total reduction in CO <sub>2</sub> emissions is estimated to be about 4 tonnes, and based on the estimated shipments in 2023, the total reduction in CO <sub>2</sub> emissions is expected to be 37 tonnes.
	Reputation	Failure to meet stakeholder expectations for net-zero carbon dioxide emissions shall result in damage to the company's reputation, affecting customers' willingness to place orders, and may result in a loss of revenue.		

Risk/ Opportunity Type	Climate Risk/Opportunity Description	Potential Financial Impact	Corresponding Strategies/Actions	Annual Results
Opportunity	Resource use efficiency	Reducing energy use and increasing recycling rates can reduce operating costs.	<b>Short-term strategy:</b> Through various energy-saving programs and recycling of product packaging materials. <b>Medium and long-term strategy:</b> Continuous greenhouse gas inventory, active planning to participate in the carbon trading market and the use of renewable energy.	1. Replaced 638 LED energy-saving lighting in 2022. 2. Launched the energy-saving program for 598 computers and peripheral devices in 2022, which not only improved the performance of computers, but also reduced power consumption. 3. Recycled and reused 10% of packaging materials for products in 2022. 4. In 2023, we plan to participate in the "Small and Medium-sized Energy Consumers Energy Conservation Service and Promotion Program" of the Bureau of Energy of the Ministry of Economic Affairs to reduce energy costs.
	Energy sources	Adopt incentive policies to reduce operating expenditures.		
	Products and services	Develop new products and services to enhance the competitiveness of the company through research and development and innovation.	1. Insist on green innovation and design, and enhance the green image of the company through TCFD disclosure. 2. Continuous supply chain management.	1. Exceeded 500 global patents in RF front-end technology development and application by 2022. 2. Improved power consumption of flagship products in 2022, effectively reducing power consumption by 32% in standby mode and 30% in operating mode. 3. In 2022, the microwave radar built-in signal processing sensor products were continuously designed for current reduction, and the 5.8GHz sensor current was reduced to 10mA in 2022, showing a reduction of 75%. The pulse wave motion sensing mode current of the 10GHz ultra-wideband microwave radar (UBW) with an integrated signal processing sensor was originally designed to be 150mA, and was reduced to 53mA in 2022, which was better than the target, with a 65% reduction, and is expected to be further reduced to 15mA in 2023. 4. In 2022, we invested NT\$602,470,000 in R&D, accounting for 18% of the company's income. 5. Encourage suppliers to participate in renewable energy projects and adopt energy saving measures for energy substitution/diversification.
	Market	Enter new markets to increase revenue.		
	Resilience	Increase market valuation and revenue through new products that increase and enhance supply chain reliability and operational capacity.		

### ◎ Metrics and Targets

1. Set internal standards for water and electricity conservation every year, and implement planned electricity use, greenhouse gas reduction, and other waste management over the next five years to achieve the management policy goal of reduction by 3%, and regularly track the achievement of the target and review the feasibility of the target, and make adjustments as appropriate so that the target can be in line with the latest risks.
2. Drive the supply chain to obtain a number of ISO international certifications, including carbon emissions and disclosure, energy management, and work together with suppliers toward the goal of environmental sustainability.
3. RichWave will continue to plan for targets on renewable energy over a five-year period, including participation in the renewable energy electricity trading market, to increase the percentage of renewable energy use year over year.



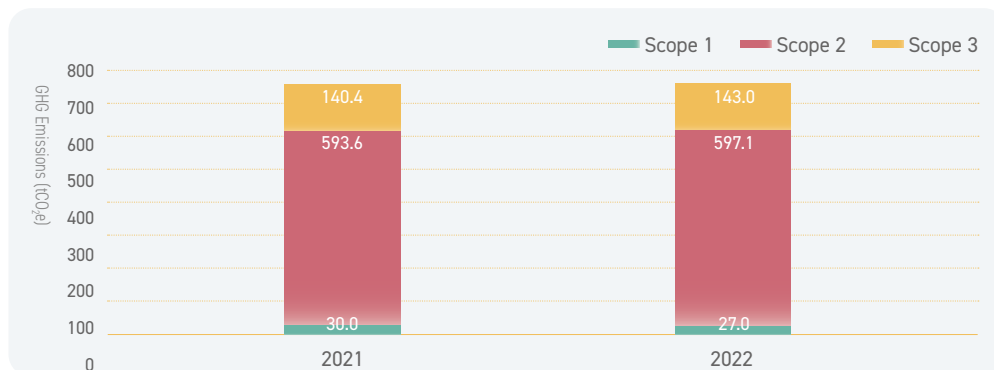
## » GHG Management

### Operational GHG Management

Faced with global climate change, RichWave has not only vigorously adopted a wide range of response measures but also strives to mitigate GHG emissions. RichWave is in the IC research and development and design industry, and the significant source of emissions is the use of purchased electricity. In this regard, RichWave has adopted the ISO 14064-1:2018 greenhouse gas management system since June 2022, and has passed the international certification in November of the same year, and will adopt the operation control right method to conduct a greenhouse gas inventory with 2021 as the base year and actively promote various greenhouse gas emission reduction measures based on the results of the inventory. Through continuous improvement plans and measures, we will reduce greenhouse gas emissions within the scope of our operations and fulfill our corporate social responsibility.

RichWave's Scope 2 GHG emissions in 2022 was 597.1 tCO<sub>2</sub>e, up 0.59% compared to 2021, Scope 1 and Scope 2 emissions intensity is 0.1820 tCO<sub>2</sub>e/million revenue, mainly due to the increase of 4.03% in the public electricity consumption of the leased building as compared to the previous year. However, since the public electricity consumption of the building is shared by all lease tenants, the amount of public electricity consumption does not have a positive correlation with the actual electricity consumption of RichWave, and therefore, when setting the electricity consumption reduction target, the calculation was based on the independent meters of RichWave. Please refer to [5.2 Energy Management](#) for the detailed description. To decrease GHG emissions during our business operation, RichWave has pro-actively implemented various energy-saving solutions (for details of specific measures, please refer to the "[Green Operations](#)" chapter) to gradually achieve the greenhouse gas reduction target.

RichWave's GHG Emissions Over the Last 2 Years

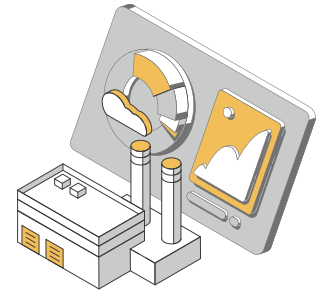


Note: 1. The greenhouse gas inventory was conducted in accordance with ISO 14064-1:2018 using the operational control method, and the global warming potential (GWP) of various greenhouse gases was calculated based on the IPCC AR6 announcement after selecting the emission factors in accordance with the "EPA Greenhouse Gas Emission Factor Management Table 6.0.4".

2. The Scope 3 emission categories include Category 3 and Category 4, and the emission activities include downstream product transportation, employee commuting, raw material extraction, manufacturing and processing, and disposal of solid and liquid waste.

### Other Indirect GHG Emissions Management

RichWave's business operations include IC research and development, design and sales, where product manufacturing is completely reliant on the processing of our supply chain partners. The supply chain is an important link in mitigating product life cycle carbon emissions, hence we stress scope 3 GHG management and vigorously promote the reduction of GHGs outside of the organization's business scope. Through continuous refinement, increasing the performance of our high-power, energy-efficient products and implementing supply chain energy management, we can minimize the carbon footprint and carbon emissions of various terminal electronic products. In doing so, the company will be able to attain the sustainability of energy resources on the planet while offering consumers high-performance, high-quality products.



#### ④ Green Product Design

We have taken the environmental impact of the products' life cycle during the IC design stage and continue to facilitate innovations in energy-saving designs. Besides effectively reducing energy consumption during the production process and lowering production costs, RichWave can also decrease energy consumption while using the products, thereby mitigating production/consumption costs with our suppliers and consumers, as well as cherishing the Earth and engendering a green, sustainable future.

#### ④ Supply Chain Carbon Management

To promote supply chain carbon reduction, we have demanded our suppliers obtain international quality certifications such as ISO 9001/ISO 14001/ISO 45001/QC 080000/IATF 16949 to prevent the production process's negative impact on the environment. In addition, we have conducted an audit of our 20 main suppliers across the 3 categories of wafer, packaging and testing to make sure that they comply with the local environmental laws, as well as to engage in ongoing improvements in terms of energy conservation and GHG emissions reduction. Also, the zero-carbon objective and action plan guidelines for 2030 and 2050 have been formulated.

#### ④ Green Transportation

In terms of the daily commute, we encourage our colleagues to make use of public transport or carpool; in terms of business travel, besides asking our colleagues to utilize public transport, they are encouraged to conduct meetings using the video conferencing system to minimize carbon emissions from transportation.

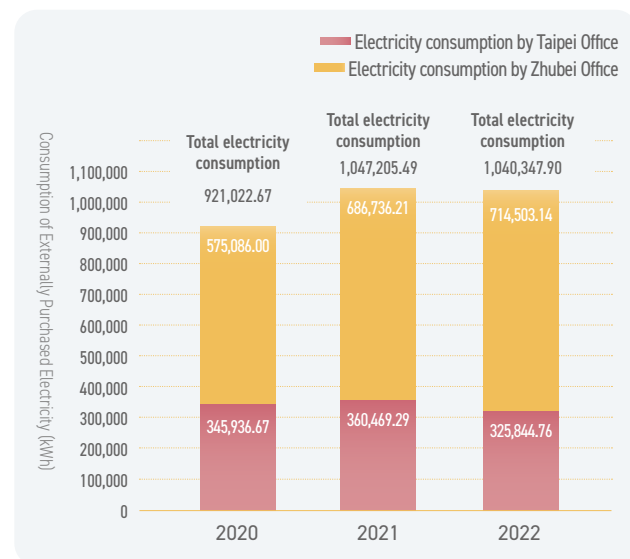
## 5.2 Energy management

### » Energy Utilization

RichWave is in the IC research and development industry. We do not have any high energy-consuming heating equipment or production process and consume mainly externally purchased electricity. To realize energy management, we regularly calculate our electricity consumption to monitor RichWave's energy utilization and continue to formulate improvement strategies based on these statistics to achieve the goal of reducing electricity consumption on a programmatic basis.

RichWave's purchased electricity use in 2022 was 1,040,347.9 kWh, equals to 3,745.21 GJ, down 0.7% compared to the previous year, which was mainly due to the company's energy conservation policy practices and space utilization arrangement, as well as the adjustment of the number of work-from-home workers due to the quarantine. In 2022, our EUI was 198.7 kWh/m<sup>2</sup>, down 5.8% compared to the previous year, indicating that RichWave's past energy-saving measures were well carried through, and we will continue to carry out more energy-use programs in the future to enhance the use efficiency and practice green sustainability.

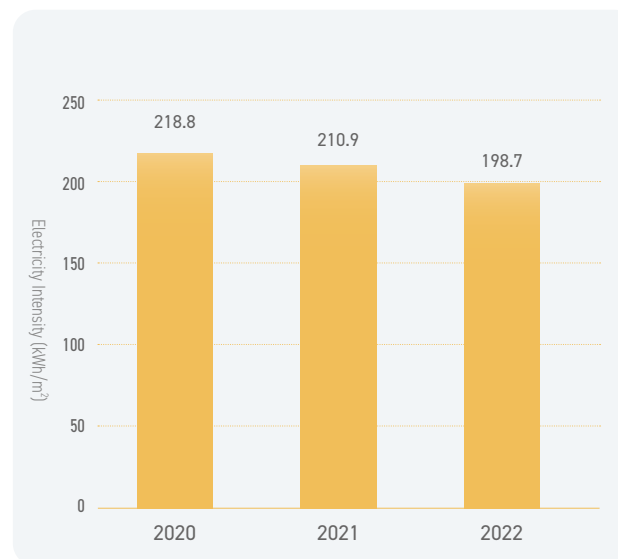
RichWave's Energy Consumption Over the Last 3 Years



Note:1. Beginning in 2022, RichWave adjusts the calculation of purchased electricity use by the building's independent meter and deducts the electricity consumption across months and recalculates purchased electricity use in this manner for 2020 and 2021.

2. Please refer to the latest 2022 per-unit calorific value table of energy products from the Bureau of Energy, MOEA for the conversion factor for the calorific value conversion factor of externally purchased electricity.

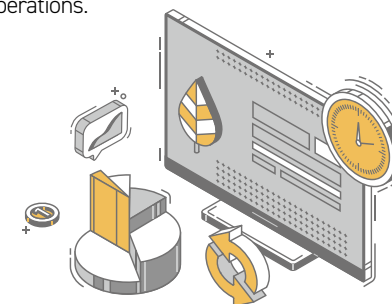
RichWave's Electricity Intensity Over the Last 3 Years



Note: Starting from 2022, RichWave adjusts the calculation method of electricity intensity to be the ratio of electricity consumption (kWh) to floor area (m<sup>2</sup>) of all operating sites in Taiwan, and recalculate the electricity intensity for 2020 and 2021 based on this method.

### » Green Operations

RichWave sees environmental sustainability as our responsibility, hence we uphold the philosophy of green environmental protection during our business process, where the Management Department regularly reviews the rationality of energy use, consolidates energy management policies, as well as plan and implement various energy-saving and carbon reduction projects in conjunction with the IT Department. These include the annual energy-saving improvement solutions, office energy conservation campaign, air conditioner improvement measures and the introduction of energy-saving equipment and technology, etc. Moreover, RichWave emphasizes the high performance and low power consumption qualities of our products in the hope of elevating our energy use efficiency. The company has already obtained ISO 9001:2015 certification and maintained IECQ QC080000 compliance along with the SONY GP (Green Partner) and Samsung Eco-Partner certifications. On June 27, 2022, the company simultaneously implemented ISO 14001 environmental management system and ISO 14064-1 GHG inventory, and obtained two international certifications on December 7, 2022 and November 28, 2022 respectively for the sake of minimizing resource depletion during our business process by establishing a sound environmental management mechanism. The ultimate goal is to improve RichWave's corporate sustainability and meet the expectations of our customers and the general public toward green operations.






## RichWave's Energy-Saving and Carbon Reduction Plan

1. After obtaining the ISO14064-1 in 2022, we can effectively plan and implement our annual energy-saving and carbon reduction plans.
2. **Office energy conservation campaign:**  
Encourage employees to reduce energy use by changing air conditioning temperature and the time to turn on it, turning off lights when leaving, shutting down after finishing work shutdown, and shutting down the conference system at the end of a meeting.
3. **Continuously introduce energy-saving equipment and technology:**  
Continuously evaluate the feasibility of introducing new energy-saving technologies, such as the use of LED energy-saving light tubes in replacement of traditional lightings, plan for the possibility of introducing air-conditioning energy-saving devices and participate in the energy-saving program of the Bureau of Energy.
4. **Continuously develop and design low-carbon products:**  
Use low energy consumption, high efficiency, energy saving and carbon reduction as one of the important design indicators.
5. **Reduce paper consumption and waste minimization:**  
Enhance the digitalization of daily operations, such as replacing paper documents with electronic documents, encouraging employees to bring their own thermos when purchasing beverages, and bringing their own chopsticks and spoons when eating out, in order to reduce the amount of paper used and the amount of waste generated in their daily lives.

## RichWave's Energy-Saving and Carbon Reduction Goals and Performance for 2022

Action Plan	Description	Annual Performance
 Improve energy efficiency	<b>Office energy conservation measures</b> <ul style="list-style-type: none"> <li>T8 LED lights (18W) were replaced with LED flat panel lights (15W)</li> <li>Reduced the number of employees working at the office</li> </ul>	Compared to 2021 <ul style="list-style-type: none"> <li>Reduced electricity consumption by 6,857.59 kWh, 24.69 GJ</li> <li>Decreased GHG emissions by 3.4905 tCO<sub>2</sub>e</li> </ul>

Note: The GHG emission reduction is calculated based on the electricity saving in 2022 and the 2021 carbon dioxide emission coefficient of 0.509 kgCO<sub>2</sub>e/kWh announced in 2022 by the Bureau of Energy of the Ministry of Economic Affairs.

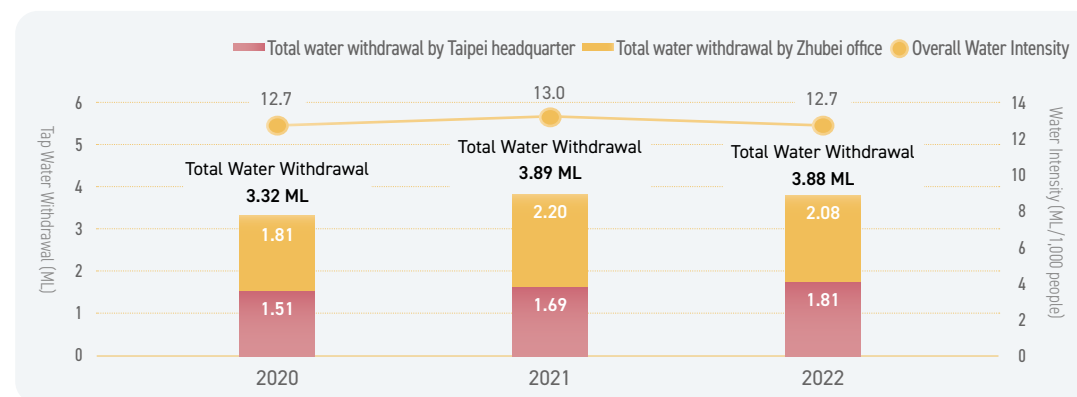
## 5.3 Water Consumption

As the concentration of GHGs in the atmosphere rises, global climate change also intensifies every year, triggering changes in the rainfall patterns that in turn exacerbate the problem of uneven rainfall distribution in Taiwan. In 2022, water shortages occurred frequently in Taiwan, compelling the government and enterprises to pay attention to the scarcity of water resources and their impact on production and operations. In light of this, RichWave has already completed the water risk evaluation in our operating locations in Taiwan. Our Taipei headquarter and Zhubei office are classified as low risk by the World Resources Institute (WRI)'s Aqueduct Water Risk Atlas.

Water consumption at RichWave's operating locations mainly consists of tap water for office use and we do not extract water from water shortage zones and waste water is discharged centrally from the Science Park to the water processing plan; therefore total water consumption cannot be calculated. In 2022, RichWave's tap water withdrawal was 3.88 Megalitre(ML), down by 0.26% compared to 2021, and its water intensity in 2022 was 12.7 ML/thousand people, down 2.3% compared to 2021. We will continue to enforce water resource management for the sake of elevating water efficiency and making sure water resources are utilized most efficiently.

We believe that water is an extremely valuable shared resource, so we regularly control our water consumption in our daily operations and continue to conduct water-saving campaigns, hoping to instill water conservation awareness in our colleagues' everyday life. Additionally, the office building's management unit utilizes recycled water to irrigate flowers and plants and water-saving toilets are installed to minimize water waste.

## RichWave's Water Withdrawal Over the Last 3 Years




Note: 1. Starting in 2022, RichWave's office water withdrawal is changed to a percentage of total building water use based on the floor area of RichWave's leased space, and this calculation is used to recalculate the total water withdrawals for 2020 and 2021.

2. The overall water intensity of RichWave's operating locations in Taiwan is the proportion between tap water withdrawal (ML) and the number of employees (1,000s).

# 5.4 Waste Management


RichWave's operating locations do not engage in production so the waste generated consists of mainly office waste. Electronic wastes mainly come from laboratory tests and product samples preserved for QA purposes; these include hazardous wastes such as electronic scraps and defective products. RichWave has established a dedicated waste management unit in charge of hazardous waste declaration and disposal. It is also responsible for monitoring waste disposal to make sure that the process complies with the government's environmental policies and regulations to carry through proper disposal and reduction of waste.

To materialize responsible production and mitigate our operating wastes' potential environmental impact, RichWave has implemented the following waste management strategies in various stages.



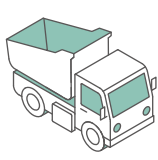
### Source Reduction

- Promote a paperless office
- Encourage employees to bring their tableware
- Do not provide disposable tableware to employees
- Internal environmental education and promotion
- Products are made from recyclable materials



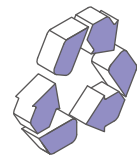
### Garbage Classification

- Implement garbage classification
- Centralized waste management helps to maintain a clean and tidy workplace
- Recycling waste is our primary concern in a bid to mitigate environmental pollution and burden



### Proper Disposal

- General household wastes are collected and recycled by the management center
- Electronic wastes are disposed of by qualified contractors
- Qualified waste disposal contractors are selected and audited from time to time



### Resource Reutilization

- Precious metals from electronic wastes are separated and extracted by qualified contractors. Bottom ash or worthless products are incinerated or buried. Currently, these wastes are disposed of and processed overseas.

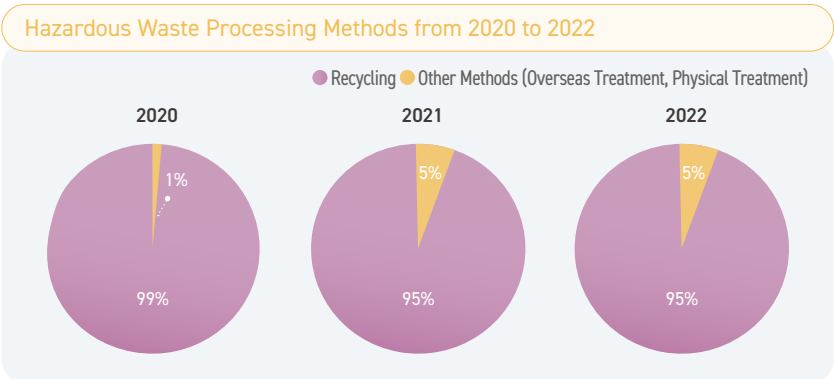
In 2022, RichWave's waste generated was 20.5554 tonnes, with a waste intensity of 0.0060 tonnes per million revenue, of which general business waste is the main source, accounting for 99% of the total waste, and incineration is the main method of processing. The rest is hazardous business waste, which mainly consists of waste products and electronic waste, weighing 0.2087 tonnes in 2022, accounting for about 1% of the total waste, about 95% of which was recycled, of which 5.84% was recycled into the various stages of the product life cycle in order to achieve resource recycling

and reuse. Waste generated in 2022 decreased by 31.03% compared to 2021, mainly due to the change of the general business waste statistics Note 1 and the continuous promotion of waste processing as resource. In terms of policy or future planning for recycled materials, RichWave's current recycled materials are mainly packaging materials related to products and IC scraps and defective products, with a total recycling volume of 1.54 tonnes in 2022, which was delivered to qualified and professional waste processing vendors for recycling and reuse, and in the future, RichWave will proactively plan and expand the diversification of the use of recycled materials in order to achieve the goal of a circular economy and to enhance the efficiency of resource utilization.

RichWave's Electronic Wastes Generated Over the Last 3 Years				
Waste Category	Key Processing Methods	2020	2021	2022
General business waste (tonnes)	Incineration	24.977	29.1792	20.3468
Hazardous business waste (tonnes)	Recycling	0.1722	0.6243	0.2087
Total (tonnes)		25.1492	29.8035	20.5554

Note: 1. The general business waste covers domestic waste generated by the office. The estimation of general business waste from 2020 to June 2022 was based on the average amount of general waste generated per person per day published by the Environmental Protection Administration's environmental protection statistics website in 2020, 2021, and 2022, respectively, with the assumption that employees worked 8 hours per day on the working days of the respective years; the estimation of general utility waste from July 2022 onward was based on the actual amount of general waste generated per person per day by the Hsinchu Branch to estimate the amount of general waste generated per person per day for the entire company.

2. The hazardous business waste consists of electronic scraps and defective products.



## CHAPTER

# 6

## Social Care

### 6-1 Industry-academia and Public Welfare Activities

#### Chapter Highlight

- ◎ A Wi-Fi science popularization education event was held at the Institute of Electrical Engineering of National Taiwan University with 3 volunteer teachers and a total of 150 students participating.
- ◎ Collaborated with schools such as the Institute of Electronics of National Taiwan University and the Institute of Telecommunications Engineering of National Yang Ming Chiao Tung University for industry-academia research, 13 students who respectively own degrees of Doctor, Master, and Research Graduate participated.
- ◎ Donated a total of 3 batches of OA desks to government organizations to create a better environment for people with dementia, disability, physical or mental disabilities, and the elderly.
- ◎ Christmas Charitable Outreach Activity: 10 employees participated in 4 events held by volunteer groups, and a total of approximately NT\$9,000 worth of boxes and postcards was sponsored for fundraising activities.
- ◎ Sponsored NT\$105,000 to participate in the co-adoption and planting of 200 trees by the organizer "Tse-Xin Organic Agriculture Foundation" to promote the concern and attention of the company's employees and the public towards tree planting and the environment, and contribute to the reduction of carbon emissions on the planet.



## 6.1 Industry-Academia and Public Welfare Activities

RichWave strives to achieve outstanding general performance in the industry while meeting our stakeholders' expectations and fulfilling our corporate social responsibilities by giving back to society as corporate citizens. RichWave realizes public welfare through the 3 major themes of "industry-academia collaborations", "sponsorships and donations", and "social care", thereby developing our business and caring about local developments at the same time.

### Industry-academia Collaborations

To discover and develop key talents, RichWave has outsourced some of our research projects to government agencies, colleges, universities, or private organizations to attain a win-win situation in the research and development of educational products and the recruitment of qualified and talented employees.




### Sponsorships and Donations

IC design technology is one of Taiwan's most internationally competitive industries. By sponsoring relevant seminars, we can facilitate interactions between the IC design industry and academic research activities to realize the goal of transforming Taiwan into a knowledge silicon island.

### Social Care

By participating in and assisting in social welfare, education and arts activities, we strengthen the solidarity of employees internally, give back to the community and expand our positive influence, care for the underprivileged and create a friendlier environment for the next generation.

### 2022 Public Welfare Theme Performance

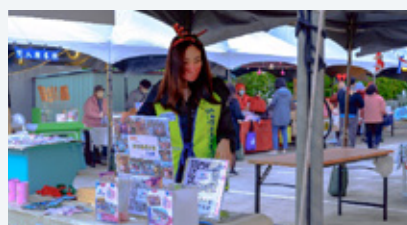
Public Welfare Theme	Basic Information of Target Subjects	Input (time/ manpower/ materials)	Output (number of beneficiaries and requirements)	Benefits and Impact
 <b>Industry-academia Collaborations</b>	Graduate Institute of Electronics Engineering, National Taiwan University: Radar algorithm-related	<ul style="list-style-type: none"> <li>• 2022/3-2023/8</li> <li>• 8 engineers</li> </ul>	<ul style="list-style-type: none"> <li>• 1 faculty professor</li> <li>• 2 graduate students</li> <li>• 2 doctorate students</li> </ul>	<ul style="list-style-type: none"> <li>• Realized product application technologies through investment in basic research to enhance product performance and increase brand competitiveness.</li> <li>• Through academic and practical exchanges, stimulated technological innovation and breakthroughs in the semiconductor industry and solidified the influence of Taiwan's semiconductor industry in the international stage.</li> <li>• Provided students with basic knowledge for career advancement, understanding of industry trends and actual needs, and nurturing future world-class talents.</li> </ul>
	Graduate Institute of Electronics Engineering, National Taiwan University: High speed PLL research	<ul style="list-style-type: none"> <li>• 2022/2-2024/1</li> <li>• 3 engineers</li> </ul>	<ul style="list-style-type: none"> <li>• 1 advising professor</li> <li>• 2 graduate students</li> </ul>	
	Graduate Institute of Electronics Engineering, National Taiwan University: Millimeter-wave Circuit Research	<ul style="list-style-type: none"> <li>• 2022/2-2023/11</li> <li>• 5 engineers</li> </ul>	<ul style="list-style-type: none"> <li>• 1 advising professor</li> <li>• 3 graduate students</li> </ul>	
	Institute of Communications Engineering, National Yang Ming Chiao Tung University: RF circuit research	<ul style="list-style-type: none"> <li>• 2022/8-2023/7</li> <li>• 4 engineers</li> </ul>	<ul style="list-style-type: none"> <li>• 1 faculty professor</li> <li>• 4 graduate students</li> </ul>	
	Graduate Institute of Electrical Engineering, National Taiwan University: WiFi Popular Science Education	<ul style="list-style-type: none"> <li>• 2022/4</li> <li>• President and 2 supervisors</li> </ul>	<ul style="list-style-type: none"> <li>• 1 speech</li> <li>• 150 attendees</li> </ul>	
 <b>Sponsorships and Donations</b>	Wholcare Physical Therapy Clinic	<ul style="list-style-type: none"> <li>• 2022/7</li> <li>• OA Office Desk (1 batch)</li> </ul>	<ul style="list-style-type: none"> <li>• Met the office and activity supplies needs of a long-term care center</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced the waste of resources, revitalized the use of resources, and extended the life of office supplies.</li> <li>• Fostered a better environment for the care of people with dementia, the physically and mentally disabled, as well as the elderly.</li> <li>• Took the initiative to understand the needs of the surrounding community, and took practical actions to care for and give back to the community.</li> </ul>
	St. Joseph Home	<ul style="list-style-type: none"> <li>• 2022/7</li> <li>• OA Office Desk (1 batch)</li> </ul>	<ul style="list-style-type: none"> <li>• To meet the office and event supplies needs of a nursing home</li> </ul>	
	Meimen Culture Foundation	<ul style="list-style-type: none"> <li>• 2022/7</li> <li>• OA Office Desk (1 batch)</li> </ul>	<ul style="list-style-type: none"> <li>• Meeting the needs of the organization's office utility partition needs</li> </ul>	
 <b>Social Care</b>	Christmas Charitable Outreach Activity	<ul style="list-style-type: none"> <li>• 2022/12</li> <li>• 10 volunteers</li> </ul>	<ul style="list-style-type: none"> <li>• 4 events</li> </ul>	<ul style="list-style-type: none"> <li>• Through booth sales and fundraising, helped to support international underprivileged educational outreach programs and nutritional meals supplementations.</li> <li>• Through the participation in a volunteer group, colleagues enhanced their sense of solidarity and identity with the Company.</li> <li>• Through hands-on experience activities, enhanced employees' concern for tree planting and the environment.</li> <li>• Shared the results of our employees' activities through our internal newsletter (RichWave News), in order to strengthen our corporate culture of sustainability.</li> </ul>
	Afforestation Program	<ul style="list-style-type: none"> <li>• 2022/4</li> <li>• 11 volunteers</li> </ul>	<ul style="list-style-type: none"> <li>• Sponsored NT\$105,000 and Adopted 200 Trees</li> </ul>	



## Christmas Charitable Outreach Activity

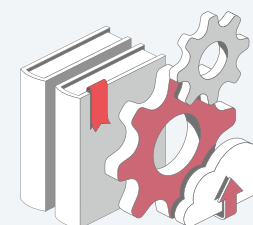
As the COVID-19 pandemic subsides in Taiwan and the reopening of borders, international exchanges between countries have resumed. RichWave, with over 200 clients spread across the world, has resumed global customer visits in full force. As we embark on this journey, we carry with us not only business strategies but also our compassionate hearts. We extend our care and support to other corners of the world where it is needed, spreading our love beyond Taiwan's borders.

During the Christmas period in 2022, a team of 10 volunteers from the Company participated in four activities held by the Global Charity Association and set up booths at the Christmas Market and Christmas Charity Concert in Dazhi, Taipei, where they sold pizzas and distributed fund-raising postcards to raise proceeds and donations. All funds raised were used to help children in Myanmar, orphanages and slums in Nepal through an adoption, formal education, and scholarship grant programs. This ensured that the children will have a warm meal, someone to take care of them, and they will be receive an education and have a chance to change their lives!



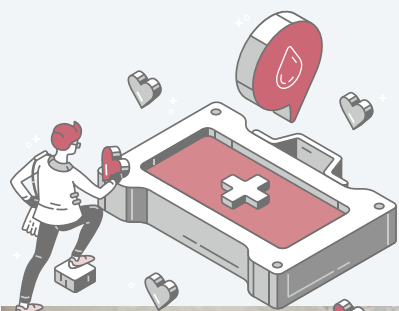
## Wi-Fi Popular Science Education

Continuing to uphold the spirit of contributing to the society and nurturing Wi-Fi talents for the country, RichWave actively promoted the knowledge of wireless networks through education outreach initiatives. On April 20, 2022, the Company's President led two heads of the R&D and marketing departments to NTU's Graduate Institute of Electrical Engineering to introduce the Company's products and technologies to graduate and doctorate students in the Radio Wave Group, including RichWave's Wi-Fi, 5G, IoT, automotive, filters, and sensor products. About 150 people participated in the presentation, which was delivered in hybrid format. The event was well received by the students, giving full play to the spirit of "learn and teach" externally, as well as uniting employees in solidarity and deepening sense of identity with the Company internally through teaching.



## Giving Back to the Community - Donations

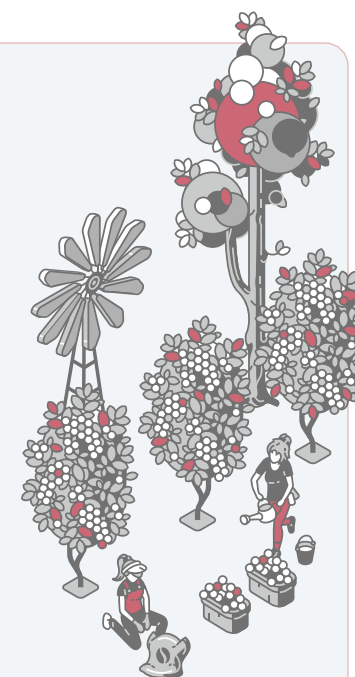
RichWave actively cares for its surrounding neighborhood and takes the initiative to understand the needs of people with dementia, disabilities, and the elderly. On July 29, 2022, the Company donated OA office desks to St. Joseph Home, Wholecare Physical Therapy Clinic Hsinchu Long-Term Care Center, and Meimen Culture Foundation. This donation aims to create a higher quality environment for the elderly. In recognition of this contributions, RichWave was awarded certificates of appreciation from these institutions.



## Employee Volunteering: Afforestation Project

To fulfill our commitment to green sustainability and support the global goal of achieving net-zero carbon emissions by 2050, RichWave formed a volunteer team of 11 colleagues on April 9, 2022. The Company sponsored NT\$105,000 and collaborated with the organizing body, "Tse-Xin Organic Agriculture Foundation" (TOAF) to adopt and plant 200 trees. This initiative aims to enhance our international competitiveness while contributing to environmental conservation and achieving a greener future for all.

From the explanation and demonstration by TOAF staff to the hands-on planting, participants learned that each tree can not only reduce carbon emissions by 10 to 15 kgCO<sub>2</sub>e a year, but also profoundly realized that it is not easy to plant and maintain a tree, and that it requires physical effort and time to complete. In particular, Taiwan is an island nation surrounded by the sea on all sides, and the coastline is heavily affected by artificial development and erosion, resulting in severe coastal retreat and the disappearance of coastal forests. Through this event, we aim to raise awareness and importance of tree planting and environmental conservation among our colleagues and the general public. By taking part in these efforts, we contribute to carbon reduction and make meaningful investments in creating a sustainable green environment for our planet.





# Appendix:

## » GRI Standards Index

<b>Terms of Use</b>	RichWave has been followed GRI standards for the period 2022/1/1-2022/12/31
<b>Applied GRI 1</b>	GRI 1 Foundation 2021
<b>Applicable industry GRI standards</b>	No

GRI Standards Index			
GRI standards	Disclosure Title	Pages	Remarks
<b>General Disclosures</b>			
<b>GRI 2 General Disclosures (2021)</b>	2-1 Organizational details	9	
	2-2 Entities included in the organization's sustainability reporting	4	
	2-3 Reporting period, frequency and contact point	4	
	2-4 Restatements of information	-	Some of the environmental information is subject to change due to in the calculation method, please refer to <a href="#">Chapter 5</a> , environmental management.
	2-5 External assurance	73	
	2-6 Activities, value chain and other business relationships	9, 37	
	2-7 Employees	45-46	
	2-8 Workers who are not employees	46	
	2-9 Governance structure and composition	22-24	
	2-10 Nomination and selection of the highest governance body	23	
	2-11 Chair of the highest governance body	22	
	2-12 Role of the highest governance body in overseeing the management of impacts	13	
	2-13 Delegation of responsibility for managing impacts	13	

GRI Standards Index			
GRI standards	Disclosure Title	Pages	Remarks
<b>GRI 2 General Disclosures (2021)</b>	2-14 Role of the highest governance body in sustainability reporting	13	
	2-15 Conflicts of interest	25-26	
	2-16 Communication of critical concerns	27	No critical concerns in 2022.
	2-17 Collective knowledge of the highest governance body	23	
	2-18 Evaluation of the performance of the highest governance body	23	
	2-19 Remuneration policies	48	
	2-20 Process to determine remuneration	47-48	
	2-21 Annual total compensation ratio	-	The annual total compensation of the highest paid individual due to job content, annual performance, and profitability with the company, etc. In order to avoid misleading disclosure of information, only the salary related information of non-supervisory full-time employees who have been verified by the CPA is disclosed.
	2-22 Statement on sustainable development strategy	2	
	2-23 Policy commitments	25-26	
	2-24 Embedding policy commitments	25-26	
	2-25 Processes to remediate negative impacts	25	
	2-26 Mechanisms for seeking advice and raising concerns	25	
	2-27 Compliance with laws and regulations	31	
	2-28 Membership associations	11	
	2-29 Approach to stakeholder engagement	14-16	
	2-30 Collective bargaining agreements	-	No collective bargaining agreements in 2022

GRI Standards Index			
GRI standards	Disclosure Title	Pages	Remarks
Material Topics			
GRI 3 Material Topics (2021)	3-1 Process to determine material topics	16	
	3-2 List of material topics	16	
Integrity			
GRI 205 Anti-corruption (2016)	3-3 Process to determine material topics	17	
	205-2 Communication and training about anti-corruption policies and procedures	26	
	205-3 Confirmed incidents of corruption and action taken	25	No corruption-related incidents in 2022
Risk management			
GRI 3 Material Topics (2021)	3-3 Process to determine material topics	17	
Supply management			
GRI 3 Material Topics (2021)	3-3 Process to determine material topics	18	
GRI 308 Supplier Environmental Assessment (2016)	308-2 Negative environmental impacts in the supply chain and actions taken	37-39	
GRI 414 Supplier Social Assessment (2016)	414-2 Negative social impacts in the supply chain and actions taken	37-39	

GRI Standards Index			
GRI standards	Disclosure Title	Pages	Remarks
Energy management			
GRI 302 Energy (2016)	3-3 Process to determine material topics	19	
	302-1 Energy consumption within the organization	62-63	
	302-3 Energy intensity		
	302-4 Reduction of energy consumption	63	
Customer Health and Safety			
GRI 416 Customer Health and Safety (2016)	3-3 Process to determine material topics	19	
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	31, 41	No violations of health and safety regulations for products and services in 2022
Marketing and Labeling			
GRI 417 Marketing and Labeling (2016)	3-3 Process to determine material topics	19	
	417-1 Requirements for product and service information and labeling	41	
	417-2 Incidents of non-compliance concerning product and service information and labeling	31	No violation of product and service information and labeling laws and regulation in 2022.
Customer Privacy			
GRI 418 Customer Privacy (2016)	3-3 Process to determine material topics	18	
	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	31	No complaints about customer privacy violations in 2022.



GRI Standards Index			
GRI standards	Disclosure Title	Pages	Remarks
Innovation Management			
GRI 3 Material Topics (2021)	3-3 Process to determine material topics	20	
Customer Relationship Management			
GRI 3 Material Topics (2021)	3-3 Process to determine material topics	20	
Other Topics			
GRI200: Economy			
GRI 201 Economic Performance (2016)	201-1 Direct economic value generated and distributed	10	
GRI 204 Procurement Practices (2016)	204-1 Proportion of spending on local suppliers	40	
GRI300: Environment			
GRI 303 Water and Effluents (2018)	303-3 Water withdrawal	63	
	305-1 Direct (Scope 1) GHG emissions	61	
GRI 305 Emissions (2016)	305-2 Energy indirect (Scope 2) GHG emissions	61	
	305-3 Other indirect (Scope 3) GHG emissions	61	

GRI Standards Index			
GRI standards	Disclosure Title	Pages	Remarks
GRI400: Society			
	401-1 New employee hires and employee turnover	46-47	
GRI 401 Employment (2016)	401-2 Benefits provided to full-time employees that are not provided to temporary or parttime employees	50-51	
	401-3 Parental leave	50	
	403-2 Hazard identification, risk assessment, and incident investigation	55	
	403-3 Occupational health services	56	
GRI 403 Occupational Health and Safety (2018)	403-5 Worker training on occupational health and safety	55	
	403-6 Promotion of worker health	56	
	403-9 Work-related injuries	54	
GRI 404 Training and Education (2016)	404-1 Average hours of training per year per employee	49	
	404-3 Percentage of employees receiving regular performance and career development reviews	47	
GRI 413 Local Communities (2016)	413-1 Operations with local community engagement, impact assessments, and development programs	65-68	

## » TCFD Index

## Risks and opportunities for the company arising from climate change and related measures taken by the company

Title	Disclosure	Chapter	Pages
1	Describe the board of directors' and management's oversight and governance of climate-related risks and opportunities.	5.1 Climate change responses and GHG management - governance	58
2	Describe how the identified climate risks and opportunities affect the business, strategy, and finances of the business (short, medium, and long term).	5.1 Climate change responses and GHG management - Climate-related Risks and Opportunities and Response strategies	59-60
3	Describe the financial impact of extreme weather events and transformative actions.	5.1 Climate change responses and GHG management - Climate-related Risks and Opportunities and Response strategies	59-60
4	Describe how climate risk identification, assessment, and management processes are integrated into the overall risk management system.	5.1 Climate change responses and GHG management - risk management	59
5	If scenario analysis is used to assess resilience to climate change risks, the scenarios, parameters, assumptions, analysis factors and major financial impacts used should be described.	The company has not yet used scenario analysis to assess climate change risk	--
6	If there is a transition plan for managing climate-related risks, describe the content of the plan, and the indicators and targets used to identify and manage physical risks and transition risks.	5.1 Climate change responses and GHG management - Metrics and Targets	58-60
7	If internal carbon pricing is used as a planning tool, the basis for setting the price should be stated.	The company does not use internal carbon pricing tools	--
8	If climate-related targets have been set, the activities covered, the scope of greenhouse gas emissions, the planning horizon, and the progress achieved each year should be specified. If carbon credits or renewable energy certificates (RECs) are used to achieve relevant targets, the source and quantity of carbon credits or RECs to be offset should be specified.	Starting from 2023, a 3% reduction in electricity consumption, greenhouse gas reduction and other waste management is planned as the management policy target for the next five years.	60
9	Greenhouse gas inventory and assurance status.	5.1 Climate change responses and GHG management -GHG management	61

## » Sustainability Disclosure Index

## Other Electronics Industry

Number	Sustainability Disclosure Index	Annual Disclosure Description	Unit	SASB	Pages
1	Total energy consumption	3745.21 GJ, please refer to "5.2 Energy Management" for details	Gigajoules (GJ)	TC-SC-130a.1	62
	Percentage of purchased electricity and utilization of renewable energy	The Company does not use renewable energy	Percentage (%)		
2	Total water withdrawal	Total water withdrawals 3,880 m <sup>3</sup> , please refer to "5.3 Water Consumption" for details	Cubic meters (m <sup>3</sup> )	TC-SC-140a.1	63
	Total Water Consumption	RichWave does not operate a production plan, and water consumed consist only of domestic water for office use. Therefore, there are no statistics on water consumption.	Cubic meters (m <sup>3</sup> )		
3	Amount of hazardous waste from manufacturing	0.2087 metric tons, please refer to "5.4 Waste Management" for details	Metric tons (t)	TC-SC-150a.1	64
	Percentage of hazardous waste recycled	95%, please refer to "5.4 Waste Management" for details	Percentage (%)		
4	Type, number, and rate of occupational hazards	There were no records of occupational hazards in 2022, please refer to "4.3 Occupational Safety and Health" for details	Percentage (%), Quantity	TC-SC-320a.1 TC-SC-320a.2	54
5	Product Lifecycle Management Disclosure: including the weight of scrapped products and electronic waste, as well as the percentage of recycling.	The Company's main business is the development and design of radio-frequency front-end chip devices, which are then manufactured by OEMs. The Company does not engage in direct production processes.	Ton (t), Percentage(%)	TC-SC-410a.1	-
6	Description of risk management associated with the use of critical materials	Please refer to "3.2 Sustainable Supply Chain - Raw Material Management" for details	Not applicable	TC-SC-440a.1	40
7	Total pecuniary losses incurred due to legal proceedings related to anti-competitive behavior regulations	No such incident occurred in 2022	NTD	TC-SC-520a.1	-
8	Production volume of major products by product category	The Company's main business is the development and design of radio-frequency front-end chip devices, which are then manufactured by OEMs. The Company does not engage in direct production processes.	By Product Type	TC-SC-000.A	-

## » Assurance Items Summary Table

Number	Subject Matter Information	Applicable Criteria	Pages
1	In 2022, the execution rate of ESG related audits reached 100%, and the pass rate reached 100%.	The execution rate is obtained by dividing the number of audited cases in 2022 by the total number of cases to be audited. The pass rate is obtained by dividing the number of cases that have passed the audit by the total number of audited cases.	38
2	Customer Satisfaction Rating of 98% in 2022.	To calculate the average customer satisfaction for 2022, the scores of each item in the Customer Satisfaction Questionnaire that were actually distributed and returned with valid responses were simply averaged and converted into a percentile to obtain the average customer satisfaction score.	43
3	In 2022, RichWave organized numerous professional and general knowledge courses across different disciplines, training a total of 1,135 persons and accumulating 1,969 hours of training.	Total number of attendances and total number of hours of education and training for all regular employees (including those who separated from the Company in 2022) in 2022.	48
4	Local procurement accounted for 69.9% of total procurement in 2022.	Percentage of accepted Taiwan procurement amount in 2022 to total accepted procurement amount in 2022.	40
5	The Board of Directors' meeting was convened 7 times in 2022, achieving an average attendance rate of 98%.	The average attendance rate for the Board of Directors' meetings in 2022 is obtained by dividing the total number of actual attendees by the total number of scheduled attendees for all Board meetings held during the year.	23

## » Accountant's Independent Limited Assurance Report

**Independent Limited Assurance Report**

To RichWave Technology Corporation

We have been engaged by RichWave Technology Corporation ("Company") to perform assurance procedures on the sustainability performance information identified by the Company and reported in the 2022 Sustainability Report, and have issued a limited assurance report based on the result of our work performed.

**Subject Matter Information and Applicable Criteria**

The sustainability performance information identified by the Company (hereinafter referred to as the "Subject Matter Information") and the respective applicable criteria are stated in the "Summary of Subject Matter Assured" on page 73 of the Sustainability Report. The scope of the aforementioned Subject Matter Information is set out in the "About the Report" on page 4 of the Sustainability Report.

**Management's Responsibilities**

The Management of the Company is responsible for the preparation of the sustainability performance information disclosed in the Sustainability Report in accordance with the respective applicable criteria, and for such internal control as management determines is necessary to enable the preparation of the sustainability performance information that is free from material misstatement, whether due to fraud or error.

**Our Responsibilities**

We conducted our assurance work on the Subject Matter Information disclosed in the Sustainability Report in accordance with the Standard on Assurance Engagements 3000, "Assurance Engagements other than Audits or Reviews of Historical Financial Information" of the Republic of China, to identify whether any amendment is required of the Subject Matter Information to be prepared, in all material respects, in accordance with the respective applicable criteria, and issue a limited assurance report.

We conducted our assurance work in accordance with the aforementioned standards including identifying the areas where there may be risks of material misstatement of the Subject Matter Information, and designing and performing procedures to address the identified areas. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

The extent of the assurance work we performed were based on the identified risk areas and determined materiality, and given the circumstances of the engagement, we designed and performed the following procedures:

- Made inquiries of the persons responsible for the Subject Matter Information to understand the processes, and the relevant internal controls relating to the preparation of the aforementioned information to identify the areas where there may be risks of material misstatement; and
- Based on the above understanding and the areas identified, performed analytical procedures on the Subject Matter Information and performed selective testing including inquiry, observation, inspection, and reperformance to obtain evidence for limited assurance.

We do not provide any assurance on the Sustainability Report as a whole or on the design or operating effectiveness of the relevant internal controls. Our assurance does not extend to information in respect of earlier periods or to any other information disclosed in the Sustainability Report for 2021.

#### **Compliance of Independence and Quality Management Requirement**

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies Standard on Quality Management 1, "Quality Management for Public Accounting Firms" of the Republic of China and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

#### **Inherent Limitations**

Certain Subject Matter Information involves non-financial data which is subject to more inherent limitations than financial data. Qualitative interpretations of the relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

#### **Limited Assurance Conclusion**

Based on the procedures we have performed and the evidence we have obtained, we are not aware of any amendment that is required of Subject Matter Information to be prepared, in all material respects, in accordance with the respective applicable criteria."

#### **Other Matter**

The Management of the Company is responsible for maintaining the Company's website. If the Subject Matter Information or the applicable criteria are modified after this limited assurance report is issued, we are not obliged to re-perform the assurance work.

Li, Tien-Yi

For and on behalf of PricewaterhouseCoopers, Taiwan  
July 25, 2023