

The background of the cover is a vibrant landscape photograph of a mountain range. In the foreground, a lush green mountain slope is dotted with small buildings and a winding road. In the distance, more mountain peaks are visible under a bright blue sky filled with fluffy white clouds. Several semi-transparent circular graphics are overlaid on the image: a plain white circle in the upper left, a rainbow-colored circle with diagonal stripes in the middle left, a plain white circle in the middle right, and a rainbow-colored circle with a grid pattern in the lower right. The Winbond logo is positioned in the upper center, and the year '2021' is prominently displayed in the center. Below the year, the title 'Corporate Sustainability Report' is written in a clean, white font.

***winbond***

2021

Corporate Sustainability Report

# Contents

## Preamble

Message from the Chairman and CEO	04
2021 Awards and Recognition	06
Annual Performance Overview	07
Digital Transformation - Raising	08
Productive Creativity	
Value Creation - Product Innovation and	11
Quality Improvement	

# 01

## Sustainability Philosophy Taking the Lead

1.1 Introduction to Winbond	17
1.2 Sustainable Development Strategy	23
1.3 Materiality Analysis and Stakeholder	28
Engagement	

# 02

## Vision and Value

2.1 Innovation and Research and Development	41
2.2 Quality Management for Products and Services	51
2.3 Risk Management	58
2.4 Information Security Management	65
2.5 Customer Relationship Management	70
2.6 Sustainable Supply Chain	73

# 03

## Greening the Environment Committed to Environmental Protection

3.1 Green Manufacturing	83
3.2 Energy and Carbon Management	84
3.3 Resource Management	88
3.4 Waste Management	93
3.5 Emissions Management	95
3.6 Hazardous Substance Management	96

# 04

## Harmony and Inclusion

4.1 Talent Recruitment, Development and Retention	100
4.2 Employer-employee relations	119
4.3 Occupational Safety and Health	120
4.4 Community and Social Participation	126

# 05

## Integrity and Stability

5.1 Corporate Governance	134
5.2 Transparency and Integrity	137

# 06

## Appendix

Appendix A About This Report	141
Appendix B GRI Content Index	143
Appendix C Sustainability Accounting Standards Board (SASB) Index	147
Appendix D Third-Party Assurance Statement	148

# Preamble

Message from the Chairman and CEO

2021 Awards and Recognition

Annual Performance Overview

**Digital Transformation** - Productivity and Creativity Enhancement

**Value Creation** - Product Innovation and Quality Improvement



**Yu-Cheng Chiao**

Chairman & CEO

## Message from the Chairman and CEO

Due to the impact of the COVID-19 pandemic in 2021, the ways of life and working methods in the world have undergone tremendous changes. Taiwanese businesses face on not only international challenges but also domestic challenges, such as the disruption of supply chains, delays in sea and air transportation, and water and electricity shortages. In the coming year, global business operations are still facing challenges such as bottlenecks in the supply chains, inflation, global warming, technological advancement, information security threats, and the COVID-19 pandemic. These challenges have been examining our crisis management and business continuity. Winbond will continue to innovate and strengthen the core competitiveness of our products, as well as endeavor to implement digital transformation to optimize operations, enhance our information security framework to address cyber risks, and integrate group resources to achieve operating synergy.

## Steady Progress towards Sustainability

Over the years, Winbond has been fully committed to corporate sustainability, creating sustainable values and market competitiveness for our products and services. In 2021, we introduced the Task Force on Climate-related Financial Disclosures (TCFD) framework, thus identifying risks and opportunities brought by climate change, such as the use of renewable energy, improvement in water use efficiency, and transition into low-carbon investments. We also have completed inventories of our wafer products' water footprint and carbon footprint in accordance with international standards (ISO 14046 and ISO 14067, respectively). We also introduced the energy management system (ISO 50001) to optimize our process and reduce energy resource consumption comprehensively. In 2021, we reduced our greenhouse gas emissions by 229,245 metric tons of CO<sub>2</sub>e, an improvement of 8% compared to 2020. The 499-kW rooftop renewable energy generation equipment built by our Central Taiwan Science Park (CTSP) Facility generated a power of 720,000 kWh in total in 2021, and the generated power was continually sold to Taiwan Power Company. Winbond has also established a cross-departmental taskforce on reducing carbon emissions from our manufacturing process to develop relevant technologies to reduce carbon emissions from manufacturing processes, thereby making contributions to our common environment.

Winbond has been recognized for our efforts and achievements in our sustainability performance by external ratings and investment organizations. We won four awards from the 2021 Taiwan Corporate Sustainability Awards (TCSA) organized by the TAISE, including the consecutive win of "Corporate Sustainability Overall Performance - Top 50 Sustainable Enterprise" and "Corporate Sustainability Report Platinum Award", and the first-time win of "Sustainability Individual Category Performance - Talent Development Leadership Award" and "Sustainability Individual Category Performance - Innovative Growth Leadership Award". In 2021, Winbond was selected in FTSE4Good Emerging Index and FTSE4Good TIP Taiwan ESG index and as a constituent stock in the TWSE Taiwan Corporate Governance 100 Index. In addition, we have been ranked top 6-20% in the TWSE Corporate Governance Evaluation for many years consecutively.



## Green Research and Development and Digital Innovation

Winbond proactively exerts our influence on corporate sustainability through innovative research and development. Regarding our products, Winbond integrates optimized design frameworks and compacted circuit design to reduce the product size, reduce power consumption and optimize its standby power consumption while pursuing the development of high-performance products. In 2021, the power consumption of the new generation of products was reduced by more than 20% compared with the previous generation. Regarding the manufacturing process, the product manufacturing time is effectively shortened through continuous integration of the current manufacturing procedures. The amount of hazardous substances generated and emitted during the manufacturing process is reduced, which comprehensively improved our sustainability competitiveness. Through continuous innovations and the pursuit of high quality, Winbond can meet the high standards of world-class customers and keep our products in the leading position in the specialty DRAM and memory market.

In the past two years, Winbond has been dedicated to digital transformation. Thanks to the collaborative efforts of all our employees, we have completed many excellent transformation projects. In particular, we achieved significant results in improving the yield rate, production efficiency, and quality control in our 12-inch wafer factories. AI and sensor technology were also adopted to build a high-mix low-volume smart production model, thus optimizing manufacturing and service processes and continuously refining smart production. In addition to introducing new digital technologies and tools, we also urge all our employees to step out of their comfort zones and innovate in their daily tasks to create innovative potentials and improve Company's productivity and operating efficiency. Therefore, our competitiveness could be continuously improved in response to the ever-changing circumstances of the industry.

## Community and Social Participation, Inclusive and Common Good

Winbond has been deeply involved in social care and development for many years. We have invested resources from multiple perspectives. In 2021, we also continued to invest in areas such as “caring for youths and children,” “academic cooperation,” and “promotion of public welfare.” For example, the Happy Breakfast Program for School Children in Remote Areas has been in operation since 2011. The “Academy of Innovative Semiconductor and Sustainable Manufacturing” was established in cooperation with National Cheng Kung University. We also jointly carried out project development and research with professors from National Taiwan University and National Chiao Tung University and sponsored seminars on semiconductor and information and communication industries at home and abroad. In May 2021, when the epidemic broke out in Taiwan, Winbond donated positive pressure testing booths (PPTB) to Ten Chen and Yeezen General Hospital, allowing the front-line medical staff could perform duties in a better-quarantined environment. We endeavor to create a positive epidemic prevention force in society and set the benchmark for sustainability.

Looking forward to the future, in recent years, global and regional integration has taken new looks, and major economies have also been increasing their influence on the semiconductor industry and emerging technologies. Facing these new challenges and opportunities, Winbond will respond with globalized corporate operations to provide customers with complete services as well as supplies that are flexible and stable to grasp business opportunities in different regions of the world. Winbond will continue to uphold the core cultures, which are “Conduct business with integrity and ethical behavior, Accountable team work, Enthusiasm of learning, Aggressively innovate, and Sustainable contribution,” progress continuously towards achieving the goal of “Be a hidden champion in providing sustainable semiconductors to enrich human life” and improve our competitiveness in corporate sustainability.

## 2021 Awards and Recognition

We won four awards at the 2021 Taiwan Corporate Sustainability Awards (TCSA), including the

**“Corporate Sustainability Report Platinum Award”**

**“Corporate Sustainability Overall Performance -Top 50 Sustainable Enterprises”**

**“Sustainability Single Category Performance - Talent Development Leadership Award”**

**“Sustainability Single Category Performance - Innovative Growth Leadership Award”**

---

Achieved the best record in history of **two Golden Awards** and **two Silver Awards** from the Taiwan Continuous Improvement Awards

---

Ranked **No. 19** in patent applications for Taiwanese enterprises and **No. 10** in patents granted for Taiwanese enterprises in the 2021 Top 100 Patent Rankings organized by the Intellectual Property Office, Ministry of Economic Affairs

---

Our HYPERRAM products won the **Best Memory IC of the Year** award at the 2021 EE Awards Asia.

---

TrustME®W77Q won the **“2021 Central Taiwan Science Park Excellent Supplier Innovative Product Award”** and **“2021 China IoT Innovation Award”**

---

Ranked top 6-20% of listed companies in the 8th Corporate Governance Evaluation

---

Selected as a constituent stock of the **TWSE Corporate Governance 100 Index** in 2021

---

Selected into the **FTSE4Good Emerging Index** and **FTSE4Good TIP Taiwan ESG Index**

# Annual Performance Overview



## Environment (E)

- NT\$378 million was spent to implement measures related to environmental protection, up % from 2020
- Economic benefits from environmental investments amounted to NT\$
- From 2017 to 2021, total electricity of 1,167,682 GJ was saved, which is equivalent to the annual electricity consumption of 92,002 households
- Reduced greenhouse gas emissions by 229,245 metric tons of CO<sub>2</sub>e, which is equivalent to the annual fixed carbon emission of Daan Forest Parks
- Completed the 12-inch IC wafer carbon footprint inventory and obtained the ISO 14067: 2018 certification in 2021
- Completed the 12-inch IC wafer water footprint inventory and obtained the ISO 14046: 2014 certification in 2021
- 10.59 million cubic meters of water recycled, and the water recycling rate of all plants reached
- 7,212 metric tons of waste recycled, with a recovery rate of
- The average removal rate of volatile organic compounds (VOCs) reached
- Introduced the Task Force on Climate-related Financial Disclosures (TCFD) framework in response to climate-related risks and opportunities
- Joined SEMI ESG Initiative to support sustainable development for the semiconductor manufacturing industry



## Society (S)

- Employee benefits totaled NT\$
- Childcare subsidy was raised from NT\$5,000 per month to NT\$ per month
- % of our foreign employees have worked with us for over 5 years
- Our learning section now has nearly 340,468 views, while the data science section has been viewed nearly 6,154 times. There are online courses in the learning section for employees' self-study.
- Implemented a total of 85 emergency response drills for fire, chemicals and gas leakage, massive water leakage, and other emergencies
- Invested a total of NT\$ in community involvement



## Governance (G)

- Winbond granted 510 patents and has accumulated patents as of 2021
- We are the only memory manufacturer to be selected into the list of Internal Compliance Program (ICP) verified by the Bureau of Foreign Trade, MOEA
- W75F Secure Flash Memory passed automotive functional safety certification of ISO 26262 ASIL Grade D, the only one in the industry
- W75F Secure Flash Memory obtained certification of PSA Certified™ Level 2 Ready
- Obtained the ISO 27001:2013 Information Security Management System (ISMS) certificate
- Scored (Grade A) on the cloud information security testing tool Security Score Card (SSC)
- % of our suppliers have signed the Supplier Ethics and Integrity Policy; Winbond Supplier Code of Conduct Commitment Letter; Declaration of No-use of Restricted Substances; and Contractor Safety, Health, Environment, Education and Training Commitment Letter
- The completion rate of annual information security awareness training was

## Digital Transformation – Productivity and Creativity Enhancement

Benefiting from the new way of life in social distancing and digital business opportunities brought by the pandemic and from the vigorous development in connection (5G, Wi-Fi6/7, and IoT), AI, high performance computing (HPC), and cloud technology, the semiconductor industry has created massive market demand, which also reminds Winbond to commit itself to innovation and accelerate digital transformation for its operations in order to maintain its long-term competitiveness.

Digital transformation is a project that requires participation from all employees of the Company and relies on cross-departmental open collaboration, and the emphasis on “Accountable Team Work” and “Aggressively Innovate” in Winbond’s corporate culture is exactly a core spirit needed in the process of digital transformation. In 2021, Winbond has established two digital transformation committees: DTCM (Digital Transformation Committee for Manufacturing) and DTCB (Digital Transformation Committee for Business), which are directed by the President, working together with our employees to accelerate the transition.

Winbond believes that the key to a successful digital transformation lies in every employee’s application and implementation in their daily works. For this reason, developing and refining our employees’ digital literacy is a concern to which we attach much importance. We not only invite external lecturers to provide training in digital tools and AI-related knowledge and skills, but also arrange for executive managers and employees to share articles and promotional experience in digital transformation to improve relevant knowledge of all our employees and promote exchanges. The Company’s e-Learning platform also features a learning area exclusively for data science, which allows employees to learn basic digital concepts and professional techniques at their convenience.

The DTCM and DTCB improve work processes for all departments of the Company and introduce new digital methods. In terms of optimizing manufacturing techniques and enhancing productivity, significant achievements have been made, and many innovative approaches have also been in practice to optimize the Company’s operating processes.

### **1. In terms of manufacturing, we introduce multiple digital tools to facilitate collaboration and raise productivity**

- Web-based collaboration software, which improves the efficiency of project recording, document editing, and task management and tracking
- Web-based task tracking and agile project management platform, which optimizes development progress management
- Robotic process automation (RPA) software, which automates daily tasks such as data query, sorting and notification
- Equipment Prognostic Health Management (PHM), which effectively avoids equipment damage, production capacity loss, and product disposal
- Advanced batch control (R2R+), which provides the optimal control of machines through analysis in advanced processes to improve the process scope and the machines valid outputs, thereby meeting the market demand for small-volume, large-variety products

### **2. In terms of operation management, each department establishes and optimizes digital tools according to their respective tasking needs to assist employees in improving work efficiency**

- Contractor data platform, which allows frequently used information to be shared, which greatly reduces time for audits and improves personnel efficiency
- Performance management system, which optimizes processes of “target setting”, “performance communication,” and “performance assessment”, and provides a



bilateral channel for communication between managers and staff members to ensure the maximization of performance management

- Patent and trademark management system, which introduces an operating module for invention proposals that allows the submission, review, and communication of inventions and the annual target management of the Company to be processed online, and allows charts to be produced for decision makers' reference, thus effectively reducing time-consuming manual works and providing highly efficient intellectual property services
- AI-powered floor scrubbing robots, which replace manual cleaning, effectively save water and improve cleanliness, reduce the workload of cleaning personnel, and implement disinfection work

### 3. In terms of marketing, Winbond has also overcome the limitations due to the pandemic and showcased its digital marketing capability

In May 2021, we held the first "Winbond AI TechDay - Exploring Key AI Technologies" online conference, to which the experts from the following service providers were invited: Kneron, an AI startup; ARM Taiwan Limited, a world-leading silicon intellectual property service provider; Ambiq, a pioneer and leader in ultra-low power solutions; NXP Semiconductors, the world's leading provider of secure connectivity solutions for embedded applications; and the Institute for Information Industry. Through video conferencing, these experts shared on rich and diverse topics of AI applications that will be in demand in the post-COVID-19 market, such as Cloud, Edge and Endpoint, particularly the computing, memory, IoT device data transmission and security protection on these AI technologies, as well as options of AI solutions, while the development prospects of smart technologies and markets in 2021 and beyond were also analyzed in-depth.

#### 經營可信賴的數據力量

作者：技術副總監



在這個數據爆炸的世代，數據宛如流水，能載舟亦能覆舟。數據資訊的力量取決於我們對數據的態度——

#### Unlock Big Data Value by EDW-M

Author: Technology Executive



AI technologies such as machine learning and deep learning play a major role in driving digital transformation across the globe and change the business ——

#### 數位轉型推動成果分享

by 技術研發中心



數位轉型是兩江公司應變的方針，以善用數位科技，提高單位和人員生產力，並進而提升業務成果與核心競爭力。AOTI 也在數位轉型方面積極推動，從教育訓練、到實際運用，並進而讓數位轉型成為——

#### 協同合作與知識分享平台 – Confluence

作者：技術副總監



最近因為疫情的影響，大家透過網路的面對面溝通與合作，突然變得遙不可及，影響到的不再只是商業面對客戶或供應商的同仁而是所有的同仁了，對這樣的新實感，我們平常需要——



## AI Tech Day: 5/27 Online Event

Sudden COVID-19 outbreak in Taiwan. The event turns from on-site to online.



67%

200 ↑

4

Attendee Rate reach  
67%  
530 register / 357 join

More than 200 registers  
would like to have know  
more after event

DRAM has invited 4  
partners to co-join the  
event.



## Value Creation - Product Innovation and Quality Improvement

A corporate culture gradually takes shape in the productive and operating practice of an enterprise. It consists of the missions, visions, tenets, spirit, values, and operating philosophy of the organization that all employees approve and adhere to, as well as the overall embodiment of these values in the enterprise's productive and operating practice, management system, employee behaviors and public image. Corporate culture can be considered the soul of an enterprise and an inexhaustible driving force for the enterprise's development. Like corporate culture, quality culture represents an enterprise's mission, vision, objective, spirit, value, and philosophy of quality. It begins with every employee's inner commitment, which is embodied in their insistence and pursuit of quality, and it aims to achieve the ultimate goal of zero defect. For this purpose, Winbond has been promoting 5-Why Analysis, FMEA, Winbond Quality Newsletters, Quality Month, and other activities to shape quality awareness in all employees to create a unique quality culture in Winbond that can serve as a motto for employees, thereby attaining perfection of quality and becoming a world-class company.

Through continuous momentum of product R&D innovation and the increase in innovation and added values of product design and specifications, along with market trends, customer needs and Winbond's high quality standards, we can move beyond the red ocean strategy of price competition and create product uniqueness and value, such is the key to Winbond's long-term leadership in the industry. Winbond continues to encourage employees to innovate, so we have successfully developed and launched high-quality advanced products like HYPERRAM™, TrustME®, and OctaINAND. While pursuing high-efficiency products, we also break from traditional approaches and take innovative approaches to improve the overall circuit design framework, thereby greatly lowering the overall product energy consumption, continuously improving product values, and making contributions to green sustainability.



### 2021 Winbond Quality Month

Our 2021 Quality Month was themed with FMEA. Due to the pandemic, the event mainly featured introductory videos made by each unit. The Quality Department also produced the 2021 Winbond Quality Month themed face masks as prizes to be distributed, while Winbond's quality culture and concepts were also promoted via prize quizzes, live streaming, FMEA presentations, and other activities. This year's Quality Month activities attracted 4,240 participants and successfully elicited enthusiastic response from the attendees.





## Winbond Quality Newsletter

In recent years, Winbond has been cultivating a quality culture. Starting from training, we hope to be able to raise quality awareness amongst our employees, further optimizing Winbond product quality. For that purpose, we have created the quarterly Winbond Quality Newsletter, which is used to advocate and promote quality-related policies, culture, activities, and methods. Through this newsletter, employees would be able to gain a deeper and broader understanding of the scope of quality, deepening the quality awareness of our employees, improving work quality, and preventing avoidable and costly mistakes, which would improve product quality and satisfy the needs of internal customers. Training would also include new technology information, learning from past experience, two-way discussions, book recommendations, lifestyle topics, and video and audio sharing, forming a huge range of different content. Even during their busy schedules, our employees would be able to use these resources to satisfy their psychological needs, and like a quality-oriented chicken soup for the soul, enrich their perspectives, establishing an awareness and respect for quality. The first issue was published in November 2021, and the second issue was published in February 2022. As of April 2022, the Winbond Quality Newsletters have been viewed 7,865 times.



## HYPERRAM products

Compared with the existing 3.0V HYPERRAM™ products operating at 100MHz/200Mbps and 1.8V HYPERRAM™ products operating at 166MHz/333Mbps, Winbond's HYPERRAM™ 2.0 products can perform better at operating voltages of 3.0V or 1.8V. The maximum operating frequency of these products is 200MHz, which is equivalent to a data transmission rate of 400Mbps.



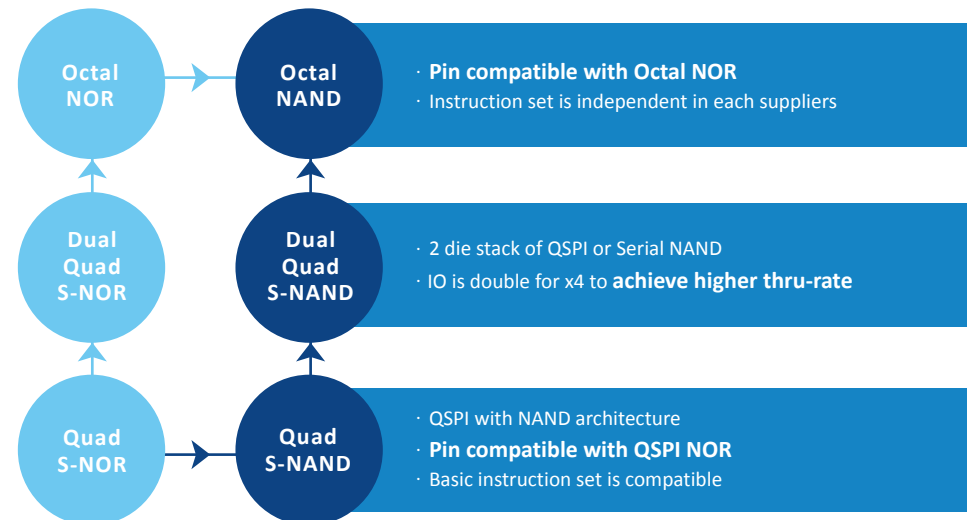
## TrustME® products - W77Q

TrustME® products were launched to fully meet the requirements for security certifications specified in the EU Cybersecurity Act and other regulations. W77Q can be applied to consumer and industrial IoT devices with security functions that meet the requirements for the Substantial and Basic assurance levels established by the EU Cybersecurity Act. W77Q also meets the standards of EAL2, as well as the regulations of Arm® Platform Security Architecture (ASIL).



## OctalNAND

It is the world's first NAND Flash with a new interface - 1Gb W35N01JW. Its maximum continuous read speed can reach 240MB per second, which is three times faster than the high-performance W25N-JW QspiNAND Flash products previously released by Winbond. Compared with ordinary Quad Serial NAND Flash products on the market, its reading speed is nearly 10 times faster!





chapter

# 01

## Sustainability | Taking the Lead

1.1 Introduction to Winbond

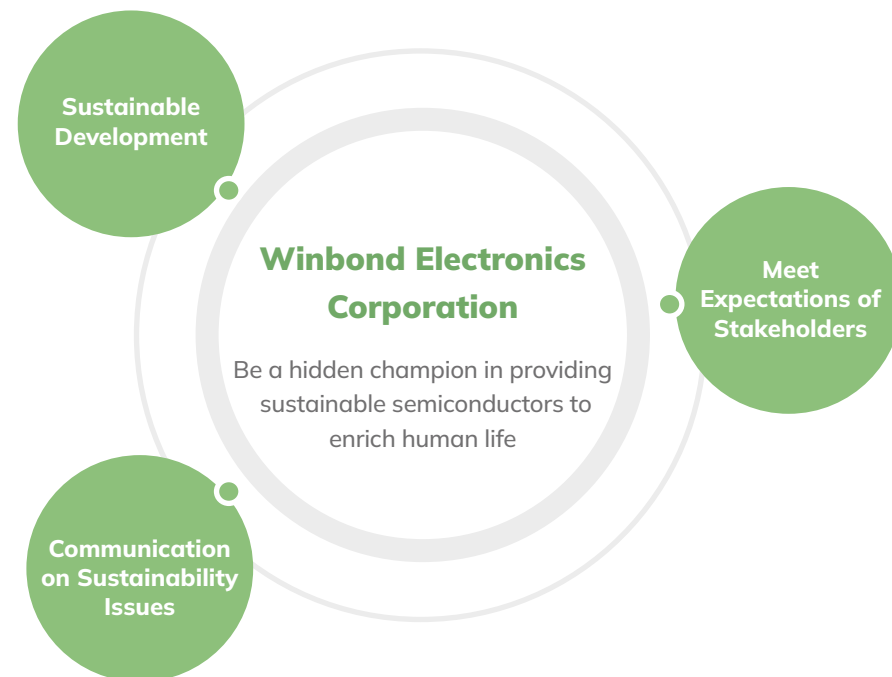
1.2 Sustainable Development Strategy

1.3 Materiality Analysis and Stakeholder Engagement



## Sustainability Philosophy | Taking the Lead

“Conduct business with integrity and ethical behavior, Accountable team work, Enthusiasm of learning, Aggressively innovate, and Sustainable contribution” are the core values of Winbond. Winbond continues to dedicate resources of its core business to exert its advantages and positive influence and create values in Environment, Society and Governance thus meeting our stakeholders’ requirements and expectations and realizing our promise of corporate sustainability.



## Material Topics and Management Approach

### Business Performance

Material Topic : Business Performance

GRI 201 : Economic Performance

Item	Management Approach
<b>Policies/Commitments</b>	Winbond pursues good financial performance mainly through the growth in our operating revenues and the continuous improvement of our profitability. We have been steadily creating higher economic values, which we share with all our stakeholders, including shareholders/investors, employees, customers, suppliers, government, and society.
<b>Responsibilities</b>	We regularly hold business reports and Board of Directors meetings to discuss the directions of our business development. The Chairman also invites executive managers to mid-term and long-term business development strategy meetings from time to time to grasp the future developmental trends of the industry and the Company's future developmental opportunities.
<b>Resources</b>	We hold regular business meetings and Board of Directors meetings to discuss business development directions, while medium- and long-term business development strategy meetings with executive managers are convened by the Chairman from time to time. In addition, we also inform third parties such as accounting firms or the National Taxation Bureau about tax and other risks from time to time.
<b>Reporting/Communication Mechanism</b>	Winbond attaches great importance to corporate social responsibility and corporate ethics and abides with government laws and regulations to manage and develop our business with integrity. In addition to the Reporting Channel for stakeholders on Winbond's official website, Winbond also provides hotline and mailbox. Employees and external individuals can both use this channel to make anonymous or non-anonymous reports, if they discover that the Company's employees have engaged in illegal activities, such as unfair business practices, bribery, earning illegal profits, fraud, coercion, etc.

Item	Management Approach
	<p>Reporting cases are handled by a dedicated unit, and task forces shall be established when necessary to verify the reports received. Winbond upholds the principle of confidentiality and protection for complaint cases and handles the cases with fair and proper treatment. Winbond shall not lead the complainant case to dismissal, job transfer, or any actions that affect the work of the employee. The employee who files the complaint shall not be discriminated or intimidated by other employees. All stakeholders including staff members are encouraged to file complaints against unlawful conducts.</p> <hr/> <p><b>Reporting Channel</b>            Hotline : +886-4-2521-3579            Mailbox : internal_audit@winbond.com  <a href="#">Reporting channel on the stakeholder engagement area of Winbond's official website</a></p>
<b>Specific Actions</b>	In terms of business performance, Winbond adheres to its corporate philosophy of business development and sustainable environment and mainly focuses on medium- and long-term plans.
<b>Mechanism for Evaluating Management Approaches</b>	Based on our financial and operating conditions, we regularly measure the effectiveness of management approaches and policies with quantitative revenues and compare the prepared budget, the Company's historical data, and operating conditions of our peers to revise future directions of policies and management approaches.
<b>Outcome of Management Approach Assessment</b>	Business meetings and Board of Directors meetings on the financial and operational conditions are regularly held, and the results of measurement are also discussed and implemented accordingly.

# 1.1 Introduction to Winbond

## Corporate Culture and Vision

Winbond's corporate culture is defined by "Conduct business with integrity and ethical behavior, Accountable team work, Enthusiasm of learning, Aggressively innovate, and Sustainable contribution." As Winbond's core value, belief, and conduct, this culture should be fully understood and duly exercised by all Winbond people. Winbond has established its Business Integrity Best Practice Principles, Employee Code of Conduct, and Corporate Social Responsibility Management Procedure. "Conduct business with integrity and ethical behavior" is the highest ethical standard in our treatment of customers, investors, employees, suppliers, and every individual we come into contact. We strive to realize our vision of "Be a hidden champion in providing sustainable semiconductors to enrich human life."

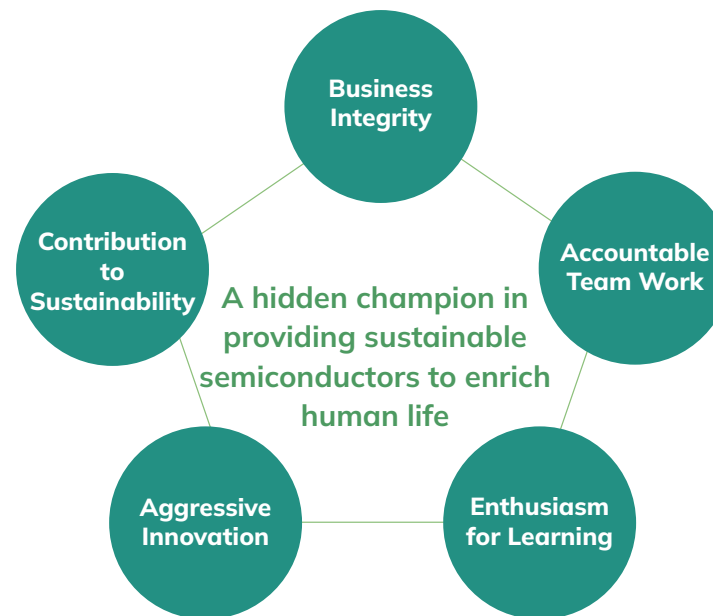
## About Winbond

Winbond Electronics Corporation ("Winbond") specializes in the design, manufacture, and sale of memory IC products from product design, research and development, and wafer fabrication to the marketing of brand name products. Core product lines include Code Storage Flash Memory, TrustME® Secure Flash, Specialty DRAM, and Mobile DRAM. Related product applications can be found in the following five fields: autotronics, industrial electronics, communications, computer processing, and consumer electronics. Our advantages of technological autonomy and prudent production strategies enable us to build a highly flexible production system and generate synergy from our product portfolios. We are committed to providing customers around the world with comprehensive medium- and low-density specialty DRAM products and services, which allows us to realize the sustainable development of our brands.

Winbond has subsidiaries and offices in the US, Japan, Israel, Mainland China, Hong Kong, and Germany, and it is proactively developing distributors in these countries and expanding the scope of our product sales. Through rigorous production process control and quality management, Winbond improves its yield analysis, supply chain management, and customer satisfaction, thus building an excellent reputation. We have also been certified by international standards including ISO 9001, ISO 27001, ISO 26262,

IATF 16949, QC 080000, ISO 14001, and ISO 45001, and we have become the first memory supplier in Taiwan to obtain the ISO 26262 certification, highest standard for automotive functional safety.

Winbond is constructing our 2nd highly intelligent and automated 12-inch fabs at Lujhu, Kaohsiung. It is scheduled to commence mass production in the 4th quarter of 2022 and, hopefully, it can fulfill various customer needs with its full production capacity. In the meantime, we keep a close watch on market trends and demand and review our allocation of production resources at a steady pace, thereby improving Winbond's long-term competitiveness in the memory market. Since Nuvoton Technology Co., a subsidiary of Winbond, acquired the semiconductor business of Panasonic Corporation in September 2020, the Winbond Group has continued to expand the scope of our trade in Japan. As a world-leading supplier of semiconductor memory solutions, Winbond also attaches much importance to R&D innovation and global talent development. In the future, with the cluster effect driven by the Kaohsiung Science Park, we expect to attract more semiconductor talents to join us in our commitment to offering all-around specialty DRAM solutions to customers.



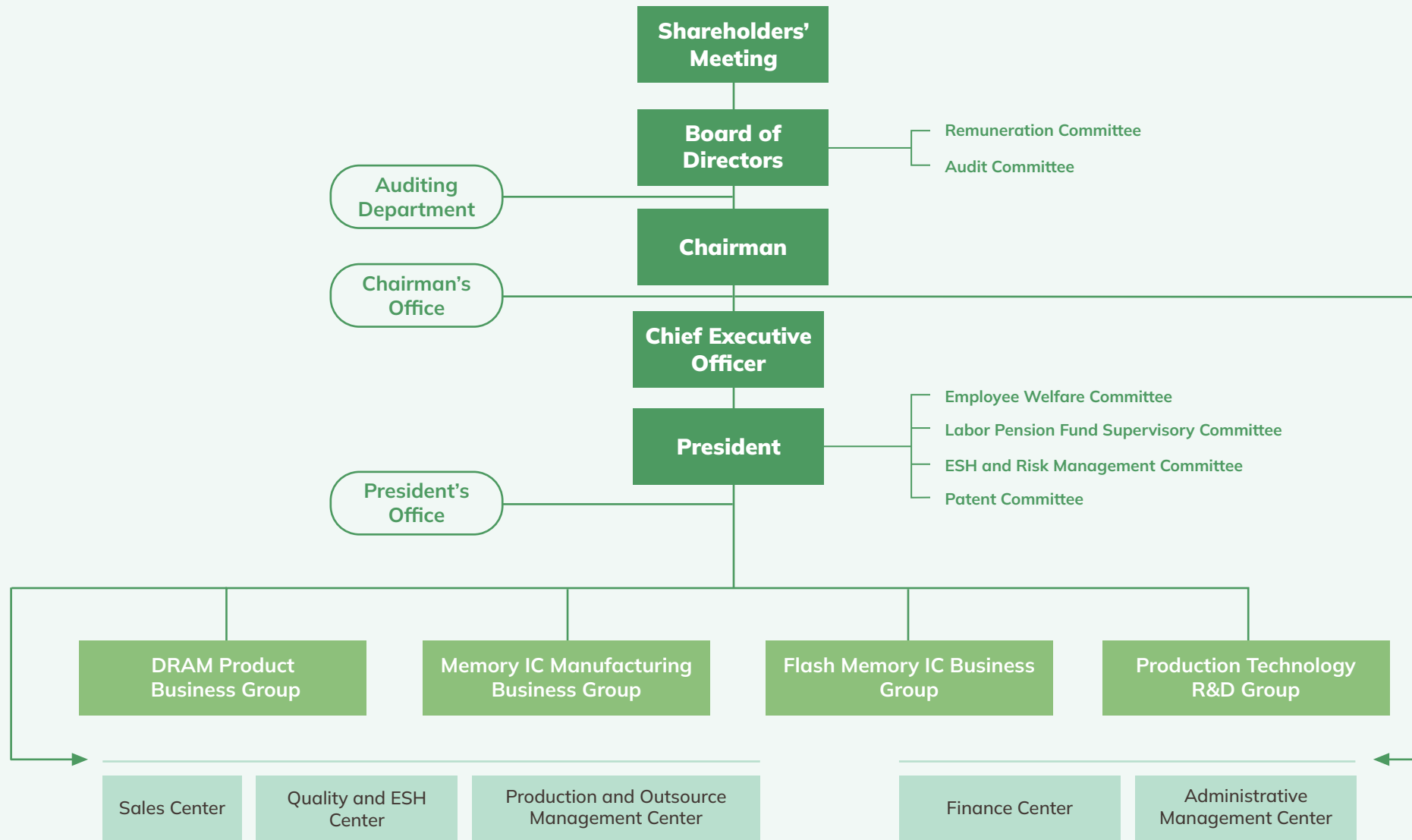
## Company Profile

<b>Company Name</b>	Winbond Electronics Corporation
<b>Global Employees</b>	3,814 people
<b>Capital</b>	NT\$39.8 billion
<b>Date Established</b>	September 29, 1987
<b>Date Listed</b>	October 18, 1995
<b>Main products and technologies</b>	Code Storage Flash Memory, TrustME® Secure Flash Memory, Specialty DRAM, and Mobile DRAM
<b>Chairman and CEO</b>	Arthur Yu-Cheng Chiao
<b>President</b>	Pei-Ming Chen (appointed in March, 2020)
<b>Head Office</b>	No. 8, Keya 1st Rd., Daya Dist., Taichung City 428, Taiwan, R.O.C.
<b>Location of operations</b>	Taiwan, US, Japan, Israel, China, Hong Kong, India and Germany





## Winbond Organization Chart



## Global Operations

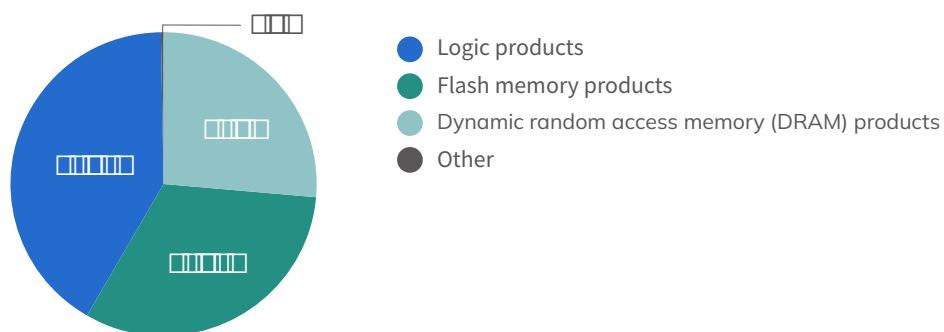
For information of Winbond and its affiliates, please refer to the Annual Report.



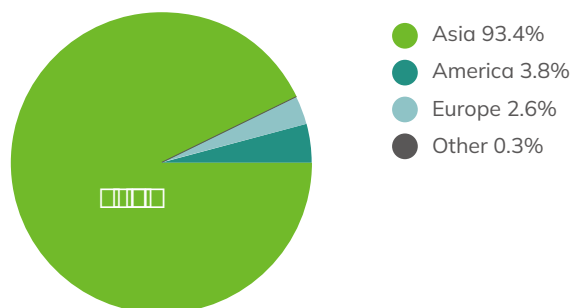
## Economic Performance

In 2021, Winbond's consolidated revenue amounted to NT\$99.57 billion, an increase of 64.08% in comparison to 2020. Our consolidated net earnings after tax reached NT\$15 billion, and our after-tax EPS was NT\$3.42. We paid a consolidated income tax of NT\$720 million, which accounted for 0.72% of our total revenue. For explanation and analysis of other categories of financial performance, please refer to Winbond's 2021 Annual Report.

## Product categories and revenue ratios of their applications



## 2021 Market Distribution







For Winbond's financial performance and sales volume in 2021, see our 2021 Annual Report.

## 2021 consolidated financial performance (unit: NT\$ million)

Item	2019	2020	2021
Operating revenue	□□□□□	□□□□□	□□□□□
Non-operating revenue and expense	□□□	□□□	□□□
Direct economic value [A]	49,268	60,868	99,365
Operating cost	□□□□□	□□□□□	□□□□□
Employee remuneration and benefit expenses (personnel expenses)	□□□□□	□□□□□	□□□□□
Payments to investors	□□□□□	□□□	□□□□□
Payments to the government	□□□	□□□	□□□
Community investment	□□	□□	□
Direct economic value distributed [A]	48,974	55,164	75,869
Residual economic value [A-B]	294	5,704	23,496
Net profit before tax	□□□□□	□□□□□	□□□□□
Net profit	□□□□□	□□□□□	□□□□□
Earnings (loss) per share (NT\$)	□□□	□□□	□□□

## Product information

### Main products

Link to product information			
Code Storage Flash Memory	TrustME® Secure Flash Memory	Specialty DRAM	Mobile DRAM
			

**Note** Total wafer production was 678 (thousand pcs), while total die production was 5,602,364 (thousand pcs)

### Product applications

Link to product applications				
Autotronics	Industrial Electronics	Communications	Computing	Consumer electronics
				

## Membership of external organizations

Winbond actively participates in activities organized by industry organizations and technology alliances to obtain the latest industry technologies and know-hows as well as to build a good relationship with our peers.

### Participation in industry associations






Industry associations	2021 participation
<b>Taiwan Electrical and Electronic Manufacturers' Association (TEEMA)</b>  TEEMA serves as a bridge between the government and the industry. It provides members with a diverse range of services on expanding international trade, promoting international relations, supporting industry development, information services, legal advice, and talent development.	Chairman Arthur Yu-Cheng Chiao is a strategy consultant to TEEMA.
<b>Taiwan Semiconductor Industry Association (TSIA)</b>  TSIA activities are aimed at building consensus on industry development in order to promote cooperation in competition and the sound development of the industry as a whole.	President Pei-Ming Chen is a Director of TSIA.
<b>The Allied Association for Science Park Industries</b>  ASIP serves as a bridge for communication of policies and feedback between the government and industry. It coordinates industry efforts and promote the stable development of science park industries.	Vice President Wen-Hua Lu is a supervisor of ASIP.

## 1.2 Sustainable Development Strategy

### Sustainable Development Goals

Since the release of United Nations' and Taiwan's Sustainable Development Goals (SDGs), Winbond has immediately begun incorporating SDGs related to our core business into our CSR policy and business approach.

#### Outcomes of SDGs promotion

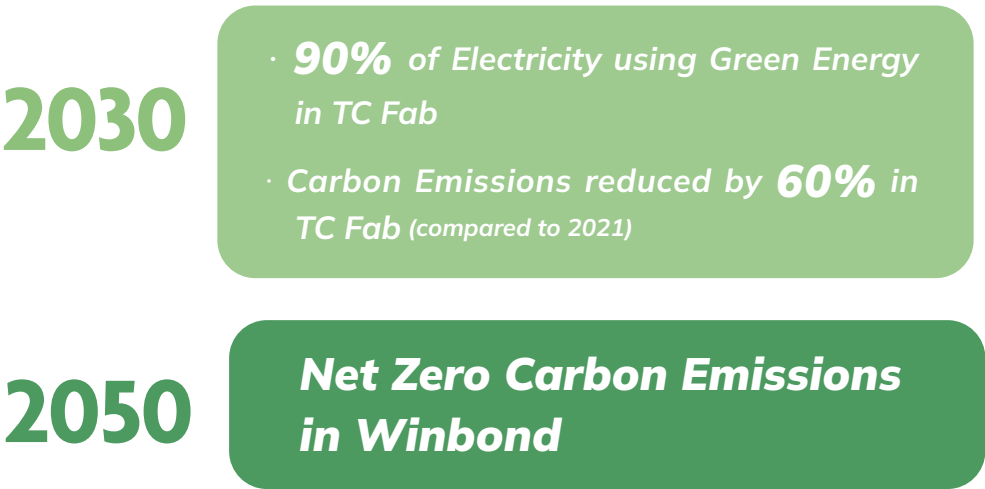
Corresponding SDGs	2021 Performance Highlights	Future Directions
 <p><b>1.1</b> By 2030, eradicate extreme poverty for all people everywhere</p>	<p>“Caring for the Disadvantaged” is one of the permanent CSR commitments made by Winbond. We provide volunteers and funding to help disadvantaged groups through tough times. Projects supported by Winbond include volunteering at children's homes, donating used computers, and fund-raising for academic scholarships.</p>	<p>Continue to increase the extent or expand the scope of corporate philanthropy.</p>
 <p><b>2.1</b> By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year-round</p>	<p>Since 2011, Winbond has cooperated with non-profit organizations and foundations to support the happy breakfast program at elementary schools in remote areas of Hsinchu and Taichung, in the hope of providing students with sustainable health and living standards through support of breakfasts and care. In 2021, Winbond contributed NT\$550,000 to the breakfast program.</p>	<p>Continue to improve the happy breakfast program based on teachers' and students' opinion surveys.</p>
 <p><b>3.9</b> By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination</p>	<p>The Company endeavors to meet the advanced international safety, health and environmental standards and is committed to providing employees with a complying and healthy working environment through respect, caring and counseling, and participation mechanisms. In 2021, all 104 workers in special operations underwent health exams. All were classified as category 2 for the purpose of health management and promotion based on the results.</p>	<p>Continued strengthening of health and safety management measures.</p>
 <p><b>4.3</b> By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university</p>	<p>Based on the Company's visions, business philosophy and cultural values, complemented by surveys on training needs, Winbond has planned personalized learning and development courses. In 2021, employees at Winbond's head office in Taiwan received training for an average of 47 hours per person, and the total expenses in training amounted to NT\$10.3 million</p>	<p>Promotion of employee career roadmaps, along with continued enrichment of employee training content and formats.</p>
 <p><b>5.1</b> End all forms of discrimination against all women and girls everywhere</p>	<p>To promote gender equality and protect employee rights, Winbond provides an equal basic salary to male and female employees. Remuneration for individual employees will be based on their respective positions, job categories, educational backgrounds, and experiences. The male to female ratio at Winbond is 1:1 for senior management roles, and 1.1:1 for non-management roles.</p>	<p>Continue to monitor international trends in human rights and incorporate them into Winbond's sustainable human rights management mechanism.</p>



	<p><b>6.4</b></p> <p>By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity</p>	<p>Winbond cherishes all resources and is committed to improving the reuse rate of recycled water. In 2021, the plant-wide water recycling rate and the manufacturing process water recycling rate were 83% and 91%, respectively.</p>	<p>Continue to assess and promote new water-saving measures.</p>
	<p><b>7.2</b></p> <p>By 2030, increase substantially the share of renewable energy in the global energy mix</p>	<p>A 499kW rooftop renewable energy generation equipment has been installed, and the renewable energy it generated was sold to Taiwan Power Company. In 2021, approximately 720,000 kWh of power was generated.</p>	<p>In cooperation with the government's renewable energy policy, we are planning and evaluating the viability of renewable energy installation.</p>
	<p><b>8.2</b></p> <p>Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors</p>	<p>Winbond strives to create economic values for various stakeholders. In 2021, our consolidated revenues amounted to NT\$99.57 billion, an increase of 64.08% compared to 2020; our consolidated net profit after tax was NT\$15 billion, and after-tax EPS was NT\$3.42.</p>	<p>Continue to monitor market changes and improve our financial performance.</p>
	<p><b>9.4</b></p> <p>By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally-sound technologies and industrial processes</p>	<p>Winbond seeks to consolidate our competitive advantage through continuous innovation in products and technologies. We are expanding our production capacity and upgrading our production processes to supply customers with green products that consume even less power and have lower impacts on the environment. Winbond granted 510 patents and has accumulated 4,158 patents as of 2021.</p>	<p>We aim to obtain more than 5,700 global patents (by 2025).</p>
	<p><b>10.2</b></p> <p>By 2030, empower and promote the social, economic and political inclusion of all irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status</p>	<p>Winbond provides dedicated relocation service for foreign employees in Taiwan, including Taiwanese workforce culture explanation, company facilities introduction, and regular caring. By providing timely assistance through understanding foreign employees' working and living needs, this service helps foreign employees to integrate into Taiwan's living environment. As of the end of 2021, 60% of foreign employees have been with Winbond for more than 5 years.</p>	<p>Continue to promote our corporate philosophy of friendly workplace to allow all Winbond employees to concentrate on work.</p>
	<p><b>13.3</b></p> <p>Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p>	<p>In order to reduce impact on the environment during operations, Winbond continues to devote resources to pollution prevention and control. In 2021, Winbond invested a total of NT\$378 million in pollution prevention and reduced GHG emissions by 229,245 ton-CO<sub>2</sub>e.</p>	<p>Introduced the TCFD management framework. Continue to implement new energy conserving and carbon reducing measures.</p>
	<p><b>17.16</b></p> <p>Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries</p>	<p>Winbond attaches importance to corporate sustainability. We regularly organize general suppliers' meetings and adopt sustainable review standards to allow Winbond and partners to improve together. In 2021, economic, environmental, and social audits of Winbond suppliers/contractors produced a 100% pass rate.</p>	<p>We actively cooperate with partners who promote sustainable development issues and will improve and enhance sustainable supplier management, which includes the assessment and document-based and on-site audits of sustainability risks, in the future.</p>

## Green Energy and Carbon Emission Reduction

In line with climate change governance and international carbon reduction initiatives, along with considerations of the development and planning of corporate sustainability, Winbond has preliminarily set goals of renewable energy and carbon reduction:

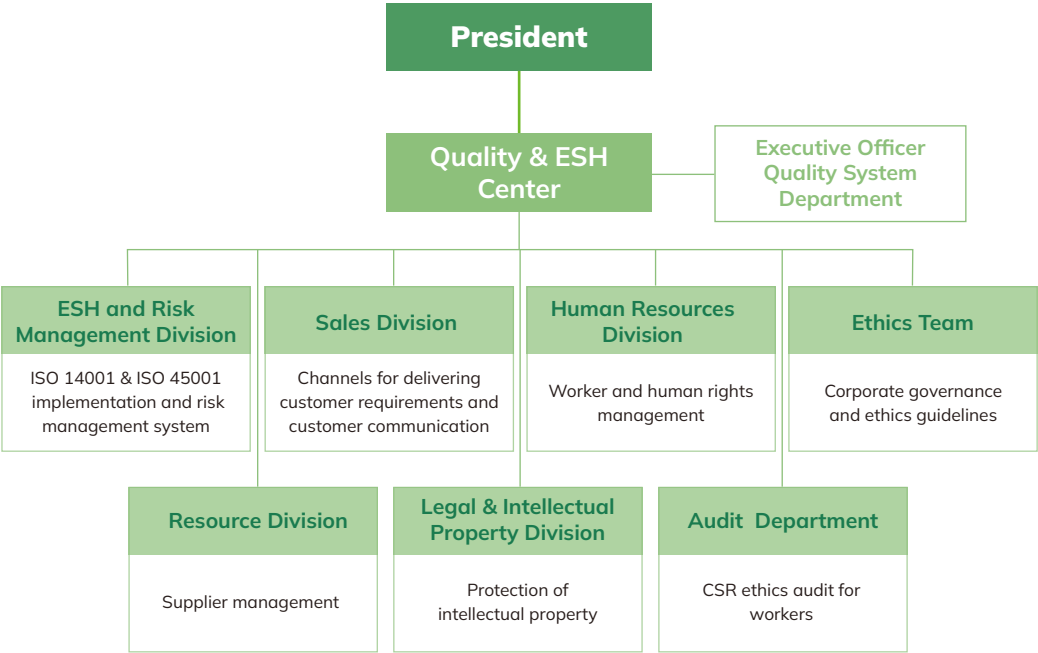


## Corporate Social Responsibility Policy

Winbond insists that all its operations and managerial activities must align with corporate social responsibility. Through enhancing employee training and internal control, we make sure to comply with business ethics and government laws. In the meantime, we continue to pursue improvements in quality management and environmental protection, dedicate ourselves to social welfare, and maintain good communications with

our stakeholders. We expect all our business partners to support and comply with the requirements of corporate social responsibility.

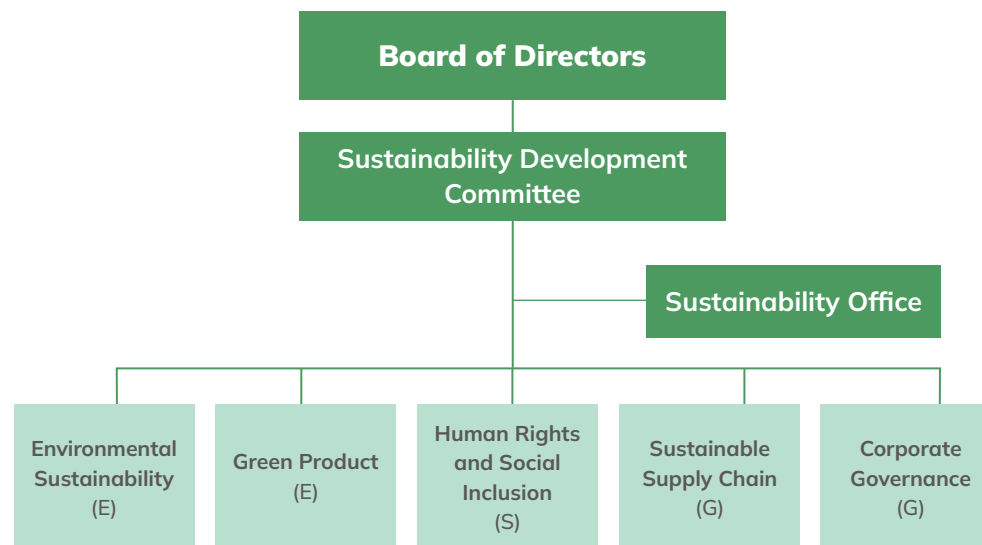
Winbond refers to the behavioral guidelines of the Responsible Business Alliance and has incorporated the UN's Sustainable Development Goals (SDGs) into its Corporate Social Responsibility Policy and Corporate Social Responsibility Best Practice Principles, which have been passed by the 20th meeting of the 9th Board of Directors (January 24, 2014) and the 5th meeting of the 10th Board of Directors (December 18, 2014), respectively. The President's Office is in charge of the proposal and implementation of CSR policy, system, or relevant management approaches, and shall regularly report on these matters to the Board of Directors. Winbond expects all business partners to support and comply with the requirements of corporate social responsibility, work together with us to fulfill corporate social responsibility, and promote economic, environmental and social progress, so as to attain sustainable development.



## Winbond CSR Implementation Committee

Winbond established the Winbond Corporate Social Responsibility (CSR) Implementation Committee in 2015. The Chairman of the Committee is served by the President. Each team regularly collects, discusses, and compiles sustainability-related information in terms of the environmental, social, and governance (ESG) dimensions. Every year, we regularly hold management review meeting (date of the most recent meeting: March 22, 2022), in which the implementation results of the corporate social responsibility (CSR) management system and relevant improvement suggestions are reported to the executive management. In the Board of Directors meeting at the 4th quarter of each year (the most recent meeting was on November 4, 2021), the President shall report the promotional results of CSR of the current year and work plans for the next year, and receive feedback from the Board and make amendments accordingly, thereby incorporating CSR into the Company's decision-making process.

Winbond has restructured the current "Winbond Corporate Social Responsibility (CSR) Implementation Committee" into the Sustainability Development Committee in May 2022. The level of committee is raised to the level of the Board of Directors. It shall be composed of several directors and five to seven executive managers from relevant departments including the President. The term of the directors is the same as the term of the Board of Directors. Under the Sustainability Development Committee, we established the Sustainability Office and five task forces, including Environmental Sustainability, Green Products, Human Rights and Social Inclusion, Sustainable Supply Chain, and Corporate Governance, thereby ensuring the promotion and implementation of works related to corporate sustainability.



## Responsible Business Alliance (RBA)

The Responsible Business Alliance (RBA) Code of Conduct (RBA CoC) is a set of regulations established for the electronics industry, or industries mainly consisting of electronics, and their supply chains in order to ensure the safety of their work environments, respect for and dignity of their workers, environmental soundness of their business operations, and their compliance with ethical conduct. Version 7.0 of the Responsible Business Alliance Code of Conduct (RBA CoC) can also be regarded as the code of conduct for human rights, environment, and ethics in the global supply chain of electronic products. It highly aligns with international human rights standards such as the UN Guiding Principles on Business and Human Rights, International Labour Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and UN Universal Declaration of Human Rights.

Winbond's suppliers and contractors are required to comply with relevant code of conduct, green products environmental policy, RBA requirements, International human rights declarations, the ILO Tripartite Declaration of Principles, Winbond Employee Code of Ethics, and Hazardous Substance Free Policy. They are also required to closely collaborate and communicate with each other based on the RBA guidelines as a blueprint, abide by their code of conduct, and continuously promote and improve the supply chain to meet the requirements of Winbond's Supplier Code of Conduct, thereby increasing local procurement and promoting sustainable development.

## SEMI ESG Initiative

In response to corporate ESG governance and international sustainability promotion, Winbond made an oath with industries, governments, and academia to join the "SEMI ESG Initiative" on December 29, 2021. More than 2,400 domestic and foreign semiconductor manufacturers, packaging, equipment, and material providers are connected through industry partnerships and collaboration, social networking, exhibitions, forums, government initiatives, and other resources. More than 1.3 million professionals participated to explore sustainable development issues and actively promoted electronics manufacturing science and business development.

## Responsible Business Alliance Code of Conduct

Aspect	Topic	
<b>Labor</b>	<ul style="list-style-type: none"> <li>• Freely Chosen Employment</li> <li>• Young Workers</li> <li>• Working Hours</li> <li>• Wage and Benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Humane Treatment</li> <li>• Non-discrimination</li> <li>• Freedom of Association</li> </ul>
<b>Health and Safety</b>	<ul style="list-style-type: none"> <li>• Occupational Safety</li> <li>• Emergency Preparedness</li> <li>• Occupational Injury and Illness</li> <li>• Industrial Hygiene</li> </ul>	<ul style="list-style-type: none"> <li>• Physically Demanding Work</li> <li>• Machine Safeguarding</li> <li>• Sanitation, Food, and Housing</li> <li>• Health and Safety Communication</li> </ul>
<b>Environmental Protection</b>	<ul style="list-style-type: none"> <li>• Environmental Permits and Reporting</li> <li>• Prevention of Pollution and Resource Reduction</li> <li>• Hazardous Substances</li> <li>• Solid Waste</li> </ul>	<ul style="list-style-type: none"> <li>• Air Emissions</li> <li>• Materials Restrictions</li> <li>• Water Management</li> <li>• Energy Consumption and Greenhouse Gas Emissions</li> </ul>
<b>Ethics</b>	<ul style="list-style-type: none"> <li>• Conduct business with integrity and ethical behavior</li> <li>• No Improper Advantage</li> <li>• Disclosure of Information</li> <li>• Intellectual Property</li> </ul>	<ul style="list-style-type: none"> <li>• Fair Business, Advertising and Competition</li> <li>• Protection of Identity and Non-Retaliation</li> <li>• Responsible Sourcing of Minerals Privacy</li> </ul>
<b>Management Systems</b>	<ul style="list-style-type: none"> <li>• Company Commitment</li> <li>• Managerial Accountability and Responsibility</li> <li>• Legal and Customer Requirements</li> <li>• Risk Assessment and Risk Management</li> <li>• Improvement Objectives Training</li> <li>• Communication</li> </ul>	<ul style="list-style-type: none"> <li>• Worker Feedback, Participation and Grievance</li> <li>• Audits and Assessments</li> <li>• Corrective Action Process</li> <li>• Documentation and Records</li> <li>• Supplier Responsibility</li> </ul>

# 1.3 Materiality Analysis and Stakeholder Engagement

Winbond is continuing to communicate with stakeholders in a transparent and open manner to identify all sustainability topics of concern and incorporate them into our corporate sustainability blueprint. Winbond conducts a systematic assessment of sustainability topics through surveys based on the GRI Standards, Sustainability Accounting Standards Board (SASB) standards, market trends and industry characteristics. The distribution and recovery of these surveys are used to collect stakeholder feedback. Sustainability topics are also taken into consideration when assessing operational impacts and risks. Material topics can then be identified and given priority in our treatment and response.

Stakeholder and Material Topic Assessment Process

Step	1 Identifying Stakeholders	2 Compile Topics of Concern	3 Assess Impact of each Topic	4 Confirm Material Topics	5 Examine Topics
Process	A stakeholder identification survey is filled out by the heads of each Winbond department to establish the relevance of each stakeholder to the Company and identify material stakeholders.	Based on the outcomes of stakeholder identification, surveys or interviews are conducted to determine the topics of concern and analyze the level of concern.	Winbond’s executive management then analyze the impact on corporate operations and effect on risk assessment for each sustainability topic to confirm how each topic impacts the Company.	The topics of concern to stakeholders and impact on Winbond are used to construct a material topic matrix based on the assessed outcome for each topic. The matrix is then used to determine their materiality.	Once the material topics have been identified, they are examined to ensure that they match the requirements for sustainability context and completeness.
Quantified Performance	7 types of stakeholders identified	273 valid survey responses	5 senior executives consulted	8 material topics identified	Topics meet 100% of the sustainability and completeness requirements

## Stakeholder Communication and Response

The relevance and precedence of stakeholders are identified by Winbond using the five principles of the AA1000 Stakeholder Engagement Standard (SES) 2015. These include Dependency, Responsibility, Influence, Tension, and Diverse Perspectives.

In 2021, Winbond re-examined and confirmed the importance of each stakeholder through meetings, reference to results of stakeholder relevance analysis, and consultations with industry experts. The seven groups ranked in decreasing order of importance were as follows: government agencies, customers, employees, investors/shareholders, the media, suppliers/contractors, and community groups.



## Stakeholder Communications and Outcomes

Stakeholders	Importance of Stakeholder to Winbond	Topics of Concern	Channel and Frequency of Communication	2021 Communication Outcome
<b>Government Agencies</b>	Government agencies are concerned with Winbond's regulatory compliance on environment, society and governance (ESG) matters. Its influence on industry development and policy implementation makes it a material stakeholder.	<ul style="list-style-type: none"> <li>Regulatory Compliance</li> <li>Corporate Governance and Business Ethics</li> <li>Occupational health and safety</li> <li>Waste management</li> <li>Risk management</li> </ul>	<ul style="list-style-type: none"> <li>Official documents (ad hoc)</li> <li>Public hearings (ad hoc)</li> <li>Policy Information sessions (ad hoc)</li> <li>Regulatory conferences (ad hoc)</li> <li>Inspections by competent authority (ad hoc)</li> <li>CSR questionnaire (annual)</li> </ul>	<ul style="list-style-type: none"> <li>Participated in 34 meetings with environmental, safety and health authorities</li> <li>19 on-site audits and inspections were conducted by environmental, safety, and health authorities</li> </ul>
<b>Customers</b>	Customers are the main source of the economic value created by Winbond. They are primarily concerned with the ESG performance of Winbond operations.	<ul style="list-style-type: none"> <li>Corporate Governance and Business Ethics</li> <li>Risk management</li> <li>Quality of Product and Service</li> <li>Compliance</li> <li>Information security and personal information protection</li> </ul>	<ul style="list-style-type: none"> <li>The Company's website, telephone, and e-mail (immediate)</li> <li>Questionnaire response (immediate)</li> <li>Sales meetings (regular)</li> <li>Technical seminars (ad hoc)</li> <li>Customer audit (ad hoc)</li> <li>CSR questionnaire (annual)</li> <li>Customer satisfaction survey (annual)</li> </ul>	<ul style="list-style-type: none"> <li>Customers were invited to the Winbond AI Tech Day 2021 &amp; WinTech 2021 to exchange on new technologies, market trends, and popular issues of the current time. The event received universal acclaim from customers.</li> <li>Due to the COVID-19 pandemic, we shot introduction videos of Winbond and shared with our customers</li> </ul>
<b>Employees</b>	Employees are one of Winbond's most important assets. They are a key stakeholder in our continued breakthroughs and innovations.	<ul style="list-style-type: none"> <li>Compliance</li> <li>Corporate Governance and Business Ethics</li> <li>Occupational health and safety</li> <li>Human rights and equality</li> <li>Information security and personal information protection</li> </ul>	<ul style="list-style-type: none"> <li>75234 Employee Complaints Hotline (on demand)</li> <li>"Care" Employee Suggestion Box (on demand)</li> <li>Sexual Harassment Complaints Committee (on demand)</li> <li>Health consultation (on demand)</li> <li>Health promotion activities (ad hoc)</li> <li>Survey on health, stress, and aches (annual)</li> <li>Employee Welfare Committee (ad hoc)</li> <li>Employer-employee meetings and Town Hall meetings (quarterly)</li> <li>Functional communication meetings (regular)</li> <li>Internal bulletin board (ad hoc)</li> <li>Company philosophy articles on the employee homepage (weekly)</li> <li>Monthly labor safety meetings (monthly)</li> <li>Site Environmental, Safety and Health Committee (quarterly)</li> <li>Hosting of environmental, safety and health training (regular)</li> <li>Launch conference for new performance system</li> <li>CSR questionnaire (annual)</li> </ul>	<ul style="list-style-type: none"> <li>3 cases of internal complaints in total</li> <li>16 cases on everyday issues received through suggestion box (both physical and electronic)</li> <li>1 sexual harassment case</li> <li>9 employer-employee meetings (Zhubei and CTSP) including 9 case reports (2 on amendments to work rules, 2 on video conferencing, 5 on new Kaohsiung fab)</li> <li>4 executive management conferences were held; the sessions were attended by 1,703 people with an attendance rate of 76%</li> </ul>

<b>Shareholders/ Investors</b>	Shareholders/Investors are Winbonds' main source of capital. They are mainly concerned with Winbond's operating performance and sustainable development.	<ul style="list-style-type: none"> <li>• Business performance</li> <li>• Corporate Governance and Business Ethics</li> <li>• Risk management</li> <li>• Regulatory Compliance</li> <li>• Research, Development and Innovation</li> </ul>	<ul style="list-style-type: none"> <li>• Telephone and e-mail (immediate)</li> <li>• Winbond's website (ad hoc)</li> <li>• Market Observation Post System (ad hoc)</li> <li>• Institutional investor conference (biannual, or whenever necessitated by special circumstances)</li> <li>• One-to-one meeting with institutional investors (10-20 sessions/quarter)</li> <li>• General shareholders' meeting (annual)</li> <li>• CSR questionnaire (annual)</li> </ul>	<ul style="list-style-type: none"> <li>• 12 disclosures of revenues</li> <li>• 1 annual shareholders' meeting</li> <li>• 2 institutional investor conferences</li> <li>• 4 disclosures of financial reports</li> </ul>
<b>The media</b>	The media serves as a bridge between Winbond and stakeholders. With immediate access to information released by Winbond, they can assist Winbond with the disclosure of positive sustainability information.	<ul style="list-style-type: none"> <li>• Business performance</li> <li>• Research, Development and Innovation</li> <li>• Corporate Governance and Business Ethics</li> <li>• Talent recruitment and development</li> <li>• Salary, benefits, and employee care</li> </ul>	<ul style="list-style-type: none"> <li>• Telephone and e-mail (immediate)</li> <li>• Press release (regular)</li> <li>• Media interviews (annual)</li> <li>• CSR questionnaire (annual)</li> </ul>	<ul style="list-style-type: none"> <li>• 30 telephone and e-mail communications</li> <li>• 30 press releases</li> <li>• Provided the Company's operating reports 2 times</li> </ul>
<b>Suppliers/ Contractors</b>	Suppliers and Contractors provide supplies and services required for Winbond's production. They help maintaining Winbond's continuous and sustainable operation, so they are also important stakeholders and partners of Winbond's sustainable development.	<ul style="list-style-type: none"> <li>• Regulatory Compliance</li> <li>• Corporate Governance and Business Ethics</li> <li>• Quality of Product and Service</li> <li>• Occupational health and safety</li> <li>• Information security and personal information protection</li> </ul>	<ul style="list-style-type: none"> <li>• Winbond Ethics and Integrity Policy and complaint channel (biannual)</li> <li>• External complaint channels (immediate)</li> <li>• Supplier audit (annual)</li> <li>• Major supplier rating (regular)</li> <li>• CSR questionnaire (annual)</li> </ul>	<ul style="list-style-type: none"> <li>• All suppliers have signed the Commitment to Ethical Conduct and the Responsible Business Alliance (RBA) Code of Conduct</li> <li>• 100% commitment rate on Declaration of Non-use of Conflict Minerals by key suppliers</li> <li>• 0 cases of supplier complaints</li> <li>• 100% pass rate for supplier audits on economic, environmental and social performance, and supplier assessments against sustainability</li> <li>• Completed Supplier CSR and Hazardous Substance Free (HSF) audits</li> </ul>
<b>Community</b>	Their proximity to Winbond's operating locations means they bear the brunt of the impact from our operations. Their welfare is therefore of the greatest importance to Winbond.	<ul style="list-style-type: none"> <li>• Human rights and equality</li> <li>• Salary, benefits, and employee care</li> <li>• Occupational health and safety</li> <li>• Regulatory Compliance</li> <li>• Corporate Governance and Business Ethics</li> </ul>	<ul style="list-style-type: none"> <li>• Volunteer service (at least once every quarter)</li> <li>• Collaborative projects and visits (ad hoc)</li> </ul>	<ul style="list-style-type: none"> <li>• In 2021, the orphanage and after-school tutoring volunteer activities were suspended due to the COVID-19 pandemic</li> <li>• In 2021, 952 employees contributed a total of NT\$3,216,000 to student grants</li> <li>• In 2021, 2 blood donation events were held, attracting a total of 138 participants</li> </ul>

## Grievance Mechanism

Winbond attaches great importance to corporate social responsibility and corporate and ethics and abides with government laws and regulations to manage and develop our business with integrity. In addition to the Reporting Channel for stakeholders on the Winbond's official website, Winbond also provides hotline and mailbox. Employees and external individuals can both use this channel to make anonymous or non-anonymous reports, if they discover that the Company's employees have engaged in illegal activities, such as unfair business practices, bribery, earning illegal profits, fraud, or coercion, etc.

Reporting cases are handled by a dedicated unit, and task forces shall be established when necessary to verify the reports received. Winbond upholds the principle of confidentiality and protection for complaint cases and handles the cases with fair and proper treatment. Winbond shall not lead the complainant case to dismissal, job transfer, or any actions that affect the work of the employee. The employee who files the complaint shall not be discriminated or intimidated by other employees. All stakeholders including staff members are encouraged to file complaints against unlawful conducts.

### Reporting Channel

**TEL** +886-4-2521-3579

**E-mail** [internal\\_audit@winbond.com](mailto:internal_audit@winbond.com)

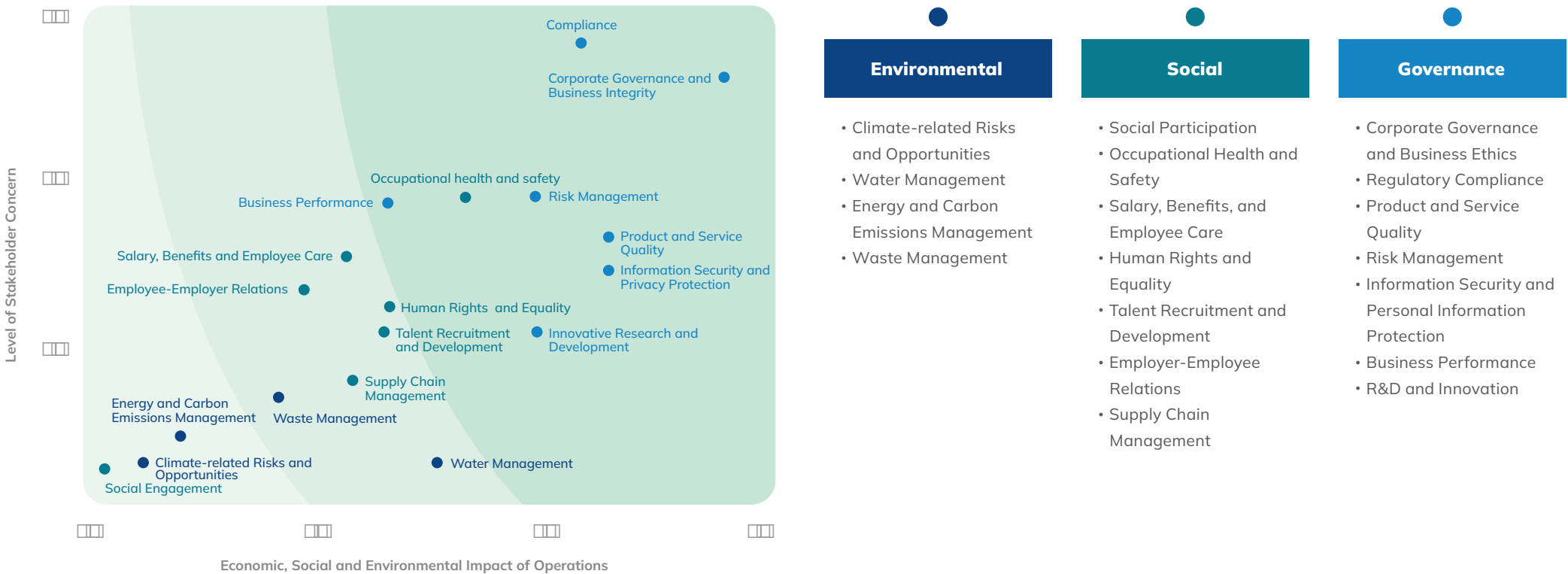
[Reporting channel on the stakeholder engagement area of Winbond's official website](#)



# Management of Material Topics

Sustainability topics are analyzed and collated by the Winbond CSR Implementation Committee based on three main aspects: economic, environment, and society. References include the Winbond corporate culture and business philosophy, RBA Code of Conduct, as well as the definitions and categories set out in the GRI Standards published by the Global Reporting Initiative (GRI).

In 2021, Winbond re-evaluated short-, mid- and long-term financial and non-financial impact on Winbond as well as the risks involved in the topics of stakeholder concern via meetings and reference to the results of stakeholder relevance identification in 2020. The assessment found the same 8 material topics in 2021 as in 2020, including Corporate Governance and Business Ethics, Regulatory Compliance, Quality of Product and Service, Information Security and Privacy Protection, Occupational Health and Safety, Risk Management, Business Performance, and R&D and Innovation.



## Material Topics and GRI Topics

In 2021, there were no changes to topic boundaries

● Direct impact ▲ Indirect impact through commercial relationship

Material Topic	GRI Topic / Self-defined Topic	Implications of Material Topic to Winbond	Scope of Impact to Value Chain			Corresponding Section
			Winbond	Customers	Supply Chain	
Corporate Governance and Business Ethics	GRI 205 Anti-corruption	Winbond attaches importance to ethical conduct towards customer, and strictly requires self-discipline of employees. We abide by the Company's internal regulations and government laws and establish a good corporate governance culture, in order to demonstrate the Company's values and protect the rights and interests of our stakeholders.	●	▲	▲	<b>CH5.1</b> Corporate Governance <b>CH5.2</b> Transparency and Integrity
	GRI-206 Anti-competitive Behavior					
Regulatory Compliance	GRI 307 Environmental Compliance	Winbond embraces "Conduct business with integrity and ethical behavior" as our top integrity standard for managing all business processes. We continue to review our own activities with the highest integrity standard, in order to establish our reputation as a trustworthy and respectful company.	●	▲		<b>CH3</b> Green Environment - Committed to Environmental Protection <b>CH5</b> Integrity and Stability
	GRI 419 Socioeconomic Compliance					
Product and Service Quality	GRI-417 Marketing and Labeling	Winbond provides proper labeling and instruction guides for our products and services. We earn the trust of our stakeholders and business reputation through ensuring compliance and protecting customer rights.	●	●		<b>CH2.2</b> Quality Management for Products and Services
Risk Management	Risk Management (Self-defined Topic)	Preventive management of risks is embraced by Winbond to mitigate the business impact of the external environment and internal company topics. We also pursue sustainable development through rigorous risk engineering and enforcement of safety guidelines and standards.	●	▲	▲	<b>CH2.3</b> Risk Management
Information Security and Personal Information Protection	GRI-418 Customer Privacy	Winbond values customer privacy, rigorously protecting customer-related information in compliance with the General Data Protection Regulation (GDPR). All business information exchanged between Winbond and our customers, including correspondence and data, are rigorously controlled by internal company systems for total peace of mind.	●	▲	▲	<b>CH2.5</b> Customer Relationship Management
	Information Security (Self-defined Topics)					



<b>Occupational Health and Safety</b>	<b>GRI 403 Occupational Health and Safety</b>	Winbond strives to meet the latest international environmental, safety, and health standards. We are also committed to providing a healthy working environment that conforms to statutory requirements through respect, care, as well as mechanisms for worker consultation and participation, thus fulfilling the social responsibility required for a world-class company.	●	▲	▲	<b>CH4.3</b> Occupational Safety and Health
<b>Business Performance</b>	<b>GRI-201: Economic Performance</b>	Winbond continues to pursue operational stability and profit growth. We supply global customers with the full range of low- to medium-density specialty memory product solutions. Winbond aims to increase our competitiveness and improve our market presence in order to become a sustainable self-owned brand.	●	▲	▲	<b>CH1.1</b> Introduction to Winbond <b>CH4.1.3</b> Compensation and Benefits
<b>R&amp;D and Innovation</b>	<b>Innovative R&amp;D (Self-defined Topic)</b>	Winbond continues to concentrate our resources in competitive markets. In response to trends in sustainability, advanced semiconductor design and technologies are now being applied to develop innovative products and services that create economic value for Winbond and respond to environmental changes and market requirements in a timely manner.	●	●	▲	<b>CH2.1</b> Innovation, Research and Development



chapter

# 02

## Vision and Value

- 2.1 Innovation and Research and Development
- 2.2 Quality Management for Products and Services
- 2.3 Risk Management
- 2.4 Information Security Management
- 2.5 Customer Relationship Management
- 2.6 Sustainable Supply Chain



# Vision and Value

Winbond’s investment in research, development and innovation, our quality and reliability management through the R&D and manufacturing processes, our digitized customer relationship management, and evaluations and collaborations with our supplier all embody our implementation of sustainable development. Under our corporate culture of total quality management and putting quality at the first place, Winbond accepts no compromises on the quality of any project. Every Winbond employees embraces quality

and reliability assurance in their everyday work and take responsibility for ensuring that their work is reliable and defect-free. We promise to continue making improvements on quality, so that we can provide customers and the general public with products and services they can trust.



## Material Topics and Management Approach

Quality of Product and Service, innovative R&D, risk management, information security, and privacy protection

Material Topic : Product and Service Quality

GRI 417: Marketing and Labeling

Item	Management Approach
<b>Policies/ Commitments</b>	<p>Winbond, through continuous improvements to its processes, comprehensively managing product quality, and establishing a “zero-defects” and “quality first” company culture, has set a quality policy able to provide customers with products and services that meet their expectations, helping us become a globally-renowned company. Winbond ensures that manufactured products are of world class quality and accepted by all of our customers by staying compliant with all government-established regulations and standards and obtaining third-party quality certifications such as the ISO 9001 and IATF 16949 international quality management systems.</p> <p>Winbond also attaches great importance to quality. We strive to achieve zero defect for our products throughout the manufacturing process from design to finished products to meet customers' highest requirements. In addition, we set up testing procedures during each stage of our operating processes, which meet the AEC-Q100 standards, thereby attaining quality goals.</p>
<b>Responsibilities</b>	Chin-Fen Tsai, Executive VP of the Quality & ESH Center, is the highest officer in charge of the quality of products and of connecting it with Winbond's performance assessment system
<b>Resources</b>	Good quality requires collaborate efforts from personnel of all units based on existing targets for business, design, manufacturing, factory management, process integration, products, product control, material control, and quality control to meet quality requirement.
<b>Reporting/ Communication Mechanism</b>	When a customer finds a defect in a Winbond product, he/she shall notify the Company's sales personnel in accordance with the customer complaint and product return procedures established by Winbond.

	Winbond shall analyze the case and take appropriate improvement measures based on customers' complaints and then reply to the customers.
<b>Specific Actions</b>	When a product has a major issue of quality in the manufacturing process, it will immediately undergo the MRB operation procedure, in which Winbond's experienced engineers shall analyze the quality issue, take immediate or short-term solutions to solve the quality issue in a timely manner and notify customers when necessary.
<b>Mechanism for Evaluating Management Approaches</b>	Winbond products have always been of quality at international standards, with zero defects as the goal. Through internal audits and annual assessments by the third-party certifier DQS, we ensure the achievement of quality goals. We also collect relevant information from time to time and compare it with our competitors in order to understand our advantages and weaknesses, which serve as a target for Winbond's improvements.
<b>Outcome of Management Approach Assessment</b>	Winbond holds an executive management review meeting every six month and invites the heads of all relevant units to attend the meeting. During the meeting, the actual ppm value of each products is reviewed to ensure that it is less than 1 ppm, and appropriate improvement measures are taken to continue improving quality.

Material Topic : Research, Development and Innovation

Self-defined Topic : Research, Development and Innovation

Item	Management Approach
<b>Policies/ Commitments</b>	<ul style="list-style-type: none"> <li>Winbond's vision is “Be a hidden champion in providing sustainable semiconductors to enrich human life.” Our manufacturing processes meet the requirements of hazardous substances amounts from applicable laws and regulations and customers, thereby preventing pollution and physical health hazards and attaining our vision of environmental sustainability.</li> <li>Process design and development are standardized in accordance with</li> </ul>

	our process design control system, so that the conception, evaluation, development, development review, and development confirmation of processes can meet the requirements of various procedures and specifications.
<b>Responsibilities</b>	The IP department and Patent Committee jointly review the invention disclosures based on the patentability, give guidance on patent strategy, and provide training courses to increase the value of Winbond patent portfolio, as well as to reduce product infringement risk.
<b>Resources</b>	<ul style="list-style-type: none"> <li>• The patent incentive programs encourage employees to generate innovative ideas.</li> <li>• R&amp;D teams are provided with test chips for validating and implementing innovative designs.</li> <li>• Development proposals are composed according to future technology blueprints; they shall detail the potential benefits and required technologies, based on which the required human resources and expenses are evaluated.</li> </ul>
<b>Reporting/Communication Mechanism</b>	<ul style="list-style-type: none"> <li>• The innovative R&amp;D teams regularly meet for discussions and brainstorming to inspire innovative product designs and developments from team members. This effective communication model is used to integrate various internal opinions and suggestions.</li> <li>• IP department provides R&amp;D staffs with training courses on IP protection and invention proposals. It also offers patent strategy consulting.</li> </ul>
<b>Specific Actions</b>	<ul style="list-style-type: none"> <li>• Winbond is actively focusing on the autotronics sector and working with relevant service providers to expand the scope of application for Winbond products.</li> <li>• Continue investing into research and development expenses and conduct training courses on intellectual property rights each year</li> <li>• Our internal patent evaluation criteria are based on the manual of patent examine protocol of major territories and patent value assessed by the Patent Review Committee. The major territories and type of patent application are also taken into consideration. Active communication with Patent Examiners is conducted during patent prosecution for each territory to secure high-quality patents.</li> </ul>

<b>Mechanism for Evaluating Management Approaches</b>	<ul style="list-style-type: none"> <li>• Statistics on global patent applications and approvals are regularly compiled. Patent application and granted targets are set and checked.</li> <li>• Analyze the differences between our products and those of our competitors, achieving effective results from our innovation systems.</li> </ul>
<b>Outcome of Management Approach Assessment</b>	According to the management plan to the board of directors in 2021, the short-term goal (2021) is to increase more than 400 patents globally. Winbond received 510 patents in 2021, achieving the goal we set.

**Material Topic : Risk management**

**Self-defined Topic : Risk management**

Item	Management Approach
<b>Policies/Commitments</b>	<ul style="list-style-type: none"> <li>• Fully commit to the prevention of all types of risk by proactively adopting risk prevention measures and effectively responding to risk incidents.</li> <li>• Reducing the risk of financial fraud and legal compliance and obtaining reasonably assurance for various public information such as financial reports and annual reports to provide accurate information for investors to make informed decision, and for authorities to carry out supervising and monitoring, for accountants to make high-quality audits, and for markets to achieve sustainable development.</li> <li>• As a multinational corporation, Winbond has a need to stay well-informed on international laws and regulations as well as the legislative trends of each country in order to immediately and flexibly respond to legal changes.</li> <li>• Manage the accounting and tax affairs of subsidiaries and cooperate with audits by local tax authorities in order to reduce tax risks.</li> </ul>
<b>Responsibilities</b>	<ul style="list-style-type: none"> <li>• Units responsible for managing infringement risk include the departments responsible for risk prevention, including the product</li> </ul>



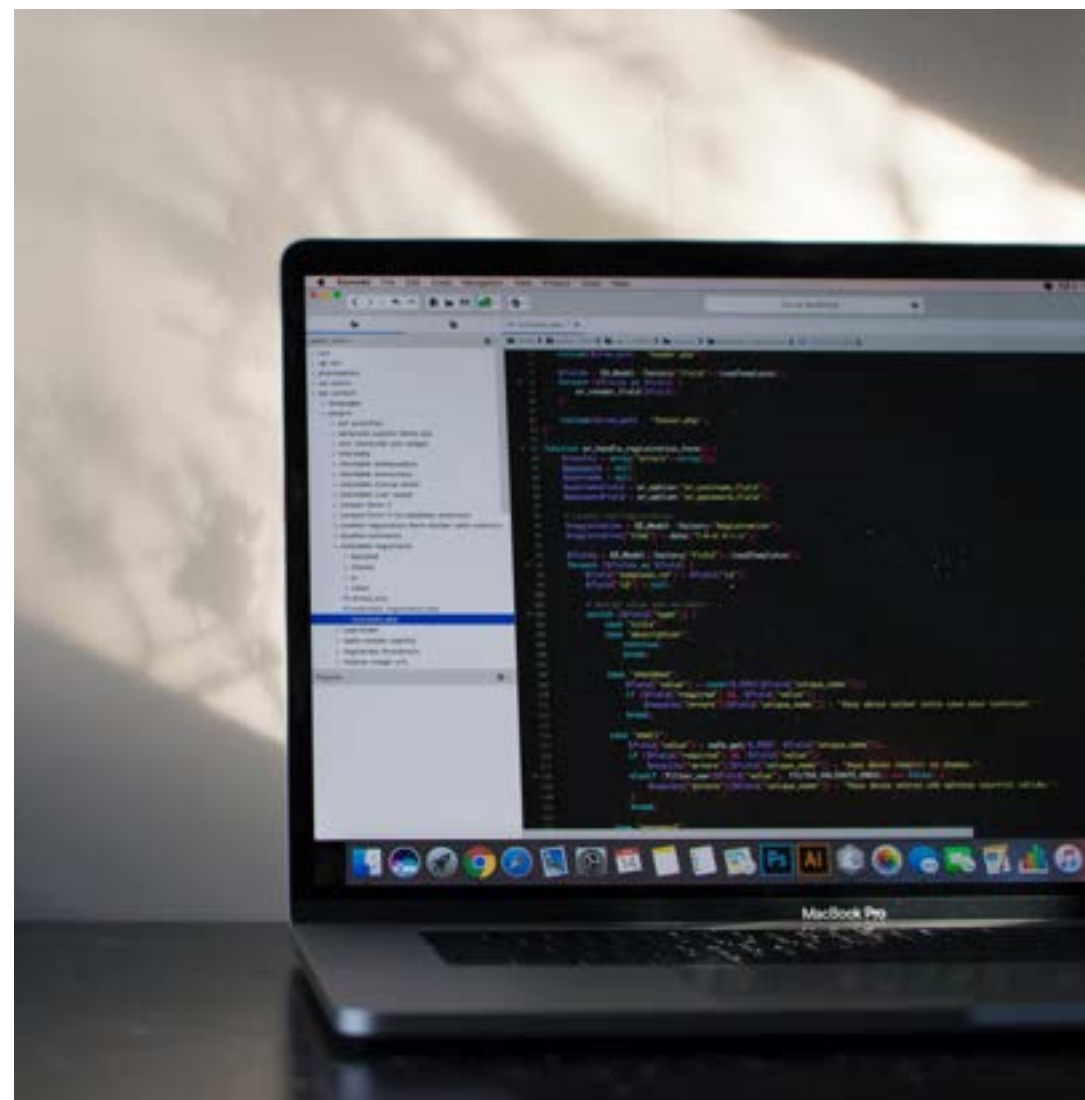
	<p>design and development department and the IP department, and the departments responsible for responding to risk incidents and providing customer services, which are the business departments and legal department.</p> <ul style="list-style-type: none"> <li>• The ESH and Risk Management Division are responsible for evaluating and preventing environmental and occupational health and safety risks.</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• In order to reduce fraud and legal compliance risks, not only would our accounting staff and management regularly participate in various training courses, we would also consult with professional organizations and other third parties, such as outside accounting firms and the National Taxation Bureau, on a variety of topics to ensure that our adopted methods are in compliance with the law.</li> <li>• Increase our tax knowledge and management of overseas subsidiaries and their tax compliance by accumulating experience related to the local tax audits and management of these subsidiaries.</li> </ul>
<b>Reporting/Communication Mechanism</b>	Prevention of risks related to financial fraud is the company's culture of integrity and sustainable management. Due to our zero-tolerance attitude, there are no short-term, medium-term, and long-term programs.
<b>Specific Actions</b>	In order to remain compliant with the law, when there are changes to laws or regulations, financial accountants and employees shall first be required to attend education and training courses on these new laws and assess their impact on the Company. If necessary, professional organizations and other third parties such as outside accounting firms and the National Taxation Bureau shall be consulted in order to reduce legal compliance risks.
<b>Mechanism for Evaluating Management Approaches</b>	Pursuant to law, have regular audits conducted by an accounting firm, and monitor for any lapses in legal compliance.
<b>Outcome of Management Approach Assessment</b>	Any lapses discovered shall be reviewed by the responsible employees or department, and a proposal shall be created to address the issue.

## Material Topic : Information security and personal information protection

### GRI 418 : Customer privacy, Self-defined Topic: information security

Item	Management Approach
<b>Policies/Commitments</b>	<ul style="list-style-type: none"> <li>• In order to reduce operational risks, Winbond Electronics has established policies, management systems, and prevention systems to protect information security and customer privacy. Winbond has also requested its suppliers to comply with its information security policy, and Winbond will continue to improve and strengthen its protections both internally and externally.</li> <li>• In order to implement its sustainable development business philosophy, Winbond Electronics is committed to working together with its suppliers to improve supply chain flexibility, establishing a stable and high-quality supply chain relationship and proactively fulfilling its corporate social responsibilities. Proactively request suppliers to address issues such as those involving conflict minerals, ethics, and integrity, following the global social responsibility trend.</li> <li>• They are also required to closely collaborate and communicate with each other based on the RBA guidelines as a blueprint, abide by their code of conduct, and continuously promote and improve the supply chain to meet the requirements of Winbond's Supplier Code of Conduct, thereby increasing local procurement and promoting sustainable development</li> </ul>
<b>Responsibilities</b>	<ul style="list-style-type: none"> <li>• The procurement department is responsible for ensuring that suppliers comply with Winbond's information security policy.</li> <li>• The information security department is responsible for ensuring Winbond's information security and establishing procedures for reporting information security incidents</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• Periodically conduct information security education and training courses for employees, increasing employee awareness of information security</li> <li>• Effectively promote and implement a stable sustainable supply chain</li> </ul>

<b>Reporting/ Communication Mechanism</b>	Procedures for reporting information security incidents have already been established. When an incident takes place, it shall be reported by frontline employees, who would then activate response measures.
<b>Specific Actions</b>	<ul style="list-style-type: none"> <li>• Implement information security policy by continuously communicating and informing Company employees on information security topics through annual education, training and internal announcements. Conduct a data protection drill once every six months through a data saving and access test of the system in backup mode.</li> <li>• Periodically inform suppliers every six months of Winbond Electronics' ethics and integrity policy and request suppliers to sign the Commitment to Ethical Conduct. All suppliers (166 in total) have signed this document in 2021.</li> <li>• Winbond Electronics conducted an investigation into conflict minerals on 20 of our suppliers (14 raw materials suppliers and 6 outsourcers). All of these suppliers were found to be compliant with related rules, and no products were prohibited from being sold to Winbond Electronics.</li> <li>• Raise the economic, social, and environmental performance of suppliers using sustainability-focused audit standards.</li> </ul>
<b>Mechanism for Evaluating Management Approaches</b>	Periodically monitor the Company for any internal weaknesses.
<b>Outcome of Management Approach Assessment</b>	No information security incidents has significantly impacted the Company's operations have occurred.



## 2.1 Innovation and Research and Development

### Digital Transformation

Winbond Electronics pursues excellence and hopes to utilize various appropriate digital technologies to change the way people work today, improving work efficiency and accuracy. We have thus been strongly pushing for a digital transformation starting in 2020 and have established the Digital Transformation Committee for Business (DTCB) and Digital Transformation for Manufacturing (DTCM) in charge of digital transformation work for business operations and manufacturing respectively, in consideration of the fact that such a digital transformation would require open collaboration between subject-matter experts and technology experts. The DTCB and DTCM have in turn respectively established 11 and 8 lower committees. Winbond's President periodically convenes meetings to review the progress made and has high-level managers share information on digital transformation topics. The Human Resources department shall also invite outside lecturers to provide training, which shall be made available through our internal collaboration platform, promoting a digital transformation culture across the company. The COVID-19 pandemic in the last two years have also accelerated the pace of the Company's digital transformation. Since efforts began in 2020, many of our digital transformation initiatives have already borne fruit. In the future, Winbond shall continue to promote digital transformation, using digital technology to meet requirements and overcome challenges in different ways, further improving customer experience and satisfaction.

### Digital Transformation Education and Training

In line with its digital transformation efforts, DTCM Committee invited Professor Chia-Yen Lee of National Taiwan University and Professor Chia-Yu Hsu of National Taipei University of Technology to arrange training courses of different contents and depths according to the practical needs of employees in their positions. In 2021, a 2-hour special program for executive managers was arranged, with a total of 166 participants. For general supervisors, a total of 2 lectures were held, with a total of 781 participants. For

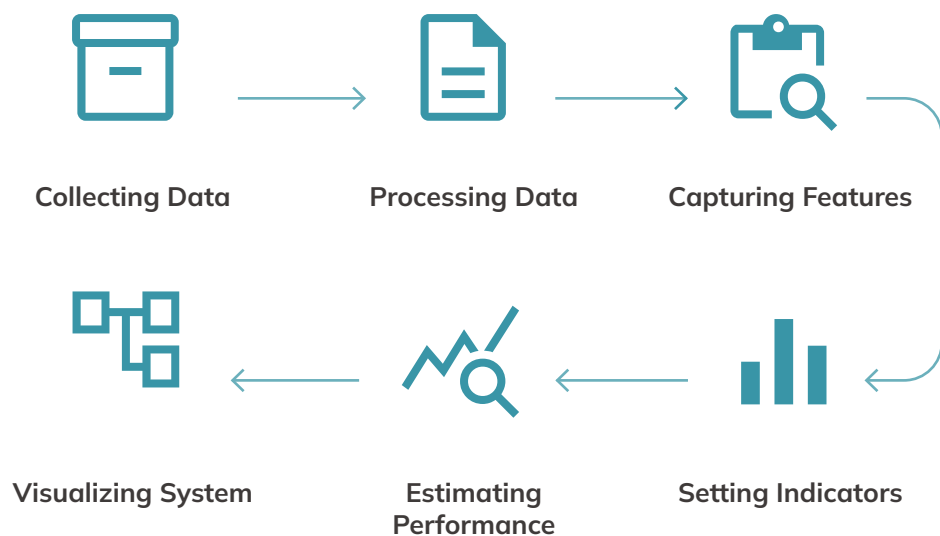
engineers, a 3-day AI practical course was provided, which combined machine learning theory with employees' actual projects. In 2021, 1 session was held, with a total of 34 participants (maximum of 40 people per session). 3 sessions are planned to be held in 2022, so that digital transformation can be embedded in the employees' work.

Moreover, in line with its digital transformation efforts, Winbond has created a digital online learning data science portal, which is continuously added to and expanded with new learning resources. This allows employees to access courses of their choice that are suitable for their own knowledge level and job responsibilities anytime and anywhere, improving their grasp of data science. The portal has already accumulated 6,154 views, and 782 online courses are available for employees to access for self-study. Employees are able to learn fundamental concepts and technical skills related to AI and digital transformation, helping them learn how to apply this knowledge to their work. Moreover, following the corporate digital transformation trend, Winbond has also held a series of lecture on digital transformation, where leading elites in various fields were invited to share their experiences with digital transformation. These lectures provided potential insights and actionable advice on how company executives can implement digital transformation, helping employees to more rapidly prepare for digital transformation and gradually turn the Company into an intelligent enterprise. The Company has also created an internal series of data science courses, such as its courses on Power BI data visualization and JMP data analysis software. This allows our employees to further connect their work with data science and apply data science to their everyday work.

### Equipment Prognostic Health Management (PHM)

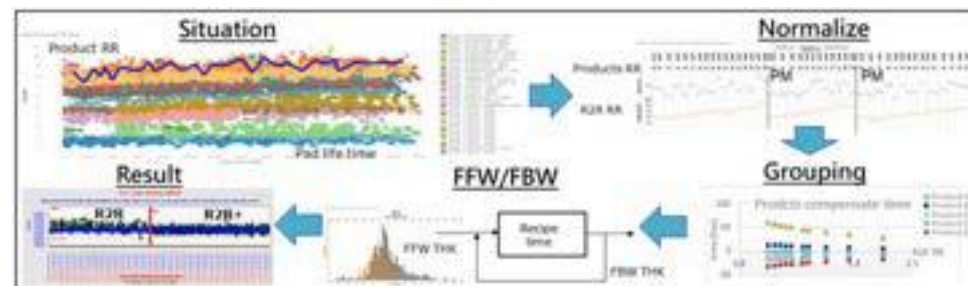
Through collaborations between subject-matter experts and data scientists, rigorous and systematic analysis processes and measures have been established to quickly address product abnormalities. A reliable monitoring system has been established in a

short period of time, one which is also able to monitor the health of important equipment components in advance and predict when they are going to fail. This allows repairs and maintenance to be carried out in advance and also avoids production capacity losses or defective products being discarded due to an unexpected equipment failure. This system avoided eight pieces of plasma electrode plate damage during the implementation of the project in 2021, saving NT\$9 million in total.



## Advanced Batch Control

Winbond has combined data science with manufacturing management to analyze the relationship between product and equipment and equipment management variables, and the relationship between the front-end and back-end process. Through intelligent optimization, we have come up with the most effective manufacturing parameters and manufacturing management, which have improved product quality, increased the scope of how equipment can be used in manufacturing processes, and increased their effective manufacturing output. Manufacturing processes which this system was applied to for 2021 saw Cpk increases of over 10%.



## Outsourcer Statistics Platform

Winbond has established our big-data database and platform to collect and share information with outsourcers. The system integrates outsourcer FA/IPQC data to establish a FMEA database, which not only improves our customer audit ability but also cuts down on the working hours needed. On average, customer audit time was reduced by 27 hours, increasing employee efficiency by 0.36 working days. Time needed to organize outsourcer data was also reduced by 2.5 hours, increasing employee efficiency by 0.05 working days.

Development of Innovative Technology

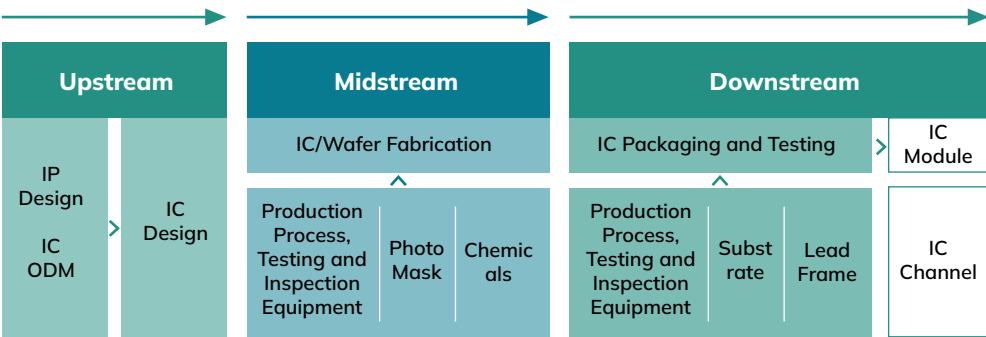
Observing market trends for the new generation of products, Winbond Electronics has continuously invested resources into semiconductor design, manufacturing technologies, and sustainable innovations for products, creating competitive advantages and increasing our market share in green business opportunities. In 2021, Winbond has continued expanding manufacturing capacity and providing customers with energy saving green products. In product design, Winbond’s design development team has prioritized creating products with low power consumption, even while looking to develop high-efficiency products. In the manufacturing process, Winbond has effectively reduced manufacturing time and lowered manufacturing costs and reduced the amount of hazardous substances emitted during manufacturing by optimizing and merging the number of photomasks and process steps required for current manufacturing processes. Additionally, Winbond has sought to better manage its manufacturing process starting from the very start of the process, continuously optimizing each stage of the process to improve its overall sustainable competitiveness.

Semiconductor Industrial Chain

Winbond Electronics has the world’s most advanced and complete semiconductor industrial chain and professional specialization. Upstream, this includes IP (Intellectual Property Rights) design and IC (Integrated Circuit) design, while midstream includes IC production, wafer production, testing equipment related to the manufacturing process, photomasks, and chemicals. Downstream includes semiconductor packaging and testing, testing equipment related to the manufacturing process, components (such as printed circuit boards and lead frames), IC modules, and IC distributors.

Additionally, Winbond Electronics has been deeply involved in the KGD (Known Good Die) field for many years, working together with chip factories to provide SiP (System in Package) multichip packaging solutions, creating more value in collaboration with the semiconductor industrial chain.

Winbond is committed to providing its global customers with comprehensive specialty DRAM solutions and services. Winbond’s major product lines include Code Storage Flash Memory, TrustME® Secure Flash Memory, Specialty DRAM and Mobile DRAM. We are the only company in Taiwan with the ability to develop DRAM and FLASH products in-house. By leveraging the synergies between each product in our portfolio, we are able to fully satisfy the various needs of our customers, allowing customers to integrate their own products with Winbond’s products to create a wide range of hand-held applications, consumer electronics, computer peripherals, and automotive and industrial-use electronics, which are all fields that have extremely high standards for product quality.



**Hidden Champion**  
Known Good Die(KGD)  
Global Leader of the  
Specialty Market

**NOR Flash Product**  
No.1 in global market share

**Note**

- System in Package (SiP): From a packaging perspective (downstream of the semiconductor industrial chain), this term refers to arranging multiple chips in series or in a stack, creating a packaged electronic component.
- Known Good Die (KGD) Wafers which are not immediately packaged after being manufactured, but instead provided to customers and packaged into a single chip along with other products. Extremely rigorous product quality standards thus need to be met, in order to ensure that the function of the final product would not be affected.



## Winbond Electronics Product Research and Development Fields

Autotronics	Advanced driver-assistance systems, vehicle dashboards, in-vehicle infotainment systems, components of various vehicle sensors
Industrial Electronics	Point-of-sale information equipment, smart meters, programmable logic controllers, human-machine interfaces, industrial Ethernet
Communications	Internet, digital video converters, telephone exchange, wireless access point devices, mobile phones
Computing	Laptops, gaming laptops, ultra-thin laptops, desktop computers, hard drives/solid state drives
Consumer electronics	Wearable electronics, satellite navigation devices, MP3 players, digital cameras, wireless bluetooth modules

Please refer to Winbond Electronics' official website for detailed product information

### Current Status and Results from Innovation, Research and Development

#### • Secure Flash Memory

With the continuous advancements in Internet-of-Things (IoT) technology, digital information security needs have been on the rise. In the first half of 2021 alone, there were as many as 1.5 billion newly-discovered attacks on IoT devices, almost double that of the same period in the previous year. Thus, from the establishment of standards to product certification, governments of different countries have continuously sought to strengthen laws and regulations on security. However, it takes multiple years for a product to become certified, creating practical challenges due to the short useful lives of

products. In response, Winbond has created the TrustME® W77Q Secure Flash Memory series, able to ensure the stability of IoT devices and provide protection for end-to-end connections. By providing a hardware root of trust and secure boot capabilities, updated security codes, server authentication, encrypted information transmission, and Execute-in-place and systems recovery capabilities for booting and application codes, it is able to support important security functions such as protection, detection, and recovery. The W77Q serial peripheral flash memory provides the security necessary for Internet-of-things, industrial, and vehicle applications, system recovery capabilities, and all other necessary factors allow it to provide customers with comprehensive information security and rapidly set up solutions for their devices. In 2021, TrustME® W77Q received numerous security certifications, including the Common Criteria EAL 2+ certification and the ISO 26262 ASIL-C ready certification for vehicle-use applications. It also won the Central Taiwan Science Park Excellent Supplier Innovative Product Award and the Sixth China IoT Innovative Technology Award.

#### • DRAM

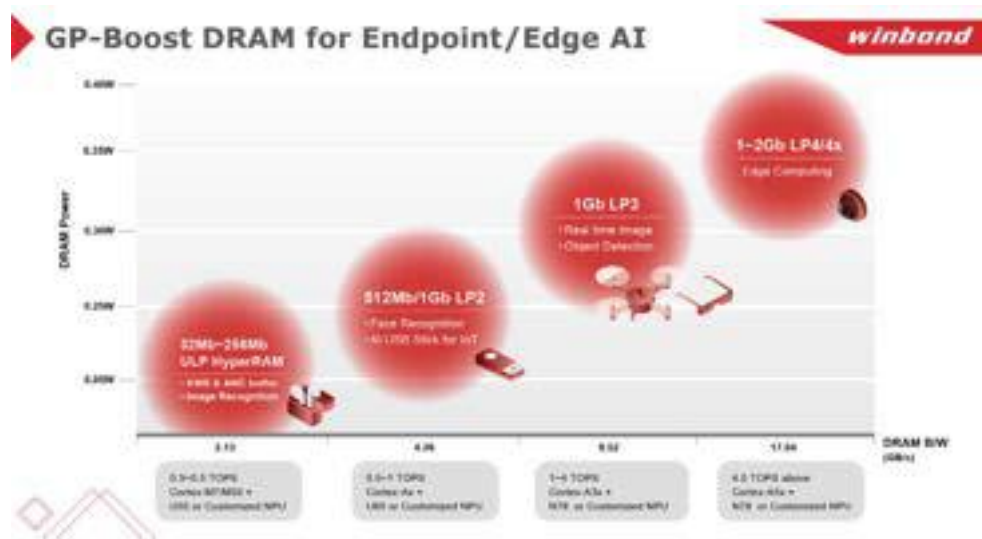
In the specialty DRAM field, Winbond Electronics continues to provide its global customers with a full range of medium-low density memory solutions. In order to independently develop technologies and increase product manufacturing capacity, Winbond has in 2018 began planning the construction of a new 12-inch wafer fab in Kaohsiung City's Luzhu Science Park, which would adopt our independently-developed 25-nanometer compact manufacturing process technology. This manufacturing process technology has already underwent a rigorous verification phase in the first quarter of 2021 at our Central Taiwan Science Park facility. Equipment installation at our Kaohsiung fab would be completed in the first quarter of 2022, after which mass production would begin at the end of 2022. Winbond is also fully committing its resources and labor into independent research and development of 20-nanometer technologies and hopes to be able to provide customers with even more competitive and high-quality memory.

Winbond's mobile DRAM offerings include both mid-low capacity products (LPDDR, LPDDR2, LPDDR3) and 1Gb and 2Gb LPDDR4 products. Those are the first design

to pass the industry's ISO 26262 ASIL B certification. By incorporating E-fuse repair technologies into peripheral circuits, we have greatly improved bit repair efficiency, allowing the product to be used in a wide range of applications as a high-quality component able to greatly increase reliability.

### Fastest 1Gb DRAM product in the industry - 1Gb LPDDR4

**Applications :** Artificial Intelligence (AI), Internet-of-things (IoT), televisions, vehicle industry







### The new generation HYPERRAM



- Low pin count, low power consumption, easily incorporated into application designs
- Faster processing speed allows it to fully utilize high-bandwidth reading speeds through power-saving standby mode

Following market trends towards future 5G and AI applications, Winbond Electronics has already began development of collaborations with AI System-on-Chip (SoC) providers to create a new generation of applications. Winbond's products and technological expertise is able to help these providers break through the AI computing technology bottleneck, providing them with better solutions.

Collaboration partners	Collaboration products	Application description/field
	<b>Winbond Gb LPR3</b> Kneron KL720	Battery and power applications for smart locks and drones
	<b>Winbond 1Gb LPR3</b> Tsing Micro TX510	High-speed video detection and identification, including biometrics, video surveillance, smart retail, smart home automation, and advanced industrial automation
	<b>Winbond HYPERRAM 256Mb</b> Ambiq Apollo4	Wearable devices and AIoT
	<b>Winbond LPR4X</b> Flex logix InferX X1	Carry out object detection and pattern recognition while processing information-dense, high-definition video

Due to metaverse business opportunities such as the digital transformation and cloud technologies, the direction of product development has advanced towards developing products which meet the needs of AI IoT, electric vehicle and automated vehicle applications. Products include low-power consumption but high efficient data storage and transmission operations. Such as the F58U ultra-high speed chip. Regardless of whether it is for a low power consumption DRAM product, a consumer DRAM, or specialty DRAM product, Winbond electronics actively attempts to adopt innovative ways of thinking while pursuing development of high-performance products. By doing so, Winbond has optimized overall circuit design frameworks and compacted circuit design. As new iterations of productions are developed with each new generation, power consumption in standby mode has continued to fall, and even in operating mode, each new product generation has been designed with the goal of cutting power consumption by 20%. Low operational power consumption chips have already entered mass production, with reliability able to meet standards for automotive use. The development of new products has also incorporated the replacement of components which are hazardous to the environment.

Taking Winbond's 64Mb HYPERRAM as an example, its standby power consumption is 90 uW (1.8V), compared to 2000 uW (3.3V) for SDRAM of the same capacity. More importantly, HYPERRAM only consumed 35uW (1.8V) while in Hybrid Sleep Mode, compared to SDRAM in standby mode, it is lower noticeably. From a design perspective, HYPERRAM has just 13 signal pins, compared to 31 for PSRAM, which greatly simplifies PCB layout design. Thus, in the design of the final product, product designers can utilize the other pin slots to implement additional functions, or simply use an MCU with fewer signal pins to cut down costs. HYPERRAM also features a simplified control interface, compared to PSRAM's 9 control interfaces and LPSPRAM's 18. Additionally, compared to traditional DRAM products, HYPERRAM could reduce development time. The product has taken advantage of the latest semiconductor process nodes and packaging technology to achieve even greater power savings, a more compact size, and higher product quality.

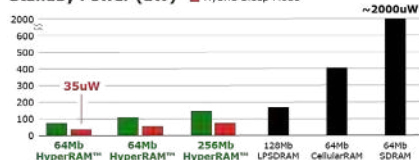
  
**Low Power**  
by Hybrid Sleep Mode (HSM)

  
**Design Simplicity**  
with less active pins; without compromising performance

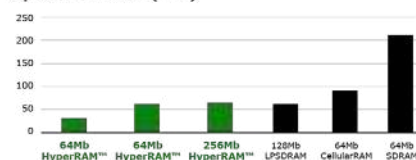
  
**Space Saving**  
by low pin count

#### Ultra Low Power

Standby Power (uW) ■ Hybrid Sleep Mode




Operation Power (mW)



#### Small Form Factor & Design Simplicity

HyperRAM™		Cellular RAM	LPSPRAM	SDRAM
				
WLCSP	TFBGA	VFBGA	VFBGA	TSOP
Device size	6x8 mm <sup>2</sup>	6x8 mm <sup>2</sup>	8x9 mm <sup>2</sup>	22x11 mm <sup>2</sup>
30 ball	24 ball	54 ball	60 ball	54 ball

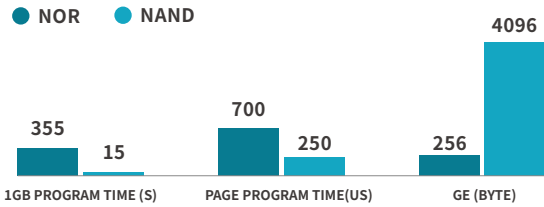

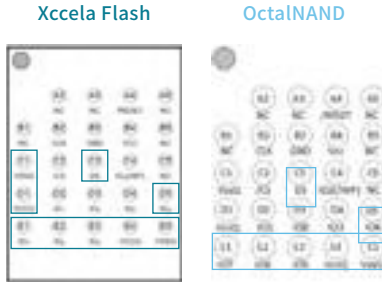
  
In 2021, Winbond's sold DRAM products saved approximately 743 million Kwh of electricity, equivalent to a carbon output reduction **967 times that of Da'an Forest Park**

• Code Storage Flash Memory

Due to the increasing complexity of vehicle systems and increasing demand for Over the Air technologies, market demand for high-capacity memory that are able to support high-speed reading and writing has also grown. In response, Winbond has in 2020 launched the world’s first eight IO serial NAND Flash, the OctalNAND.

Advantages of OctalNAND

OctalNAND has a reading speed of up to 240 MB/s, ten times faster than that of the SLC NAND currently commonly used in the industry. Its writing speed is also approximately twice as fast as SLC NAND and more than ten times as fast as SPI NOR. This large performance increase gives it many advantages when used in applications which require fast boot times and Over-The-Air (OTA) technologies.

 <table><thead><tr><th>Metric</th><th>NOR</th><th>NAND</th></tr></thead><tbody><tr><td>1GB PROGRAM TIME (S)</td><td>355</td><td>15</td></tr><tr><td>PAGE PROGRAM TIME(US)</td><td>700</td><td>250</td></tr><tr><td>GE (BYTE)</td><td>256</td><td>4096</td></tr></tbody></table>	Metric	NOR	NAND	1GB PROGRAM TIME (S)	355	15	PAGE PROGRAM TIME(US)	700	250	GE (BYTE)	256	4096	 <p>100% 40% 20%</p>	 <p>Xcela Flash OctalNAND</p>
Metric	NOR	NAND												
1GB PROGRAM TIME (S)	355	15												
PAGE PROGRAM TIME(US)	700	250												
GE (BYTE)	256	4096												
High-speed writing and reading	Compact size, fewer pins	Hardware compatible												

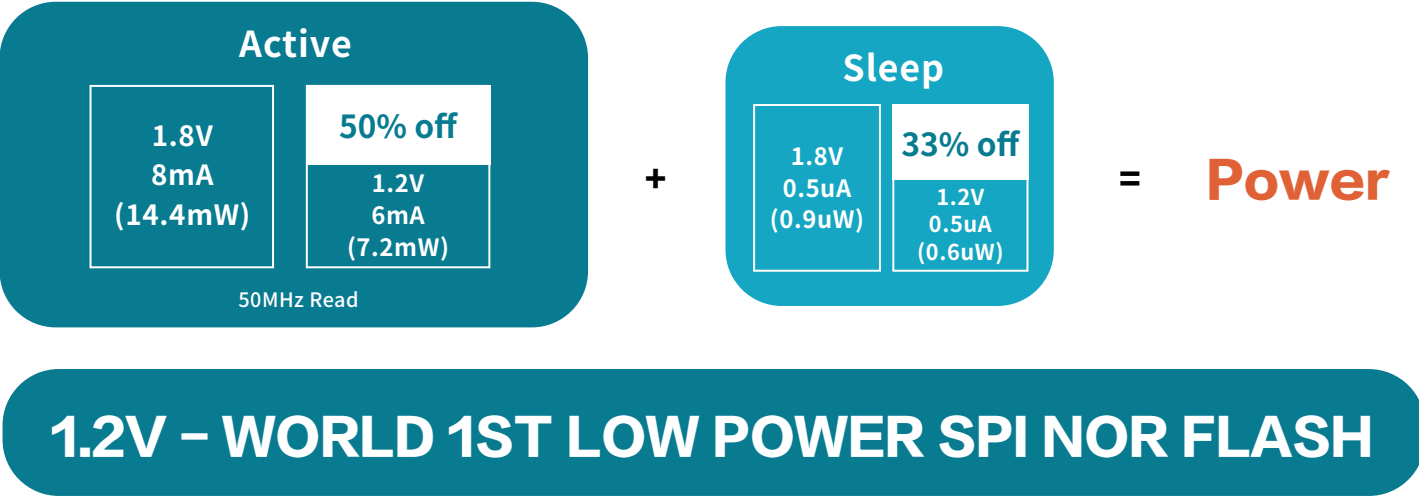
**Note** Hardware compatible means that the product is pin compatible, and can be directly installed into existing printed circuit board assembly (PCBA) without the need for a redesign.

In 2019, Winbond obtained the highest global safety certification for automotive electronics, the ISO 26262 Road Vehicles Functional Safety certification, becoming the first memory manufacturer in Taiwan to receive this certification. To keep expanding into the automotive electronics market and provide automotive electronics products can satisfy the global automotive supply chain. Winbond is currently in the middle of developing the first Octal NOR Flash product based on the ISO 26262 process, with the goal of obtaining ASIL D level certification. Additionally, Winbond has continued upgrading its 4x nm manufacturing process technology, further manufacturing its added-

value series of secure, reliable, high-performance and low power consumption Code Storage Flash Memory products. This series is aimed at meeting demand for devices in the laptop, mobile handheld devices, internet and 5G communications, IoT, consumer electronics, automotive and industrial-use electronics, and medical electronics industry, as well as in information security applications. In 2022, Winbond planned to improve product specifications in order to create products with higher levels of certification.

On the other hand, reducing power consumption, extending battery life, and reducing heat dissipation are all goals which Winbond is pursuing. When attempting to reduce power consumption, the general approach is to reduce electrical current. Using Winbond's 1.8V NOR Flash as an example: as the product process evolved and deep-power-down mode was introduced, this innovation saved 354,213 kW of power consumption based on the amount of 1.8V NOR flash memory sold in 2021, equivalent to approximately 0.47 Da'an Forest Parks. In order to further reduce power consumption, Winbond continued efforts to develop a new production process and new circuit framework, leading to the launch of the world's first NOR Flash that is able to operate at 1.2V. Compared to the 1.8V NOR Flash still widely in use today, 1.2V NOR Flash totally consumes 50% as much power, but is nevertheless able to achieve performance comparable to 1.8V/3V

Flash. Wearable devices with a strong demand for power saving are beneficial, such as wireless earphones, smart watches, smart bracelets, smart glasses, and other consumer electronic products. Apart from reducing power consumption, with the introduction of 1.2V NOR Flash, the circuit design of the PCB board will save the power management chip between the processor and the Flash circuit, reduce the PCB board area, and further design a lighter "light" and "small" consumer electronics.





## Intellectual Property Management



The **510** patents granted in 2021 meant we met our short-term target of **400** patents a year.

### Top 100 Patent Applicants in 2021

Winbond was ranked **No. 19** by the number of invention patent applications by an enterprise with **103** applications for Taiwan invention patent in 2021

Winbond was ranked **No. 10** by the number of invention patents awarded with **153** Taiwan patents granted in 2021

Source Intellectual Property Office, Ministry of Economic Affairs





Formulate an intellectual property policy that combines the company's operating objectives. Through the operation of the intellectual property management system, make the company's colleagues emphasize innovative research and development and strengthen the awareness of intellectual property protection. At the same time, accumulate the quantity and quality of the intellectual property, create the economic, intellectual property value and strengthen the competitive advantage.

Winbond has dedicated units (IP Department and Patent Committee) assigned to IP management, assessment and review, reward presentation, and strategy planning. Proposals are reviewed on the basis of the patent laws and review criteria set by national patent offices around the world as well as their commercial value. A combination of internal patent assessment and rigorous review by an external competent authority improves patent quality and approval rate. These in turn help with the protection of IP and research accomplishments.

















To encourage employees to submit their proposals, rules for patent applications and rewards were devised by Winbond. A new inventor award in particular provides various patent granted bonus for different countries. IP department provides employees with assistance and guidance during the proposal phase for assurance on proposal direction and quality.

Winbond sets annual targets for invention proposals based on our business goals and R&D resources. More weight is given to patent proposals that are highly connected to our product development strategy to promote greater connectivity between business goals and patent management strategy. IP department has embarked on the digital transformation of IP management. The IP management system and patent search system have been enhanced to provide business intelligence analysis from an IP perspective. This in turn improves the efficiency of patent management, the approval rate from internal review of proposals, and patent quality. IP department regularly grades approved patents based on Winbond's assessment criteria so that the value of patent portfolios can be reviewed and reduced the cost of maintenance. As of 2021, Winbond plans to introduce an intelligent patent and trademark management system to reduce manual works. The system would be able to provide high-efficiency intellectual property services, real-time data update, deadline control, cost calculation, review and evaluation, and create visual diagrams to facilitate decision-making management by supervisors.

## 2019-2021 Patent Statistics

Item	2019	2020	2021
Patent Granted (Cumulative Cases)			
Patents Approved during the Year (Cases)			

## Patent Statistics from Previous Years (Unit: Cases)

	Invention Patent Applications	Invention Patent Granted
2014		
2015		
2016		
2017		
2018		
2019		
2020		
2021		

In order to increase our product design ability, production technology, and business competitiveness as well as satisfy the needs and expectations of our customers, Winbond provides employees with IP training and a variety of channel for making proposals. We also teach employees about IP concepts and actively file applications for invention patents. Winbond has been granted 4,158 patents as of 2021. Winbond is continuing to encourage employees to actively engage in innovation, solve problems, and improve product quality to ensure the competitiveness of the company.

To improve the patent quality and approval rate from internal patent committee review meeting for each invention disclosure, customized IP training courses are offered for each RD division based on their technical fields. These teach employees about IP protection. Inspire colleagues to propose patentable invention ideas, produce high-quality proposals and create economic value for Winbond, and improve operational performance. To minimize the risk of product infringement, compulsory online training courses are also offered by the Legal and IP Division. Unauthorized use of other parties' IP such as trade secrets, patents, trademarks and copyrights by employees in their work is prohibited. IP department hosted 5 training courses in 2021 with 135 R&D background participants. Specific support for individual cases is also provided. The IP department immediately provides guidance on improving proposal skills for employees who submit invention proposals, so as to lay a foundation for effectively submit inventions which meet the patentability.

For critical technology topics connected to the company's business goals, Winbond also helped R&D staffs to organize several brainstorming conferences aimed on the critical technologies to generate high-quality patents. Patent strategies are devised and implemented for key technologies to enhance company's market competitiveness.

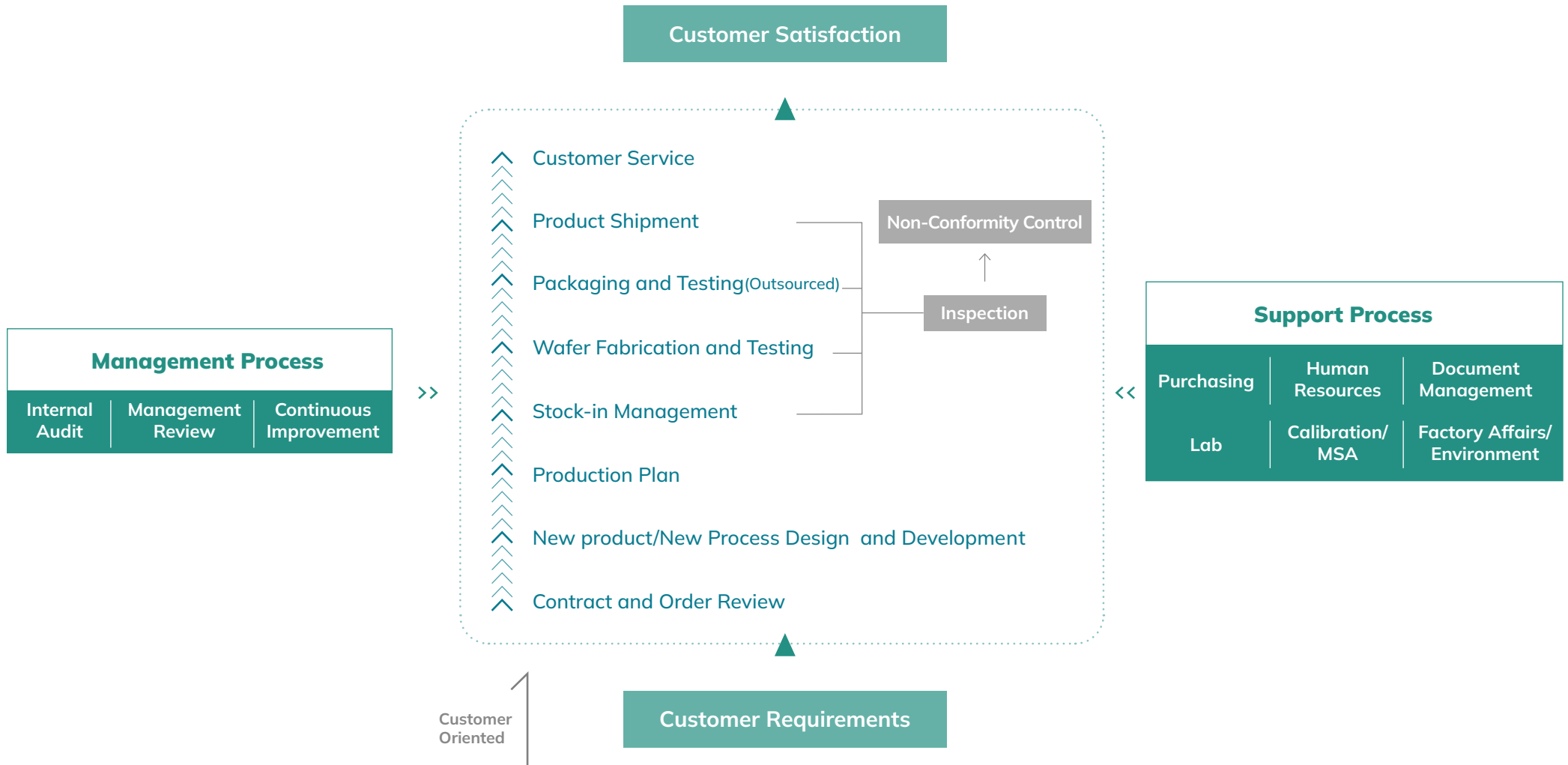
## 2.2 Quality Management for Products and Services

Winbond, through continuous improvements to its processes, comprehensively managing product quality, and establishing a Top Quality Management (TQM), “zero-defects,” and “quality first” company culture, has set a quality policy able to provide customers with products and services that meet their expectations, helping us become a globally-renowned company. Winbond ensures that manufactured products are of world class quality and accepted by all of our customers by staying compliant with all government-established regulations and standards and obtaining third-party quality certifications such as the ISO 9001 and IATF 16949 international quality management systems.

Apart from being certified by various quality management systems such as the ISO 9001, IATF 16949, and ISO 26262, Winbond also proactively attempts to cultivate a culture of product management through methods such as FMEA analysis, 5-Why analysis, and creating the Winbond Quality Newsletter in order to ensure that product quality meets set targets. By raising awareness of and promoting policies, culture, activities and methods for quality management, Winbond believes that its employees would be able to gain a wider and deeper understanding of product quality concepts, deeply instilling within them an awareness of product quality. These methods would help employees optimize product quality during work, prevent mistakes before they happen, and satisfy the needs of both internal and external customers by raising product quality.



## Quality Management Systems and Processes



## Failure Mode and Effect Analysis (FMEA) Systemization Project

Starting in 2021, Winbond began fully implementing the Failure Mode and Effect Analysis (FMEA) project plan, which sought to address how in the past FMEA often became something that was done just for show. We specifically designated multiple teams dedicated to collating FMEA information from each supplier, department, and unit. Under the guidance of Winbond's President, these teams also included the new Kaohsiung facility in this FMEA project. Under this project, seed instructors would initially be responsible for educating Winbond's over 1,000 engineers on FMEA topics. Each group led their engineering personnel to formulate the score definitions of the Severity, Occurrence, and Detection fields of the FMEA through repeated discussions, coming up with systems and values appropriate for each product design and product engineering unit. FMEA system tools would be incorporated into the process, which would not only further systemize FMEA but also simplify the administrative work involved, reducing the time burden on our employees.

However, as the initial versions of these FMEA system tools were unable to fully meet the requirements of each unit, our product quality department needed to spend a significant amount of time with our suppliers and seed instructors to improve and adjust system functions so that they can meet our employees' work requirements. Eventually, as functions were broadened and past experience incorporated into these tools, FMEA coverage was completed and the time needed to carry out FMEA was reduced. Through our efforts across the whole year of 2021, 124 pieces of analysis data from previous years were fully transferred into our FMEA system tools. Instead of only having one person carrying out FMEA work, our new system saw this work being carried out by work teams through meetings and discussions with standardized terms and language to establish the improving and preventive measures. This has greatly deepened corporate product quality culture, improving our manufacturing process and product quality. In 2022, Winbond shall continue to expand the use of these tools throughout the company, including to non-engineering units, allowing all levels of the company to review their working process from a risk evaluation perspective and comprehensively increase product quality, with the hopes that Winbond would in the future be able to achieve a quality target of zero repetitive mistakes.

## Introduction to Quality Management - FMEA

FMEA was initially a system developed by the US military in 1949, then known as a set of military standards MIL-P-1629. These standards were used in reliability evaluations, and they described the impact of systems or equipment failure. In 1977, Ford Motor Company adopted FMEA for use in the automotive industry. After decades of development and application in quality management systems, the newest version of FMEA was jointly established in 2015 by the North American Automotive Industry Action Group (AIAG) and the German Verband der Automobilindustrie (VDA). Known as the first version of the AIAG VDA FMEA, this version of FMEA is the one currently adopted by Winbond.





## A Corporate Culture of Pursuing Quality

Winbond Electronics aims to provide its customers with goods and services which meet their expectations. To achieve this goal, we have invested resources into competitive global markets and are continuously looking to improve our quality management performance by holding annual education and training programs. Winbond conducts Total Quality Management (TQM) training courses and courses on important concepts related to 5-Why and ISO 2626 each year. We also promote and raise awareness of quality management policies, culture, activities, and methods through activities and platforms such as our Quality Month and Winbond Quality Newsletter. We look to raise product quality awareness and improve the application of quality management tools and methods for all of our employees, allowing them to optimize their work quality and improve product quality from the bottom-up and satisfying the needs of both internal and external customers.

### 5-Why Platform

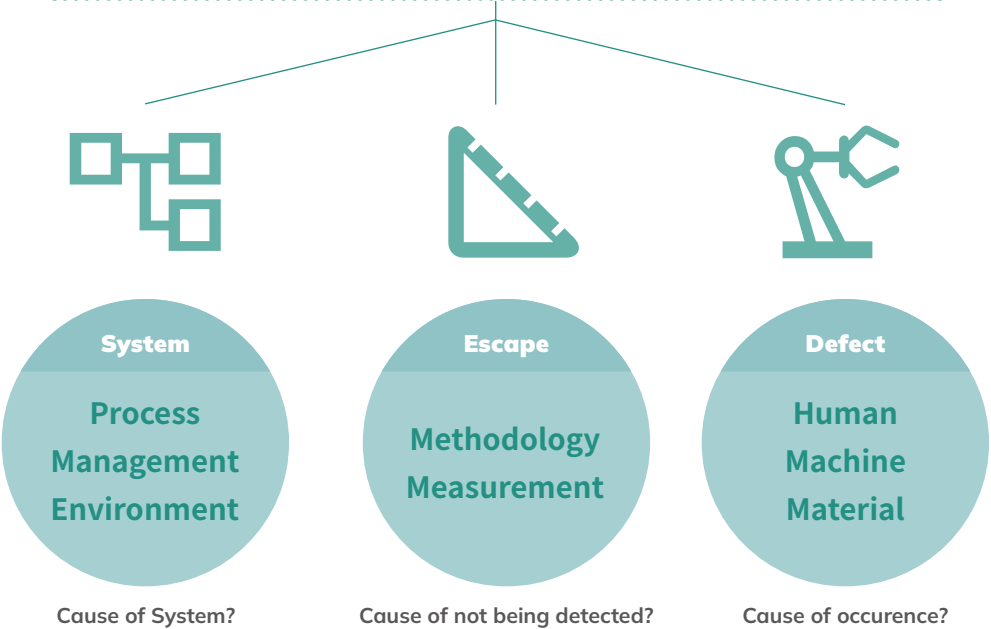
Winbond began providing 5-Why courses in 2018 in order to boost innovation amongst our employees, encouraging them to think outside of the box to rapidly solve problems and make ourselves more competitive. We hope that this can lead our employees to overcome their psychological inertia and avoid automatically re-applying direct countermeasures to address problems without deeper thinking. We instead want our employees to consider all potential causes of the issue first, before looking to narrow down the actual cause, and think of solutions to address this root cause. Thus, we have required over 3,000 employees to participate in 5-Why training courses and included this training in the KPIs of each company unit. Through providing awards and setting up competitions, we allow our employees to become familiar with this way of problem-solving. We have already cultivated dozens of elite seed instructors who can provide this training and support our employees in learning these new tools. Right now, our database also contains more than 200 practical cases available for our employees to refer and learn from.

### Winbond Quality Newsletter

Since 2021 the 4th season, we have published a Winbond Quality Newsletter every month. Through this internal platform, we have cultivated a corporate culture of placing quality first, and share various articles, videos, websites, and livestreams on quality control topics, deeply instilling our quality culture into the lifestyles and work of our employees through these different approaches.



### 5-Why Analysis

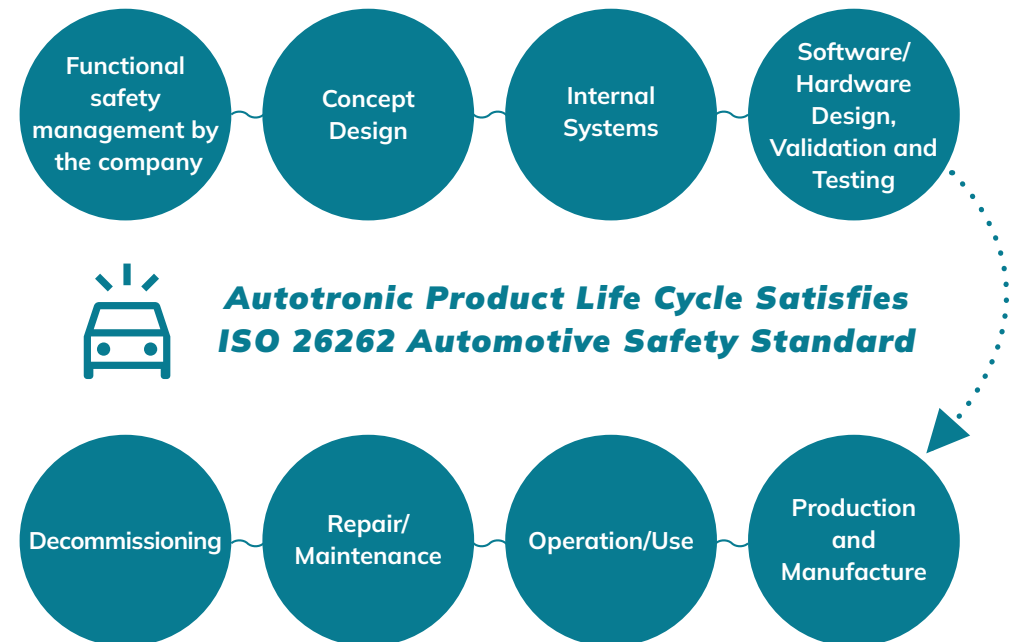


## International Standards Certification

Winbond Electronics strictly manages the manufacturing process and product quality, and continues to improve product quality. Through strengthening analysis, supply chain management, and customer satisfaction to understand demand, etc., we have established an image of ourselves as a quality business. At the same time, we have proactively pursued certifications regarding our product quality, hazardous substance management, manufacturing environment management, and corporate social responsibilities, ensuring that we meet both international environmental and social standards and the high standards of our customers.



In recent years, Winbond Electronics has expanded into the field of automotive electronics. In order to improve the reliability and functional safety of our automotive electronic products and to enter the global advanced safety systems supply chain of the global automotive electronics industry, we obtained ISO 26262 certification in 2019, the world's highest-level automotive electronic safety standard. This also makes us the first maker of automotive-use memory in Taiwan to obtain this certification on road vehicle functional safety, and it serves as a testament to Winbond's strength in developing functional safety products. We have become a trusted partner of international automakers, and obtain higher-level ASIL (Automotive Safety Integrity Level) standard product certificates for individual products from 2020, thereby expanding the automotive electronics market and providing automotive electronics products that meet the needs of the supply chain of international automakers.



## Quality Awards Won

It has been nine years since Winbond Electronics rose from the Zhi-Qiang Group in the Taiwan Continuous Improvement Awards to the highest Zhi-Shan Group in 2013. This year, we won two Golden Awards and two Silver Awards, which is our best performance to date in this competition! Our four award-winning continuous improvement teams have gone through the Company's own internal competitions, central-region regional competitions, on-site screening, and eventually the national finals of the competition. Through their fierce efforts, beating out the competition at every turn, they have delivered exceptional performances at the highest national level within the Zhi-Shan Group and Special Group.

The Company has continued to hold internal quality improvement activities, establishing over 90 quality improvement teams which compete in internal competitions held once in the first half of the year and once in the second. In recent years, we launched online courses which our employees can access during their spare time. These courses teach how analysis techniques like FMEA, ANOVA, DOE and 5-Why can be applied to product improvement to conserve water, energy, electricity, and manufacturing capacity, reduce carbon output, and raise product quality. Through green semiconductor technologies, we can both enrich people's lives and continue to fulfill our corporate social responsibilities.

2013	2014	2015	2016	2017	2018	2019	2020	2021
Golden Award Bronze Award	Silver Award Bronze Award	Golden Award	Golden Award Silver Award Bronze Award	Silver Award Bronze Award×2	Silver Award×2 Bronze Award	Golden Award Silver Award×3	Silver Award×4	Golden Award×2 Silver Award×2



Team name	Topic	Award won
Team Precision	Developed the ability to produce WAT Probe Cards for the Small Pad	Golden Award
Team Perseverance	Reduced the defect rate for 32nm flash memory electricity flow in standby mode	Golden Award
Team Green	Improved coagulation tank performance for acidic chemical mechanical polishing wastewater systems	Silver Award
Team Summit	Improved the manufacturing yield rate for 25nm dynamic memory	Silver Award



**華邦電子榮獲2021年台灣持續改善競賽金塔獎2座及銀塔獎2座**

恭賀精密圈、毅力圈、綠帶圈及登峰圈經歷公司內部競賽、中區會賽、現場審核到最後的全國總決賽一路過關斬將、努力不懈，在全國最高榮譽的至善組及特別組獲得卓越表現！

**創造公司歷史最佳成績**

21-台灣持續改善競賽決賽發表暨頒獎典禮

圈名	T000 精密圈	IF 毅力圈	MU 綠帶圈	ID 登峰圈
獎項	金塔獎	金塔獎	銀塔獎	銀塔獎
團長	鍾源志	吳尚融	林孟杰	蔡宜琨
輔導員	吳亭煥	楊政瑜	盧彭澤	曾健旭
活動主題	創建Small Pad之WAT Probe Card製作能力	降低32奈米快閃記憶體待機電流不良率	提升顯性化學機械研磨廢水系統濃縮處理能力	提升25奈米動態記憶體良率
團員	謝美玲、傅桂珍、陳建勝	王國雄、粘政揚、邱文琳	林志南、賴建廷、黃冠哲、黃俊評、李來漢、沈登民	柯婷婷、阮彥晏、柯順祥、陳皇男、何寬國、林哲群、陳建麟、張耿銘

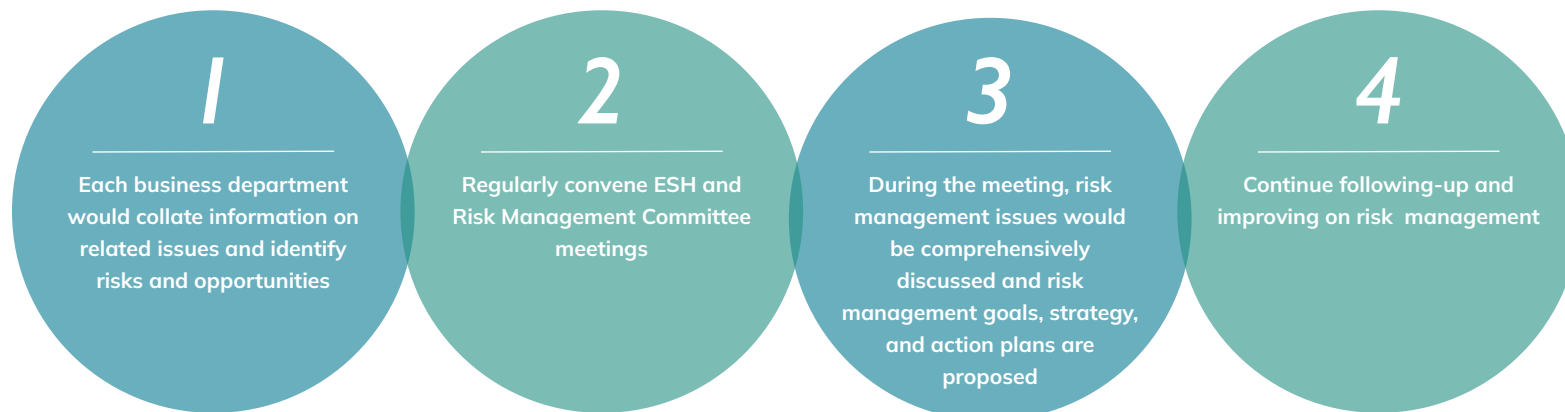
## 2.3 Risk Management

As part of the semiconductor industry, the risks posed by incidents such as natural disasters, accidents, and man-made disasters to manufacturing operations, financial management, information security, and climate change can all have serious operational impact on Winbond Electronics. Therefore, Winbond has established a risk management system which proactively acts to prevent potential risks from a variety of different sources. By making advance preparations and through rigorous risk management engineering and implementing safety regulations and standards, we seek to achieve the highest possible standards of semiconductor manufacturing safety, financial safety, and information security, in line with our vision of sustainable corporate development.

In the 2020 Global Risk Report published by the World Economic Forum (WEF), they pointed out that the five long-term risks facing the world have gradually changed from economic issues to climate issues, including issues such as extreme climate, climate action failure, natural disasters, biodiversity loss, and man-made environmental disasters. Companies all across the world are gradually facing intensifying challenges brought

about by the gradually worsening environment and climate. Winbond has included climate change risk as a critical emerging operational risk to be addressed by the company's long-term operational management.

At the same time, various management goals are discussed and a response strategy is established during ESH and Risk Management Committee meetings convened every quarter. Additionally, the "Winbond CSR Implementation Committee" is planned to be reorganized into the "Sustainable Development Committee" in 2022. This Committee would be chaired by the Chairman of the Board, elevating management of climate risks to the Board of Directors level and ensuring that all corporate risk management goals would be met.





## Three Main Operational Risks

Items for risk and opportunity identification	Description of impact assessment	Response measures	Performance management
<b>Operational risk management</b>			
<b>Abnormalities in product quality</b>	Loss of customer trust and cancellation of product orders	When a product or manufacturing process that does not meet the requirements, employees responsible for corrective measures must be immediately notified, and the defective product must not be shipped out to customers. Any products that may potentially be defective must be checked for defects and isolated. The responsible units shall analyze the cause of the defects and their adverse impact on the manufacturing process, as well as implement improvement measures.	During the manufacturing process, products are subject to strict quality controls to improve product quality, which also helps us maintain long-term working relationships with our customers and improve customer satisfaction.
<b>Overly-low product yield rate</b>	Lower numbers of products can be shipped out, reducing our on-time delivery rates	The product engineering unit analyzes the causes for the low yield rate on a weekly basis and categorizes the reasons by pareto charts. Priority is given to formulating improvement measures for the top 3 reasons to improve product yield and on-time delivery rate.	All products can analyze and improve the yield rate within the planned period to reach the standard, thereby improving the on-time delivery rate and meeting customers' needs.
<b>Overly-high rates of customer complaints regarding our products</b>	Affects the product launch schedules of our customers	When a customer complaint for one of our products is received, the quality guarantee department shall immediately begin analysis of the product's mode of failure and reason for failure. Based on the results of this analysis, the department shall have the responsible units establish a customer complaints team, which shall convene weekly quality reject management meetings to discuss and implement response measures to comprehensively address the issue. Information on this matter would be recorded through FMEA and made available for other units to refer in order to make sure that the same mistake does not happen again.	Customer complaints should be planned to be resolved within 14 working days in order to meet customer requirements. If a case cannot be resolved within this period, we shall communicate with the customers and attempt to resolve the issue within a period of time that would not affect the customer's product launch schedule.
<b>Infringement</b>	In severe cases, it may constitute an illegal act, causing the management to bear civil and criminal responsibilities. In mild cases, it may also cause company finance or goodwill loss.	<ul style="list-style-type: none"> <li>Proactive Prevention: Product R&amp;D department works closely with IP department on patent search, analysis and research. Licensing, designing around, and other techniques are employed when necessary for avoiding (willful) infringement.</li> <li>Effective Response after the Facts: If accused of IP infringement, the Legal and IP Division will immediately contact all relevant departments to clarify facts of the matters and make possible efforts to protect the interests of Winbond and our customers.</li> </ul>	Winbond respects IP rights of other parties and is willing to discuss for acquiring patent license if possible. This also could reduce litigation risks for the company.
<b>Patent Risk</b>	Impact on patent licensing negotiations which increases the risk of patent litigation.	Whether the obligee demands high royalties or even files patent lawsuits to protect their intellectual property rights purely based on commercial considerations or other unknown purposes, they actively discuss and develop countermeasures with external lawyers.	By the following principle of mutually beneficial outcomes as well as interacting with patent assignees in a reasonable and respectful manner, Winbond has effectively controlled the patent risks and avoided negative impacts to the company.
<b>Pandemic Risk</b>	The pandemic can lead to employee health impacts or cause losses through interruptions to business operations	<ul style="list-style-type: none"> <li>Employees are required to use the real-name registration system when entering or leaving Company premises</li> <li>Body temperatures are taken at main entrances</li> <li>Indoor areas are well-ventilated and periodically disinfected</li> <li>The pandemic situation is monitored and, if necessary, employees would be separated into different working shifts or work from home</li> </ul>	In 2021, the pandemic has not impacted employee health or caused us losses through interruptions to business operations

Items for risk and opportunity identification	Description of impact assessment	Response measures	Performance management
Financial Risk Management			
Exchange Rate Risk	The Company's foreign exchange gains and losses are mainly incurred from the foreign currency derived from import and export business operations, as well as the derivative financial products which are used to hedge against the exchange rate risk incurred from this foreign currency.	<ul style="list-style-type: none"> <li>Transactions in derivative financial products are carried out with the purpose of hedging against the operational risks brought about by the Company's business operations, and derivative financial products have been chosen with this main goal in mind. Additionally, trading counterparties have been selected for their credit-worthiness, in order to avoid situations where counterparties are unable to fulfill contract obligations, leading to losses for the Company. In addition, low credit risk financial institutions with good relationships with the Company and the ability to provide the Company with professional information will be chosen as trading counterparties.</li> <li>The Company keeps abreast of financial market information, predicts market trends, familiarizes itself with financial products and related regulations and trading techniques, and provides complete and timely information to Company management and relevant Company departments for reference.</li> <li>The Company sets the limit of unrealized loss on all financial derivatives contracts to 20% of the contract value or 3% of stockholders' equity, whichever is lower. The Company's finance unit evaluates the Company's position on financial derivatives twice every month, and produces a report based on this evaluation which is submitted for review to the head of finance and senior management authorized by the Board of Directors, with hopes to predict the risk and potential losses from each transaction.</li> </ul>	In 2021, risks from exchange rate changes and foreign exchange remained within a controllable range.
Interest Rate Risk	Mainly arises from long-term borrowings with floating exchange rates, which have been made to meet operational needs such as manufacturing process upgrades or capacity expansions.	Strive to obtain favorable interest rate conditions based on the current market situation in order to reduce the impact of interest rate fluctuations. Winbond issues New Taiwan Dollar-denominated corporate bonds at fixed interest rates, which are accounted at amortized cost and will therefore not affect cash flows or fair value during interest rate fluctuations.	In 2021, net interest expenses were NT\$146,935 thousands, 0.15% of operating revenue for that year. Winbond shall closely monitor the effect of interest rate trends on cash flow in order to evaluate whether the impact of interest rate changes on the Company's operations remain within a controllable range.
International Tax Compliance Risk	Risks from paying extra tax to compensate for previously incorrect tax payments, fines, late payment fees, penalties, and risks of impacts on Company goodwill. The lack of an effective tax strategy may lead to unnecessary tax burdens.	<ul style="list-style-type: none"> <li>Periodically and actively monitor financial regulations and tax laws for any changes, staying informed on each country's legislative situation.</li> <li>Manage each subsidiary's accounting and tax affairs, and cooperate with audits by local tax authorities.</li> <li>Accounting employees and supervisors periodically attend various training and educational activities.</li> <li>Hired the Big Four accounting firms to conduct a risk assessment of our international tax affairs.</li> </ul>	Lowered tax risks and the group's tax expenses.
60	Preamble	Sustainability Philosophy Vision and Value Greening the Environment Harmony and Inclusion Integrity and Stability	Appendix <i>winbond</i>

Items for risk and opportunity identification	Description of impact assessment	Response measures	Performance management
<b>Information Risk Management</b>			
<b>Information Security</b>	<ul style="list-style-type: none"> <li>• Large-scale infection of facility equipment by a ransomware virus, interrupting production</li> <li>• There is no backup, or the backup information for infected equipment has been destroyed and equipment cannot be restored</li> <li>• Insufficient resources or incomplete information available for effective response measures, employees not familiar with reporting procedures, affecting the response measures taken and the time needed to recover</li> <li>• Facility infrastructure attacked by a hostile virus, affecting manufacturing operations</li> <li>• Sabotage of services supporting facility operations such as water and electricity supply or the ventilation system, affecting manufacturing operations</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment is fully scanned for any viruses during equipment maintenance</li> <li>• Equipment information is periodically backed up and stored safely in a separate location</li> <li>• Conduct large-scale drills for facilities, ensuring that employees, equipment and information are sufficiently prepared to be able to respond and restore operations effectively</li> <li>• Conduct a self-evaluation and analysis of information security management, as well as a risk assessment, and establish an improvement plan</li> <li>• Conduct response drills, ensuring that employees, equipment, and information are sufficiently prepared to be able to respond and restore operations effectively.</li> </ul>	<ul style="list-style-type: none"> <li>• Have established procedures and an environment for storing backups of facility information offline</li> <li>• Have conducted large-scale response drills for facilities and improved incident reporting procedures, and provided information based on the results of these drills</li> <li>• Have provided social engineering education and training each quarter of 2021 (including for subsidiaries)</li> <li>• Conducted annual information security training in 2021, with a 100% completion rate</li> </ul>



## Coping Measures in Response to Climate Change

Winbond Electronics is committed to coming up with measures against climate change risk. In order to understand the impact of climate change on the environment and our business operations, Winbond Electronics has adopted the Task Force on Climate-Related Financial Disclosures' (TCFD) framework and established a set of Operating Guidelines on the Evaluation of Climate Change Risks and Opportunities. Each year, based on both domestic and foreign research reports and the latest market outlook observations, we identify and disclose the financial impacts of climate-related risks and opportunities (both quantitative and qualitative), providing comments on the situation as well as proposing a management strategy in order to continue improving the Company's operational capabilities. Additionally, we have established an internal ESH and Risk Management Committee chaired by the President, with representatives of the head of each relevant unit serving as committee members. A meeting shall be convened each quarter, where goals and progress towards these goals shall be reviewed, critiqued, and updated.

The greenhouse effect has led to climate change and impacted both the environment and business operations. From a legal risks perspectives, governments from around the world have been deliberating on introducing a carbon or energy tax. Along with the global year on year increases to prices of raw materials and energy needed for manufacturing, all of these factors would lead to a rise in manufacturing costs. In terms of environmental concerns, climate change would also bring about more extreme climate events such as

storms, flooding, and even droughts. In recent years, as rainfall becomes increasingly heavy during the rainy season and increasingly sparse during the dry season, this had led to adverse impacts on the allocation and usage of water resources, which can potentially affect the Company's business operation and manufacturing capacity. There are also other concerns, such as consumers becoming increasingly aware of climate change issues and requesting companies to disclose information on their climate impact.

Therefore, Winbond Electronics continues to work towards optimizing resource management and reducing carbon emissions. Apart from developing and designing all of our products with high efficiency and low power consumption in mind, we have also devoted our efforts to directly reducing our own carbon emissions. By promoting various carbon reduction plans, increasing our energy usage efficiency, and implementing important ESG indicators, we are steadily making progress towards sustainable development.



# TCFD Climate Change Management Framework

Winbond establishes our climate change management framework based on the recommendations of Task Force on Climate-Related Financial Disclosures(TCFD) published by the Financial Stability Board (FSB). Following this systemized framework, we identify the potential risks, opportunities and financial impact posed by climate change throughout the course of the Company's business operations and establish plans for mitigating or adapting to these potential events. In the future, Winbond shall continue to optimize and perfect risk management measures and climate change mitigation measures, improving our operational and management capabilities. We hope to make progress towards sustainable development, displaying our corporate spirit of "Be a hidden champion in providing sustainable semiconductors to enrich human life".

## Governance

In order to achieve our corporate social responsibilities, the Company's Corporate Social Responsibility (CSR) Implementation Committee is responsible for issues related to overall corporate governance, environmental protection, climate change, and labor. The Committee convenes an Environmental, Social, and Governance (ESG) meeting each quarter, reporting to senior management on the performance of the management system, and providing recommendations for any necessary improvements. The President shall report on the results of that year's implementation at the Board of Director's Meeting in the fourth quarter of year. The work plan for the next year will be revised after listening to the opinions of the board of directors. The Board of Directors is Winbond Electronic's highest management unit. The Risk Management Committee is established under the Board of Directors, and based on the progress of future Committee work, their responsibilities shall eventually expand to cover issues and management goals related to climate change risks.

## Risk Management

- a. We have differentiated between the transition and physical risks (8 in total) posed to the Company's operations due to climate change and the potential opportunities (2 in total) presented by climate change, before having each relevant unit evaluate the relevance of these risks and opportunities to their business operations, as well as their short-, mid-, and long-term vulnerability levels and opportunity potential based on a business relevance, vulnerability (risk response measures/ opportunity preparations) level and impact level evaluation table.
- b. A value-at-risk is calculated via combining scores for the three factors of consideration provided by each unit. This calculated value-at-risk is then evaluated and used to construct a risk and opportunity matrix.
- c. After an evaluation and discussion of the reference value-at-risk, high-risk and high-opportunity factors are selected and combined with key short-, mid- and long-term climate risk indicators. A qualitative or quantitative financial impact evaluation is then carried out based on these values and used to establish a response strategy or define key climate goals.

## Strategy

- a. Winbond Electronics classifies climate-related risks and opportunities into short-, mid- and long-term categories based on their time periods and evaluates each risk and opportunity based on these categories. A period of 0-2 years is classified as short-term, while medium and long-term refers to a period of 2-10 years.
- b. Climate risks can be divided into two main categories transition risks and physical risks. Each category can be further divided into political and legislative risk, technology risk, market risk, and reputational risk, as well as into immediate and long-term risks. Opportunities are classified into five major categories: resource efficiency opportunities, energy source opportunities, product and services opportunities, market opportunities, and organizational resilience opportunities.

## Metrics and Targets

- a. In order to reduce the impact of our business operations on the surrounding environment, Winbond Electronics has invested significant resources into improving our performance on environmental metrics. Through developing methods to conserve energy and reduce carbon emissions, make more efficient use of water resources, prevent pollution, and improving management of hazardous substances (please refer to Chapter Three - Greening the Environment - Committed to Environmental Protection of this report for our results in these areas), we look to pursue our vision of sustainable development.
- b. At the moment, renewable energy is mainly produced via solar or wind power, both methods which face issues with unstable and unreliable power supply and thus reliant on energy storage technology. As an increasing proportion of electricity is being generated via renewable energy, demand for energy storage systems shall also increase. As of January 6, 2020, pursuant to the Ministry of Economic Affairs' Renewable Energy Development Act, electricity intensive users (those with contracted electricity capacity greater than or equal to 5,000kW) are required to source 10% of their contracted electricity capacity from renewable energy. The Company shall construct an Electrical Energy Storage (EES) system or purchase renewable energy certificates (REC) in order to meet these requirements.



## COVID-19 Prevention and Management

To prevent the spread of infectious diseases at the workplace, Winbond Electronics has, after consulting the requirements announced by the Central Epidemic Command Center and combining them with the rules of the Company's own Epidemic Prevention Command Center, established a set of Pandemic Management Regulations. These Regulations shall be constantly adjusted as the COVID-19 pandemic develops in order to protect employee health. The Company's pandemic response structure is composed of units responsible for human resources, general affairs, business affairs, procurement, information, manufacturing operations, and environmental health and safety. When active, it shall continuously evaluate the Company's operational risks and come up with countermeasures. These countermeasures include the following: when entering the workplace, employees are required to use the real-name registration system (including those entering for meetings, taking shuttle buses, visiting for business negotiations, or making deliveries). Temperature-taking stations have been set up at major entrances, and indoor areas are kept well-ventilated and periodically disinfected (alcohol hand sanitizer have also been provided). Based on how the pandemic develops, employees might be separated into different working shifts or allowed to work from home.

In order to provide employees with a safer working environment, protective screens have been installed in the office and dining areas to reduce chances of the virus spreading via droplets. We encourage employees with fever or other symptoms to recover at home and not come to the office. The Company shall cover expenses for providing rapid antigen/nucleic acid amplification tests for COVID. Apart from providing employees with COVID sick leave as mandated by the competent authorities, Winbond has gone further than what is required by law by allowing employees to apply for one day of paid vaccination leave to encourage its employees to get vaccinated. In 2021, a total of 4,924 applied

for this paid vaccination leave, with 2,423 applying for leave to take their first vaccine dose and 2,501 applying for leave for their second dose. Additionally, the Company has established an internal Pandemic Prevention Network, where units responsible for health management would regularly published collated information on the COVID pandemic and COVID vaccines. This network provides employees with up-to-date and accurate information and serves as an employee assistance program (EAP) which continues to provide our employees with stable and caring support during this pandemic period.



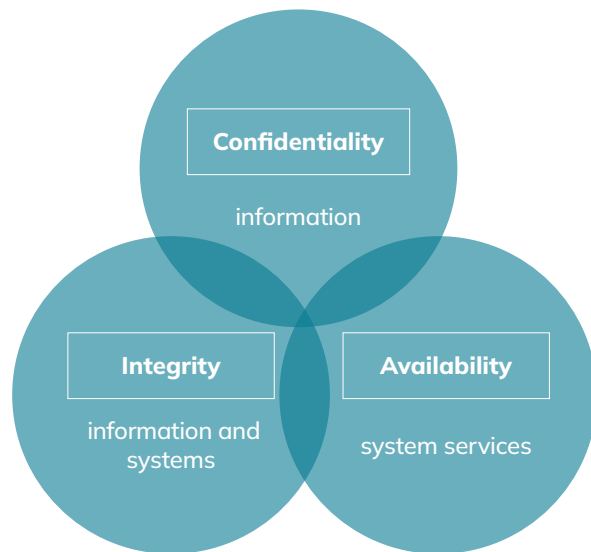
## 2.4 Information Security Management

Winbond Electronics has established regulations to protect the Company's confidential information through its Information Security Policy and Regulations on Technology and Confidential Information. Protected information include commercial secrets and intellectual property, and the privacy of our customers is also comprehensively protected. In order to improve our overall information security management, we applied for the ISO 27001 Information Security Management System (ISMS) certification in 2020, which was awarded to us in February 2021 after passing verification. Our Central Taiwan Science Park facility, the information room in our Zhubei Building, information security system and application system are all ISO 27001 certified, and in 2022 we plan to begin the verification process for our Kaohsiung facility to become certified as well. Additionally, in 2021, Winbond adopted the cloud information security scanning tool Security Score Card (SSC) to conduct a non-invasive scan of all of its external services for vulnerabilities. Beginning from April 2021 and until the end of 2021, we made repeated improvements to progress from 71 points (C rank) to 96 points (A rank). We also adopted the use of other related information security applications, which together made Winbond's information security protection even more comprehensive.

### *List of all information security applications adopted in 2021*

- Security Score Card - system for evaluating risks from external services
- Email filter - O365 Exchange EOP & ATP, set to the strictest filter level (Level 1)
- Management of VPN connection access - a firewall controls from where our VPN can be accessed, set to only allow access from countries where our employees are based in
- O365 conditional access control - connection requires multi-factor verification. Additionally, only specific programs and connecting devices are allowed to be used.
- Information Security Certification - ISO 27001
- VPN equipment management - Cisco ISE is used to manage connections based on the connecting devices' network interface controller hardware address.
- Entering incorrect login information when attempting to access the VPN five times in a row would result in the account being locked. Assistance from a connection information employee would be required to unlock the account.
- Improvements made to the firewalls installed on facility equipment.
- Fixing vulnerabilities - equipment are shut down regularly once a month in order to fix major vulnerabilities
- Source code verification - Checkmarx is used to scan program code for safety issues when a program is being developed, improving program security when the program comes online.

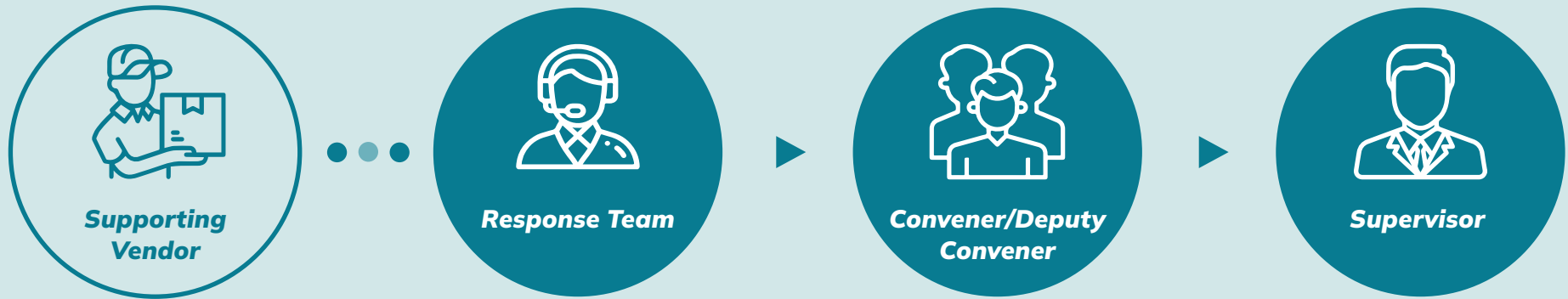
In 2020, Winbond Electronics took stock of each unit's information assets and conducted a risk assessment based on the ISO 27001 information security management system framework. We organized all of our internal controls systems and documents on existing information security standards, establishing a complete information security environment which meets all standards. In February 2021, we became certified by an external organization and have continued to pursue the three main goals of information security - Confidentiality, Integrity and Availability



Pursuant to the implementation procedures described in our Information Security Policy, Winbond requires each relevant department to assign a representative to serve as part of the information security structure, responsible for the company's information security control operations. This can include participating in discussion, development, promotion, and audits of information security measures. Meetings shall be regularly convened to discuss and pass resolutions on information security issues. Information security issues can include issues which affect human resources, physical safety, information security, and logical security. When a major change or information security incident occurs, an extraordinary meeting may be called. Each year, we continuously inform and communicate information on information security to our employees through education, training, and internal announcements in order to implement our information security policy. We conduct a data protection drill once every six months through a data saving and access test of the system in backup mode.

Additionally, for important product data, we have strengthened access control and monitoring and implemented information system access authority management and the safekeeping of records to strictly control employee entry and egress as well as data access in order to avoid unauthorized access or alternation of our information, and prevent our commercial secrets and intellectual properties from theft and from being leaked.

## Information Security Handling Process



Provide resources and solutions

- Once an event report is received, assess the scope and severity of impact
- Carry out information security incident report procedure
- Isolate problem system and devise solution
- Report to superior once event has been resolved
- Assess and analyze the cause of the event then devise a preventive strategy

- Direct the appropriate level of response to the information security event and report to the superior based on the information security event level
- Conduct an information security meeting every quarter to review performance

Coordinate the response to information security events (cross-department coordination and release of public information)

## 2021 Information Security Education and Training

	Season	Total number trained	Number who completed training	Number who failed to complete training	Completion rate	Remarks
Social engineering education and training (including subsidiaries)	Q1	□□□□	□□□□	□□□	□□□□	Those who have not completed these courses had their internet access rights revoked.
	Q2	□□□□	□□□□	□□□	□□□□	
	Q3	□□□□	□□□□	□□	□□□□	
	Q4	□□□□	□□□□	□□	□□□□	
Annual information security awareness training	-	□□□□	□□□□	□	□□□□	
Training on the Personal Information Protection Act	-	□□□□	□□□□	□	□□□□	

### High-level Information Security Certification Awarded

In November 2015, Winbond Electronics' TrustME™ Memory Products and the production environment for these products were awarded a high-level Common Criteria EAL 5+ security evaluation, after being verified according to the international safety standard. This meant that Winbond's various product information security controls were able to meet the international safety standards of the Common Criteria and that the Company was capable of manufacturing secure products able to meet international standards and protect the information and assets of our customers. The design and development, production, and delivery stages of TrustME™ Mi-Fu products were all verified by the Common Criteria. In 2020, as the Zhubei Building first came into use, the verification process was carried out via a remote audit due to the COVID-19 pandemic. We successfully passed this remote audit, with our working processes and environment able to meet Common Criteria EAL 5+ requirements.



## Management of Supplier Information Security

Winbond Electronics uses an internal information security management system to impose permissions restrictions for managing and protecting the private information of our suppliers. Physical documents are stored and managed by the procurement unit. For external management of supplier information security, we include information security terms on each of our orders, which we require suppliers to sign. In an annual audit, suppliers are required to fill out an information security self-evaluation form, which would be reviewed by the Winbond Information Security department. A physical audit would also be carried out on suppliers every two years. Physical audits of external supplier information security were completed in 2021 for ten suppliers, all of whom passed the audit.

### Signing of Supplier Information Security Terms

- Products delivered by suppliers shall not lead to any information security concerns for Winbond, such as products containing viruses, backdoors, or trojan horse programs.
- Provide required software patches and updates, ensuring that there are no information security loopholes.
- Rapidly provide effective plans for resolving information security incidents, should one take place. Develop improvement and preventive measures to minimize losses.



**2021**

**Supplier Information Security Terms**

**Signed by**

**100%** of suppliers

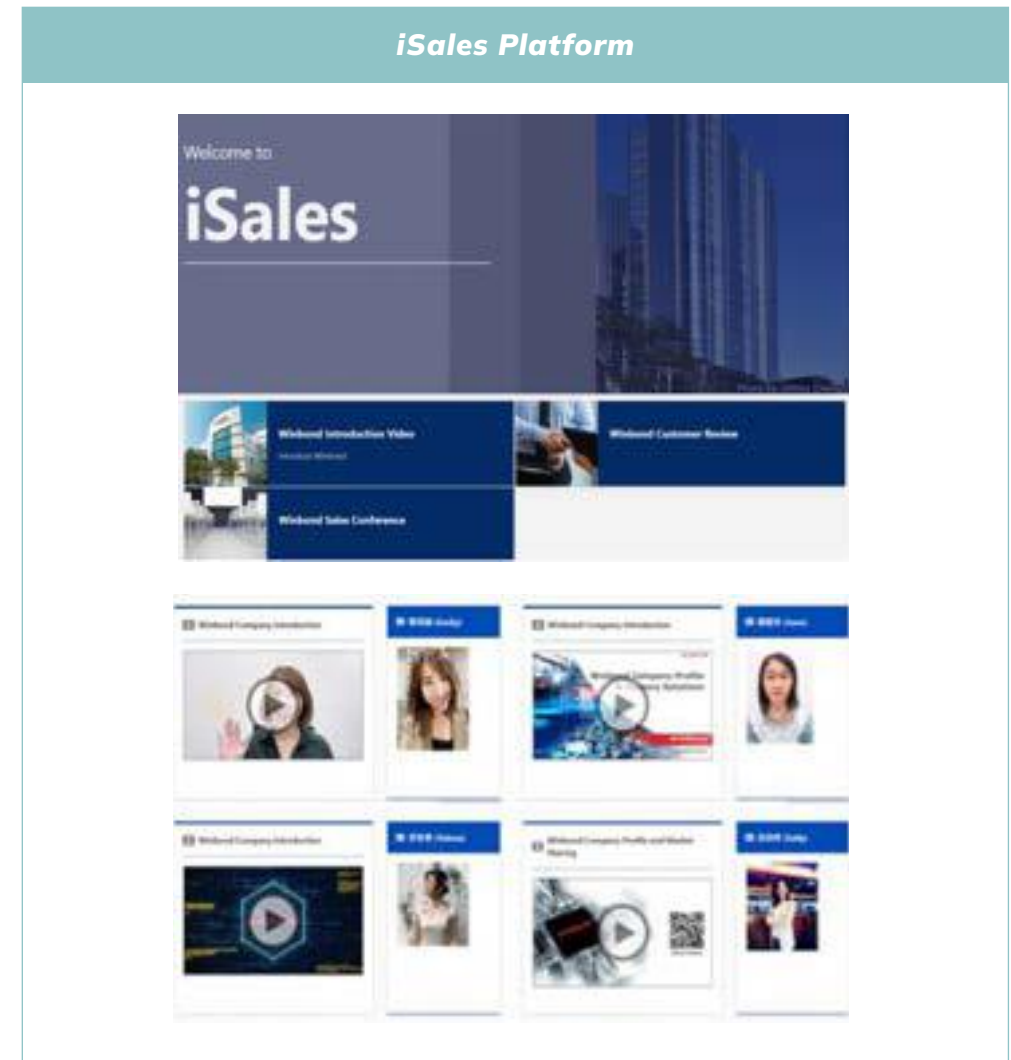


## 2.5 Customer Relationship Management

### Maintaining Customer Relationships

Customers play the most important role in any business, and it would be fair to say that a business without any customers has no value at all. Winbond has always put its customers first. We strive to provide our customers with products that fit their needs and support them in their launching and promotion of new products. The growth of our customers is growth for Winbond, and we are devoted to helping them succeed. In order to provide better products and services, we conduct annual customer satisfaction surveys to better understand customer needs when it comes to product research and development, product quality, and customer service. We also keep in communication with our customers and use these efforts to optimize our own internal management system. Doing so also allows us to improve the services provided to customers, benefiting both Winbond and our customers.

Due to the impact of the COVID-19 pandemic in 2021, we had much fewer opportunities to physically visit our customers. Through digital technology, Winbond Electronics used online video calls to replace physical face-to-face communication in order to keep in touch with our customers. We also recorded Winbond Introduction and market sharing videos for customers, showing off the friendliness and professional knowledge of our employees, and hosted online forums and conferences such as WinTech 2021. These online events gave our employees the opportunity to share and discuss a wide range of different subjects, such as new technologies, market trends, and currently trending topics. Our guests and customers who attended these events gave extremely positive feedback (95% were satisfied with the event).



## WinTech 2021 Forum



We have established a quality management system according to the IATF 16949 technical standards, ensuring that our quality management system operates effectively. With zero defects as our goal, we have continued making improvements to this system to ensure our product quality and satisfy the needs of our customers. The annual customer satisfaction surveys contain dozens of questions, and it is split into three main categories: product and technical support, sales services, and quality. The customer's research and development, procurement, and quality management employees would answer questions related to their job responsibilities, based on their experience working with Winbond and comparing Winbond to other competing suppliers. This allows Winbond to truly understand the needs of our customers and discover areas for improvement. Afterward, the responsible units would implement measures to improve the areas where we scored relatively poor on, devoting our efforts to improving the overall quality of our services and raising customer satisfaction. In 2021, 34 of our customers filled out our survey questionnaires. On a 1 to 5 scale, 26 of these customers rated us above 4 points on average, while the remaining customers rated us above 3 points on average. The percentage of surveyed customers who gave us a score of 3.5 or above (out of a maximum of 5) for each area and on the overall survey is given below: Product and Technological Support (86%), Sales (88%), Product Quality (100%). The average overall satisfaction is above 91%. This shows the recognition that our customers have for

Winbond's every service. However, in line with our customer service spirit, we endeavor to constantly improve our services in order to provide our customers with even higher quality services. Compared to 2020, our failure analysis revealed that our product return rate has decreased 7%. Follow-up is based on customer complaint handling specifications, through customer complaint fault analysis to find the defect and find the real cause, in order to find the root cause of a product defect. Measures for improvement and defect prevention would then be implemented, maintaining product quality in order to ensure that major defects do not occur, which can lead to customer returns and compensation claims.

## Customer Privacy Protection

Winbond Electronics strictly manages customer information. All business information, such as documents and information on customer interactions, are stored in Winbond's internal highly-protected system. The approval and granting of access permissions for internal employees shall be carried out pursuant to related working guidelines and procedures. From 2013 onwards, Winbond employees have been required to pass annual information security awareness training courses. In order to protect the security of research and development and production information, employees at the Zhubei Building are required to register and install a camera management app on their mobile phones which disables the phone camera, forbidding photos from being taken within the company. Walk-through metal detectors have been installed at the entrances of our wafer and testing facilities, allowing us to control which information devices are allowed to be brought into these facilities. AI-powered facial recognition technology is also used to manage access of our facilities by contractors, ensuring that the Company is able to protect customer privacy and prevent commercial secrets and intellectual property from being stolen or leaked. In February 2021, we obtained the ISO 27001 Information Security Management System (ISMS) certification, developing a comprehensive information security system.

Winbond Electronics has already made the required adjustments to remain compliant with the European Union's General Data Protection Regulation (GDPR) which came into effect in May 2018, amending the Company's official website and re-inspecting the

information of all website members. The GDPR has also been included in online courses on the Personal Data Protection Act. In 2021, 2,742 employees took these training courses, all of whom completed the training and passed.

In 2021, there have been no reported incidents where Winbond Electronics violated customer privacy or lost customer information, or where Winbond was fined for violating product liability laws and regulations.

## Improve Customer Service Quality

In order to satisfy the needs of customers from all across the world, Winbond has established subsidiaries and service locations in regions including the US, Japan, Israel, Mainland China, Hong Kong, and Germany, in addition to its headquarters in Taiwan. Apart from the sales centers described above, Winbond has also been proactively developing sales channels in different countries. In 2021, our retailers and technology services and support locations have been established across Asia, Europe, and the Americas.

Through the Electronic Data Interchange (EDI) platform, Winbond Electronics has continued to optimize its internal data processing efficiency and ensure that the data exchange process is accurate and secure. Using an automatic identification system, we convert customer orders into our own format, allowing us to more efficiently respond to customers and improve customer satisfaction.

In recent years, Winbond has been cultivating a quality culture. Starting from training, we hope to be able to raise quality awareness amongst our employees, further optimizing Winbond product quality. For that purpose, we have created the quarterly Winbond

Quality Newsletter, which is used to advocate and promote quality-related policies, culture, activities, and methods. Through this newsletter, employees would be able to gain a deeper and broader understanding of the scope of quality, deepening the quality awareness of our employees, improving work quality, and preventing mistakes before they happen, which would improve product quality and satisfy the needs of internal customers. Training would also include information on new technology, lessons from past experience, two-way discussions, recommendations of book, lifestyle topics, and videos and audio recordings, sharing book recommendations, lifestyle topics, and sharing videos and audio recordings, forming a huge range of different content. Even during their busy schedules, our employees would be able to use these resources to satisfy their psychological needs, and like a quality-oriented chicken soup for the soul, enrich their perspectives, establishing an awareness and respect for quality.

To process our product delivery and shipping, we have also established a collaboration platform that is able to notify our shipping partners of delivery times and provide shipping receipts, as well as allow them to independently look up pickup times and locations and report on shipping status, increasing shipping efficiency and speed.



### 24-hour Instant Response Intelligent Chatbot

In order to rapidly respond to customer demands and provide customers with information on Winbond products, we have set up a 24-hour Instant Response Intelligent Chatbot on our official website. In 2021, we also planned to further incorporate the D365 customer service module, estimated to be completed by 2022, which would further optimize the customer experience by tracking each customer's digital footprints, queries, and the time when they made these queries, facilitating follow-up customer service.

## 2.6 Sustainable Supply Chain

### Sustainable Supplier Management

In order to construct a more resilient and sustainable supply chain, Winbond Electronics shall proactively act to fulfill its corporate social responsibilities. Apart from internal actions, we shall also extend the scope of our corporate social responsibilities to include our supply chain and hope to establish a sustainable and stable partnership with our suppliers and contractors. Apart from meeting high standards for product quality, product delivery deadlines, prices, and process technology capabilities, we also hope to set similarly standards with regard to our corporate social responsibilities, implementing corporate sustainability.

#### 2021 Supplier Sustainability Results

- 1 Percentage of suppliers who have signed agreements with Winbond to uphold its Ethics and Integrity Policy
- 2 Percentage of suppliers who have signed the Supplier Code of Conduct Commitment Letter
- 3 Percentage of suppliers who have signed agreements not to use prohibited materials

**100%**

### Sustainable Supplier Management Framework

1 Selection of new suppliers	<b>New suppliers signing the Supplier Code of Conduct and having their information examined</b>	<ul style="list-style-type: none"> <li>Examination of basic information</li> <li>Suppliers who meet Environmental, Social, and Governance (ESG) standards shall be prioritized for selection</li> <li>Requested to sign agreement to sustainability guidelines/practices</li> </ul>
2 Maintaining supplier relations	<b>Supplier management and audit</b>	<ul style="list-style-type: none"> <li>Supplier categorization</li> <li>Supplier audit (including sustainability audits)</li> <li>Investigation into conflict minerals</li> </ul>
3 Supplier communication	<b>Education and training and reporting channels</b>	<ul style="list-style-type: none"> <li>Establish reporting channels for natural disasters with suppliers</li> <li>Periodically hold education and training sessions (supplier conferences, guidance courses)</li> </ul>



Winbond Electronics requires all suppliers to comply with or sign sustainability-related codes of conduct, codes of ethics, international human rights declarations, and the International Labor Organization's Tripartite Declaration of Principles. Suppliers are also required to have a green products environmental policy, a Hazardous Substance Free (HSF) policy, or to be compliant with Responsible Business Alliance (RBA) requirements. When searching for new suppliers, those who meet Environmental, Social, and Governance (ESG) standards shall be prioritized. At the same time, in order to effectively manage and maintain relations with qualified suppliers, Winbond shall separate suppliers into different categories and grades, as well as conduct annual supplier audits and investigations into conflict minerals. In 2021, all raw materials suppliers (166 in total) have signed Winbond Electronics' Ethics and Integrity Policy, the Winbond Supplier Code of Conduct Commitment Letter (this Code includes declarations on RBA requirements and conflict minerals), as well as a declaration to not use prohibited materials.

On the other hand, Winbond also periodically carries out close communications with its suppliers and has established a reporting channel for natural disasters with suppliers. This provides a system for making emergency notifications of supply chain emergencies such as earthquakes and allows us to quickly become informed on the geographical location of the impacted supplier, reducing losses from business interruptions and maintaining production capacity and labor efficiency.

### Selection of new suppliers

Winbond Electronics' selection system for new suppliers includes an evaluation of items such as a quality system questionnaire (including questions on quality, delivery deadlines, services, technologies, and the supplier's quality management system), the RBA Code of Conduct, and Corporate Social Responsibility regulations. Additionally, the supplier is required to provide third-party certification of its quality management system, its management guidelines for Process/Product Change Notices (PCN), and fill out a questionnaire on its hazardous substance management. Suppliers responsible

for outsourced work on security products are additionally required to possess an international safety verification certificate and fill out the Questionnaire on Safety Control Measures for Outsourced Work on Security Products. Three new suppliers in 2021 have all passed the screening process.

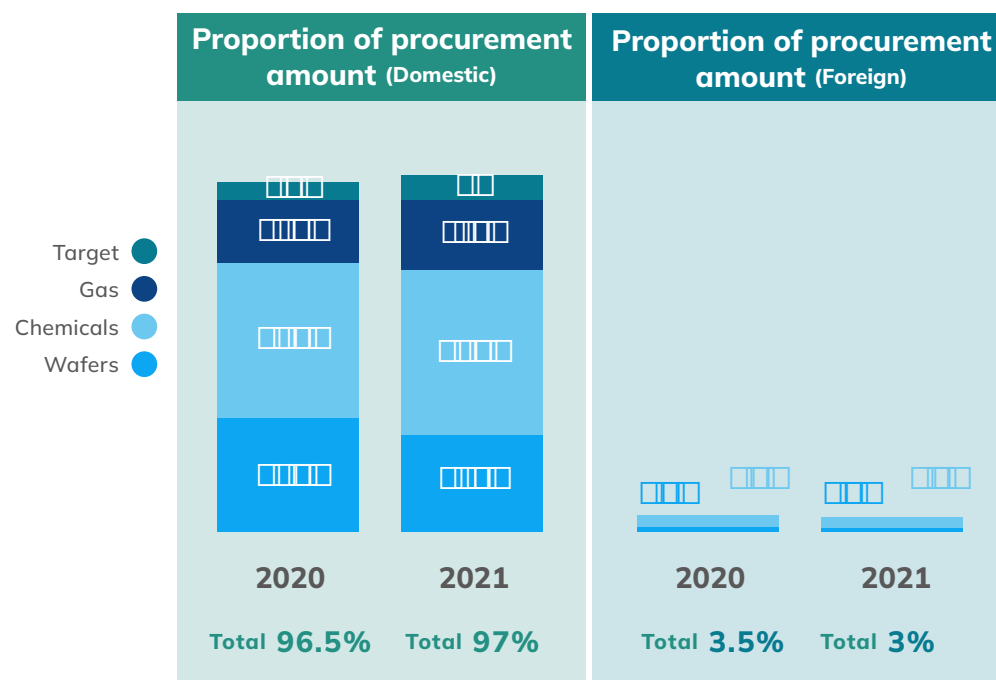
Percentage/Number of new suppliers selected based on Economic, Social, and Governance standards (Unit: %)

Year	Number of companies	Percentage
2021	3	100%
2020	2	100%
2019	1	100%
2018	1	100%
Total	7	100%

Winbond Electronics' major operational locations are located across Taiwan, US, Japan, Israel, Mainland China and Germany, and, while our suppliers are based in countries including the US, Japan, South Korea, and Taiwan. Based on the total procurement conducted by each operational location, the proportion of raw materials locally procured by Winbond Electronics stood at 97.0% in 2021, a 0.5% increase compared to the previous year.



## Local procurement from suppliers (Unit: %)



## Risk Management for Critical Raw Materials

Winbond Electronics manages risk for its critical raw materials based on our procurement management procedures. The upstream raw materials formulas provided by our suppliers are kept confidential, but through our risk management procedures, we can ensure that Winbond does not utilize any prohibited materials. Additionally, we require each supplier to periodically report to us using the Conflict Minerals Reporting Template (CMRT). All suppliers are prohibited from using products from smelters located in high-risk regions.

## Sustainability Audits for Suppliers

### Establish Different Grades and Categories for Suppliers

In order to effectively manage suppliers, Winbond Electronics has sorted our suppliers into different categories and ranks (based on the different formats of requisition forms), taking stock of the overall status of the supply chain. Winbond's suppliers are separated into six major categories, including suppliers for equipment, components, raw materials, factory affairs, automation, and late-stage outsourced processing work.

### Establishing Standards for Supplier Sustainability

Winbond Electronics conducts periodic supplier evaluations on qualified suppliers. Evaluation items include quality, delivery deadlines, services, and prices, with each item being awarded an A, B or C rating after being evaluated. Suppliers would receive different treatment depending on the grade earned. Additionally, in order to ensure that these systems are operating normally, Winbond conducts annual audits on its suppliers (raw materials) and outsourcers (packaging and testing), ensuring that supply chain risk is being appropriately managed. Apart from quality management audits, the audit would also include two other main items, a "Green Assessment" and a "Social Responsibility Assessment." The annual supplier audit is carried out either through a document audit or a physical visit to the supplier. In 2021, a total of 12 outsourcers and 20 raw materials suppliers were audited, with all audited suppliers able to meet Winbond's standards.



## System for Handling Suppliers Based on Evaluation Grade

Supplier Grade	Supplier Treatment
<b>A</b>	The original mode of collaboration shall be maintained with the supplier. Supplier shall be subject to periodic document audits.
<b>B</b>	<ul style="list-style-type: none"> <li>The supplier shall be given a week to sign and return the Notice of Improvement for Raw Materials Suppliers and provide us with measures for improvement</li> <li>Suppliers who received a B grade twice or more times in a row shall be labeled as having a C grade.</li> </ul>
<b>C</b>	<ul style="list-style-type: none"> <li>The supplier shall be given a week to sign and return the Notice of Improvement for Raw Materials Suppliers and provide us with measures for improvement</li> <li>When necessary, we shall reduce our purchases from C grade suppliers, or request the procuring unit to prepare evaluation plans for using other materials</li> </ul>



## Sustainability Review Standards

Assessment Item	Assessment Criteria
<b>Quality Management</b> Apart from requiring suppliers to possess the relevant quality certifications and quality management systems, Winbond has designated 12 different items on the assessment list: quality systems, contract assessment, design management, document control, supplier management, product manufacturing traceability, process control, verification and testing, calibration management, qualified product control, product shipping, packaging, storage, and delivery, and quality recording.	<b>Excellent</b> (Points $\geq 90\%$ ) <b>Good</b> (90% > Points $\geq 80\%$ ) <b>Re-assess</b> (Points < 80%)
<b>Green Assessment</b> In order to ensure that suppliers are compliant with the Green Products Environmental Policy, Winbond conducts an annual green assessment of its suppliers each year. There are four main areas of assessment: responsibility management, outsourcer management, production process management, and customer support. This assessment includes an investigation into the use of conflict minerals. Suppliers are required to sign a conflict minerals declaration and provided data and information required by the investigation.	<b>Excellent</b> (Points $\geq 90\%$ ) <b>Good</b> (90% > Points $\geq 80\%$ ) <b>Re-assess</b> (Points < 80%)
<b>Social Responsibilities Assessment</b> Based on the Responsible Business Alliance's (RBA) codes of conduct, Winbond has established a Winbond Supplier Code of Conduct which assesses suppliers from an economic, environmental, and social perspective. At the same time, we conducted a deep analysis of the supplier's implementation of its social responsibilities through having suppliers fill out the RBA's Self-Assessment Questionnaire (SAQ) and by following the Validate Audit Process (VAP).	<b>Grade A</b> (Approval) 90 or above  <b>Grade B</b> (Conditional Approval) 80 to 89  <b>Grade C</b> (Approval) 79 or below

**Pass rate of suppliers/outsources for the economic, environmental, and social sections of the audit (Unit: %)**

ESG aspect	Procurement category	Supplier/ Outsourcer (providers of packaging and testing services)
Economic	ISO 9001 Quality Management Systems	<div><div></div><div></div><div></div><div></div><div></div></div>
	IATF 16949	<div><div></div><div></div><div></div><div></div><div></div></div>
	ISO 14001 Environmental Management Systems	<div><div></div><div></div><div></div><div></div><div></div></div>
Environmental	REACH	<div><div></div><div></div><div></div><div></div><div></div></div>
	RoHS	<div><div></div><div></div><div></div><div></div></div>
	IECQ QC 080000	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Social	ISO 45001	<div><div></div><div></div><div></div><div></div><div></div></div>
	Responsible Business Alliance (RBA)	<div><div></div><div></div></div>

## Economic, Social, and Governance Evaluation Results for Suppliers/Outsourcers

Supplier Category	Number of suppliers audited	Number of suppliers passed audit
Providers of packaging and testing services	11	11
Raw materials suppliers	11	11

## Management of Conflict Minerals

Following the provisions on conflict minerals in the Responsible Business Alliance's Code of Conduct, Winbond Electronics does not procure or utilize any minerals sourced from regions of the Democratic Republic of the Congo which are under the control of non-government or unlawful military groups. Prohibited minerals include gold (Au), silver (Ag), tantalum (Ta), Tungsten (W), and Tin (Sn). 100% of our main suppliers have signed the Winbond Supplier Code of Conduct Commitment Letter, and we have also formally declared to our suppliers our policy of not using conflict minerals through public declarations on our official website and advocacy letters.

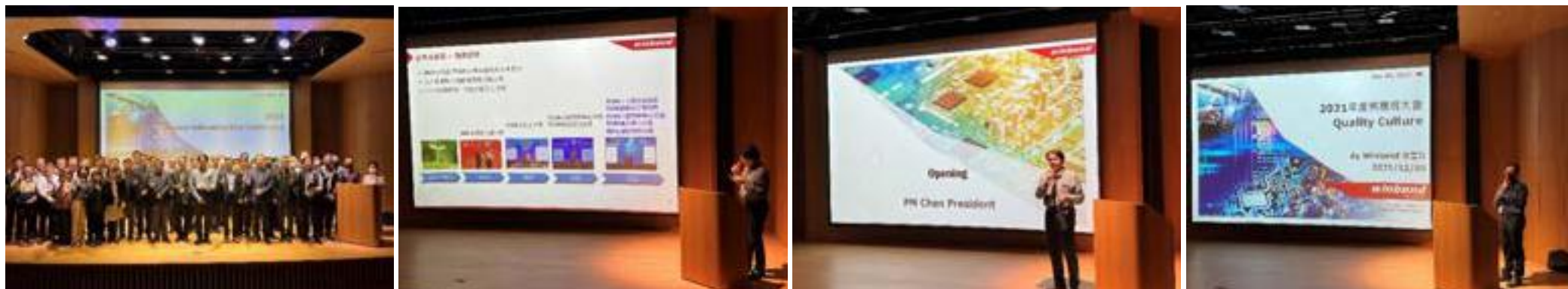
Winbond Electronics has also used the Conflict Minerals Reporting Template (CMRT) included in the RBA Code of Conduct to investigate the use of conflict minerals by suppliers. We have requested suppliers to disclose information on smelters which process conflict minerals and have taken action to ensure that information provided from suppliers is accurate. In the future, Winbond shall continue to cooperate with its suppliers to ensure that all suppliers use materials from Tier 1 Conflict-Free Smelters certified and announced in the RBA Code of Conduct as smelters which do not use any conflict minerals. Winbond Electronics conducted an investigation into conflict minerals on 23 of our suppliers (14 raw materials suppliers and 9 outsourcers). All of these suppliers were found to be compliant with related rules, and in 2021, no products were prohibited from being sold to Winbond.

## Sustainability Discussions with Suppliers

Winbond Electronics highly values its partnership with suppliers and hopes to work together with our suppliers to collectively improve sustainability competitiveness and performance. We consider this part of our social responsibility. For this reason, Winbond periodically hosts supplier conferences and conducts assessments which include sustainability standards, in order to support suppliers in improving their economic, environmental, and social performance.

### Supplier Conference

Winbond Electronics highly values its long-term partnerships with our outsourcers and hosts an annual supplier conference to announce our quality and corporate social responsibility policies. Through this conference, we also update our suppliers on any changes to our quality requirements and share new innovative technologies in the industry, deepening our common understanding and partnership with our outsourcers. We hope to work together with our suppliers to fulfill corporate social responsibilities and also give out awards honoring excellent suppliers, as a sign of our appreciation for our supplier partners and to encourage them to continue making progress towards sustainability. 12 outsourcers attended the supplier conference in 2021.



## Supplier/Outsourcer Guidance

Winbond Electronics hopes to be able to grow alongside our supplier and outsourcer partners. We guide our suppliers and outsources to help them improve their manufacturing process and product quality, collaborating to use Design of Experiment (DOE) approaches to improve product yield rate. At the same time, we encourage the exchange of information security measures and factory automation experience, facilitating growth through mutual learning. We proactively support local suppliers in developing their capabilities, leading to a win-win situation and a more resilient sustainable supply chain.

### 2021 Supplier/ Outsourcer Guidance Outcomes

Guidance scope	Description of issue	Method of improvement	Improvement outcomes
<b>Outsourcer WL CSP Improvement to product yield rate</b>	Product yield rate for 60um wafer dicing does not reach target of 99.5%	<ul style="list-style-type: none"> <li>• DOE verification of dicing tape</li> <li>• DOE verification of laser cutter parameters</li> <li>• Establish standardized working procedures</li> </ul>	<b>Before improvement</b> 93.4%
			<b>After improvement</b> 99.7%
<b>Improvement to Bin8 success rate</b>	Bin8 fail rate>0.5%	DOE verification of wafer saw, establishing standardized rules for saw selection for new products	<b>Before improvement</b> Bin8 fail rate 0.57%  <b>After improvement</b> Bin8 fail rate 0.05%

## Education and Training for Security Personnel

Winbond Electronics establishes a training schedule for its security personnel each year and conducts periodic training on topics such as human rights, as well as arranges for our security contractors to undergo RBA audits. As of 2021, all of our security contractors have passed RBA audits that were comprised of 10 total audit items, including items on human rights, health, and safety. This not only ensures that we are able to maintain a safe workplace but also to increase the awareness of our security contractors of social responsibilities, improving their performance in this aspect.

Due to the impact of the COVID-19 pandemic in 2021, security personnel at our facilities have been requested to more strictly enforce COVID prevention measures for entering our facilities, such as taking body temperatures and wearing face marks. We also provided our security personnel with training on COVID prevention and management.

### Education and Training Outcomes

Topic	Content	Number of security personnel	Length of training course (hours)	Facility
<b>Workplace equality</b>	Training and courses on topics such as workplace bullying, abuse, harassment	□□	□	Central Taiwan Science Park Facility
		□□	□□□	Zhubei Building
<b>COVID awareness</b>	Informed security personnel on the need for employees/visitors/contractor employees to have their body temperatures taken and to wear a mask when entering our facilities	□□	□	Central Taiwan Science Park Facility
		□□	□	Zhubei Building



chapter

# 03

## Greening the Environment | Committed to Environmental Protection

- 3.1 Green Manufacturing
- 3.2 Energy and Carbon Management
- 3.3 Resource Management
- 3.4 Waste Management
- 3.5 Emissions Management
- 3.6 Hazardous Substance Management



## Greening the Environment | Committed to Environmental Protection

In order to fulfill our responsibilities towards green manufacturing, reducing the impact which our business operations have on the environment, Winbond Electronics has devoted significant resources into environmental management. By adopting measures to reduce energy usage and carbon emissions, increase resource utilization efficiency, and improve management of waste materials and emissions, we look to pursue our vision of sustainable development.



## Material Topics and Management Approach

### Regulatory Compliance

Material Topic : Regulatory Compliance

GRI 307: Environmental Compliance

Item	Management Approach
<b>Policies/Commitments</b>	<ul style="list-style-type: none"> <li>Winbond strives to comply with the latest international environmental, safety and health standards. We are also committed to fulfilling our social responsibility as a world-class company by providing a healthy working environment that conforms to statutory requirements through respect, caring, as well as mechanisms for worker consultation and participation. It is the social responsibility of a world-class company to ensure that there are zero hazards and to reduce the environmental burden.</li> <li>Continuous improvement, personnel safety promotion, hazards eliminations, environmental protection implementation, and environmental, safety, health, and asset risks reduction.</li> </ul>
<b>Responsibilities</b>	<ul style="list-style-type: none"> <li>EHS Management Representative: Vice-President of the Quality &amp; ESH Center</li> <li>The EHS department is responsible for safety and health-related issues, and a ESH and Risk Management Committee has been established with the President as the Chairperson. The Committee convenes a meeting each quarter to review safety and health-related issues and how progress is being made towards safety and health targets.</li> </ul>
<b>Resources</b>	In 2021, a total of NT\$373 million was invested into the environment to prevent and clean up pollution
<b>Reporting/Communication Mechanism</b>	<ul style="list-style-type: none"> <li>ESH Management System Consultation and Communication Procedures</li> <li>1. Make a proposal by filling out the "ESH and Risk Committee Proposal Form".</li> <li>2. Issues can be raised through employee representatives taking part in the site ESH and Risk Management Committees.</li> </ul>

<b>Specific Actions</b>	<ul style="list-style-type: none"> <li>Adopt the ISO 14001 International Management System to effectively manage environmental issues</li> <li>Regularly monitor and take stock of any legislative changes both domestically and in other countries and add to or amend Winbond's internal rules or regulations to stay consistent with these changes, ensuring that our business operations are conducted in compliance with the newest laws and regulations.</li> </ul>
<b>Mechanism for Evaluating Management Approaches</b>	<ul style="list-style-type: none"> <li>The ISO 14001 management system is regularly updated to maintain the validity of the environmental management system. A PDCA validity assessment of the Occupational health and safety management system is conducted every 6 months in accordance with Winbond's "Internal Audit Procedure for ESH System"; external verification by third-party is also conducted every year.</li> <li>The ISO 14001 management system is regularly updated to maintain the validity of the environmental management system.</li> <li>Statistics of the completion rate of physical or online courses for the environmental management system. Statistics of the annual violations of Occupational Safety and Health Act regulations, solutions or improvement measures, and the number of cases</li> <li>Statistics of the completion rate of physical or online courses for the environmental management compliance education and training</li> </ul>
<b>Outcome of Management Approach Assessment</b>	<ul style="list-style-type: none"> <li>The submitted inspection report meets environmental emissions standards and regulations</li> <li>There were no violations of environmental regulations in 2021</li> <li>Maintain ISO 14001 management system certification.</li> </ul>

## 3.1 Green Manufacturing

Winbond has adhered to green manufacturing principles and has continued to invest resources into environmental management and prevention of pollution in order to improve workplace safety and to stay in line with sustainable development trends. In 2021, we invested a total of NT\$378 million into implementing environmental protection measures; the amount invested increased 1.5% compared to 2020. Winbond continued to invest in reducing the impact which its business operations have on the environment. The economic benefits from the aforementioned environmental investment reached NT\$253 million. In 2021, there were no violations of environmental or environment-related laws and regulations.

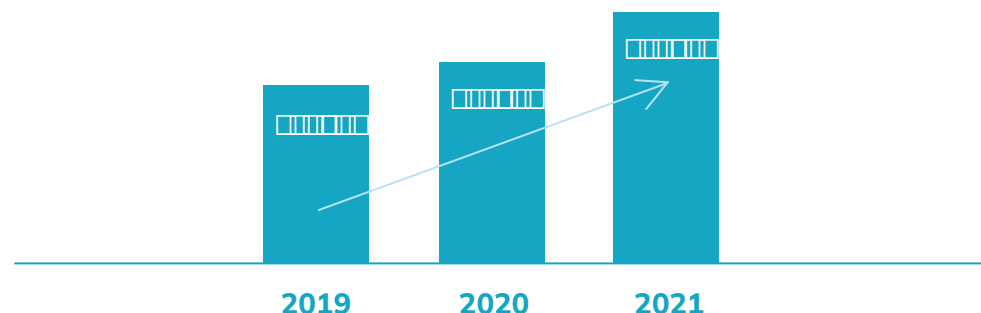
### Environmental Investments (Unit: NTD Thousands)

Expense category	Expense items	2019	2020	2021
New prevention/treatment equipment	Air pollution prevention equipment	□□□□□	□□□□□	□□□□□
	Water pollution treatment equipment	□□□□□	□□□□□	□□□□□
Operational and maintenance expenses for prevention equipment	Air pollution prevention equipment	□□□□□	□□□□□	□□□□□
	Water pollution treatment equipment	□□□□□	□□□□□	□□□□□
Waste processing expenses	General industrial waste	□□□□□	□□□□□	□□□□□
	Hazardous industrial waste	□□□□□	□□□□□	□□□□□
<b>Total</b>		<b>354,152</b>	<b>372,749</b>	<b>378,238</b>
<b>Revenues (by entity)</b>		<b>37,884,848</b>	<b>39,649,875</b>	<b>57,532,802</b>
<b>Percentage of revenues (Total expenses/revenues)</b>		<b>0.93%</b>	<b>0.94%</b>	<b>0.66%</b>

### Economic Benefits from Environmental Investments (Unit: NTD Thousands)

	Type	2019	2020	2021
Benefits	Waste recycling	□□□□□	□□□□□	□□□□□
	Electricity conservation measures	□□□□□	□□□□□	□□□□□
	Water conservation measures	□□□□□	□□□□□	□□□□□
<b>Total economic benefits created</b>		<b>177,247</b>	<b>186,112</b>	<b>252,984</b>

### Total economic benefits created (Unit: NTD Thousands)



### Non-toxic cleaning fluid - AG3300

Beginning in 2019, Winbond's research and development team has collaborated with our industrial safety, factory affairs, and manufacturing teams to search for a cleaning fluid which does not contain TMAH. After repeated experiments and tests, the ingredients and dilution ratios are adjusted, considering product specifications and quality requirements. We finally settled on using AG3300. Formally put into use in late June 2021, this cleaning fluid has not only improved environmental safety and reduced work safety risks, but it has also reduced our wastewater treatment burden, successfully replacing cleaning fluids containing toxic TMAH.

## 3.2 Energy and Carbon Management

### Energy Management

Our use of raw materials/fuel has increased in recent years due to the building of new facilities and the addition of new equipment. In 2021, we consumed approximately 2,232,751 GJ of energy. Therefore, Winbond shall continue to implement energy-conserving measures, adding 8 new measures in 2021. Our Central Taiwan Science Park facility has also adopted the ISO 50001 energy management system, conserving approximately an extra 23,137 GJ of energy compared to the previous year.

In 2021, energy consumption rates for product units showed that production of 12-inch wafers consumed an average of 79.3 MJ of energy for each photomask layer, a decrease of 1.1% compared to 2020's consumption rate of 80.1 MJ. In the future, we shall continue promoting and implementing energy-conservation plans to reduce environmental burdens.

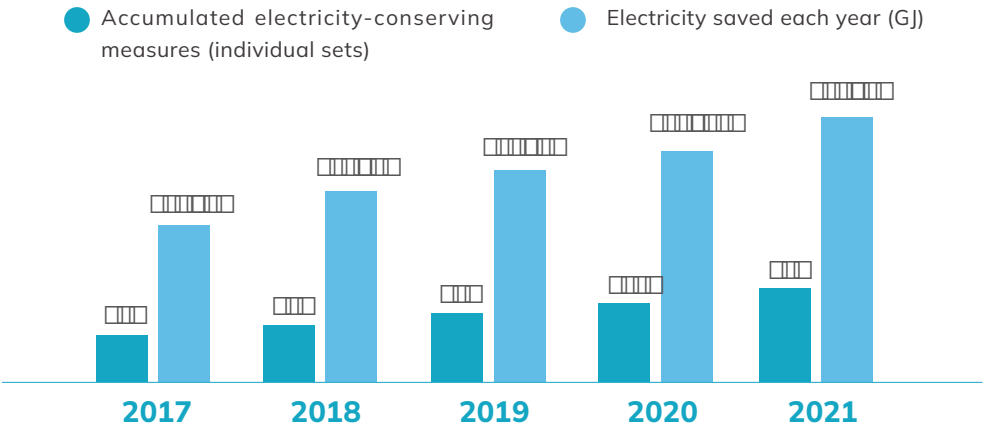
### Target Achievement Progress

Metrics and Targets	2021 Targets	2021 Progress
Electricity consumption per product unit (MJ/layer - wafer photomask)	≤ <div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div></div>

From 2017 to 2021, a total of 1,167,682 GJ of electricity was conserved, equivalent to the annual electricity consumption of **92,002** households

**Note** This figure is based on the Taiwan Power Company's 2018 statistics, which showed that average annual electricity consumption for one household was 3,504 kWh, approximately 12.6 GJ.

### Energy conserved in previous years



### 2021 Energy-Conserving Measures and Outcomes

Type	Name of energy-conservation/carbon reduction project	Energy saved (kWh)	Reduction in greenhouse gas emissions (tCO2e)
Accumulated electricity-conserving measures (individual sets)	Lights in the low-voltage room in the CUB Building replaced by RF motion-sensing lights, improving energy-conservation	<div><div></div><div></div><div></div><div></div></div>	<div><div></div></div>
	Energy-conserving assessment of motion-sensing lights for FAB-B 2F	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
Energy-conserving improvements to plant facilities	Improvement of energy saving due to the too high operating temperature of power transfer transformer in an electrical room in the LINK Building	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div></div>
	Reduced energy consumption for FAB-C MAU operations	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div></div>
	Further optimized energy and water conservation for the UPW system's AC+2B3T operations	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div></div>
	Further expanded energy-conserving improvements to the H2 purification equipment	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div></div>
	Improved efficiency of the wastewater plant's treatment pump	<div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div></div>
	Adjusted operating loads for the #1 gas and electric boiler	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div></div>

**Note** 2020 is defined as the base year. Estimates and calculations for electricity-conservation measures and electricity saved are based on the requirements of the Energy Conservation Audit Declaration Form for Energy Users.



## Energy use and energy intensity for each product unit

Energy intensity/year	2019	2020	2021
Total energy consumption (GJ)			
Product unit energy consumption (MJ/Layer - wafer photomask)			
Electricity usage (million kWh)	<b>528</b>	<b>546</b>	<b>552</b>
Total electricity usage (GJ)			
Product unit energy use (MJ/Layer - wafer photomask)			
Percentage of total electricity usage (%)	<b>89.7</b>	<b>89.2</b>	<b>89.1</b>
Natural gas usage (ten thousand cubic meters)	<b>577</b>	<b>636</b>	<b>654</b>
Total natural gas usage (GJ)			
Product unit natural gas usage (MJ/Layer - wafer photomask)			
Percentage of total natural gas usage (%)	<b>10.2</b>	<b>10.7</b>	<b>10.9</b>
Diesel usage (cubic meters)	<b>52</b>	<b>54</b>	<b>55</b>
Diesel usage (GJ)			
Product unit diesel usage (MJ/Layer - wafer photomask)			
Percentage of total diesel usage (%)	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>

### Note

- Winbond Electronics does not use any renewable energy
- Energy usage has been converted into joules 1 kWh of electricity = 3,600 kJ, 1 cubic meter of natural gas = 8,914 kcal, 1 liter of diesel = 8,400 kcal, 1 calories = 4.184 joules
- Standards, methodology, assumptions, and/or tools used: All energy usage comes from meter readings, the natural gas monthly consumption statement and requisition form/item number inventory change record checklist. These tables contain no estimates.
- Source of conversion factors used: Apart from natural gas, which was calculated using the caloric values provided by the supplier, all other conversion factors were based on the Environmental Protection Agency's Table of Greenhouse Gas Emissions Coefficients Version 6.0.4.

### Investment into renewable energy

In response to the government renewable energy policies, Winbond Electronics has in 2019 installed a 499 kW rooftop renewable energy generation system. The approximately 720,000 kWh of electricity generated each year is sold to the Taiwan Power Company, contributing to Taiwan's push for renewable energy.

### Energy-conserving Design of our Kaohsiung Facility

Winbond Electronics' Kaohsiung facility incorporated numerous energy-conserving designs in its initial design. The facility is able to conserve large amounts of energy through methods such as recycling waste heat, using LED lights instead of traditional light bulbs, and adopting energy-conserving chiller designs.

## Carbon Management

In response to the global warming caused by greenhouse gas emissions from corporate business activities, Winbond Electronics proactively cooperates with the government in advocating for the inventory and verification of greenhouse gas emissions. Winbond actively cooperates with the government to advocate corporate greenhouse gas inventory and registration operations and implements the greenhouse gas management mechanism in the factory by introducing ISO 14064-1 with operational control method. We have also established carbon reduction goals, constantly look for ways to reduce carbon emissions and propose plans for improvement. Additionally, we adopted the ISO 14067 in 2021, taking inventory of the carbon footprint of some of our wafer products in order to gradually improve our efforts to reduce greenhouse gas emissions.

On the other hand, Winbond has from 2000 onwards participated in the perfluorocarbons (hereinafter referred to as PFCs) emissions reduction projects organized by the Taiwan Semiconductor Industry Association and the World Semiconductor Council. Through adjustments to our manufacturing process, using other gases as a

substitute, installing fluorocarbons (hereinafter referred to as FCs), reducing equipment, and obtained the EPA's preliminary carbon reduction credits of 285,771 tons. We have reduced our greenhouse gas emissions and lowered the risk of the impact of climate changes on Winbond. This has improved our ability to adapt to climate change and our competitiveness in the industry, creating new opportunities and serving as advance preparations for the future when total caps on carbon emissions would be introduced.



**2021 ISO 14067 carbon footprint inventory verification completed for a portion of our wafer products.**


Progress on Our Greenhouse Gas Emissions Strategies and Targets

Most of Winbond Electronics greenhouse gas emissions are derived from the FCs and purchased electricity used in our manufacturing process, making up over 85% of our total greenhouse gas emissions. Therefore, our main targets are to directly reduce FCs emissions (including increasing utilization rates in our manufacturing process and installing combustion-style exhaust gas treatment equipment) and indirectly reducing emissions by conserving electricity.


Winbond Electronics continues to promote various carbon reduction plans and increase our resource utilization rates. In 2021, we reduced our emissions by an equivalent of 229,245 tons of carbon dioxide, 594 times the annual carbon reductions achieved by the Da'an Forest Park (based on data published by the Forestry Bureau of the Council of Agriculture Executive Yuan and the Department of Land Administration of the Taipei City Government: 25.93 hectares, when calculated based on a carbon fixation rate of 14.9 tons of CO2/hectare/year, Da'an Forest Park absorbs 386 tons of carbon dioxide a year). On the other hand, in order to reduce the number of times that our employees

would need to drive from our Zhubei Building to our Central Taiwan Science Park facility, Winbond has arranged for a public transport shuttle bus that makes 6 trips a day from the Zhubei Building and our Central Taiwan Science Park Facility on working days. We have encouraged our employees to use this shuttle bus as much as possible. Our Central Taiwan Science Park Facility also provides shuttle bus services to our engineering assistants (with routes to the Taichung city center, and with routes heading both north and south), allowing our engineering assistants to use these shuttle buses for their work commute and reducing fuel consumption and air pollution.

Target Achievement Progress

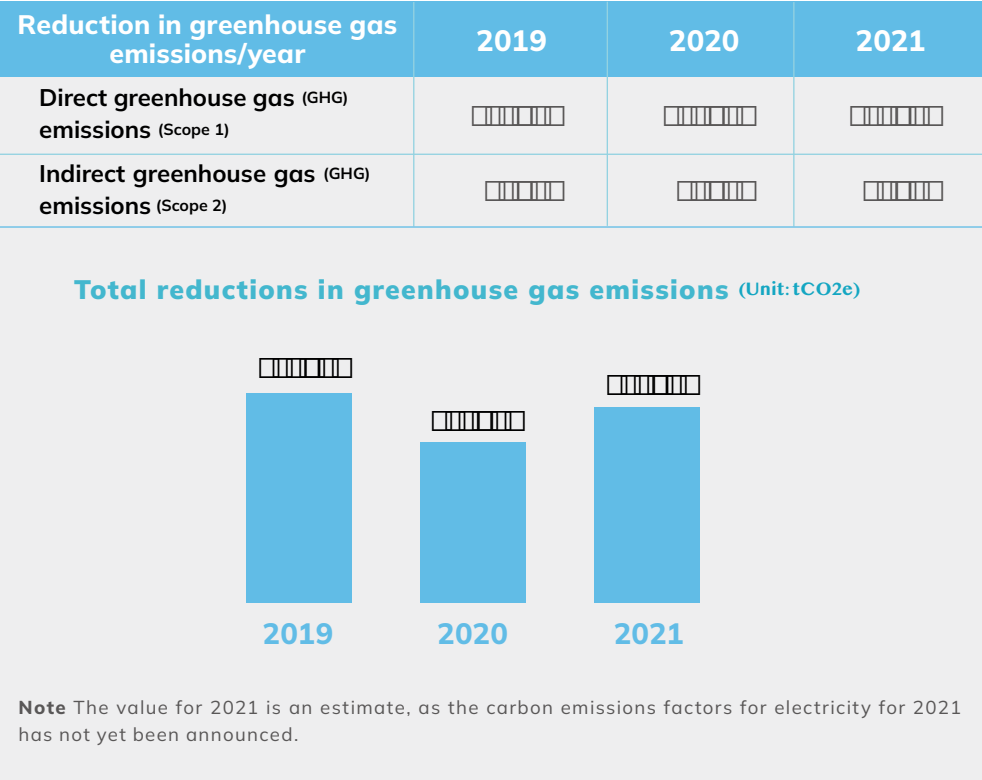
	2021 Targets	2021 Progress
Intensity of greenhouse gas emissions for each product unit (kg CO2e/ Layer - wafer photomask)	$\leq$ 	

- Note**
- 1. Reduction targets are split into Scope 1 and Scope 2
  - 2. Tier 2b calculation methods have been used to calculate the value for direct emissions produced by the manufacturing process in the greenhouse gas inventory report.



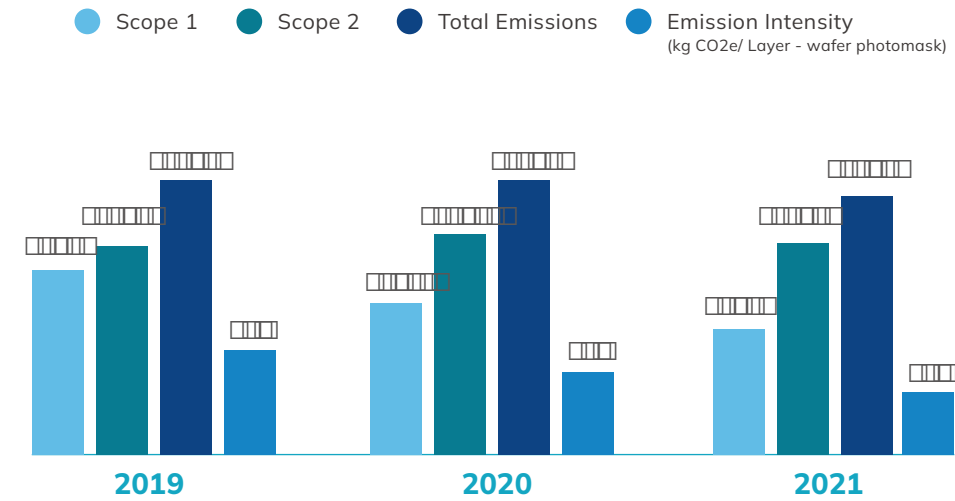
**In 2021, total greenhouse gas reductions were equivalent to 229,245 tons of carbon dioxide.**

Greenhouse Gas Emissions Reduction Outcomes (Unit: tCO2e)



Winbond’s greenhouse gas emissions are mainly split into three major categories. Scope 1 is of direct greenhouse gas emissions, including the greenhouse gases used in the manufacturing process (hydrofluorocarbons, perfluorocarbons, perfluorochemicals, nitrogen trifluoride, nitrous oxide, methane, and carbon dioxide), the greenhouse gases emitted by burning fuel (such as natural gas, petrol, and diesel), and the fugitive emissions from treated organic waste gases, septic tanks, high and medium-voltage panels, and firefighting equipment. Scope 2 is of greenhouse gas emissions indirectly related to energy derived from purchased electricity. The inventories of Scope 3 will be completed in 2022.

GHG Emissions Overview (Unit: tCO2e)



- Note**
- 1. Winbond activated the PFCs tracking system for production process gases in 2020 to discriminate between the gas usage of each process. The method for calculating GHG emissions was changed from Tier 2a to Tier 2b to obtain more precise emissions data. The baseline year for GHG inventory was therefore set as 2020 for now and total emissions were 331,317 tCO2e.
  - 2. The Global Warming Potential (GWP) used in this table comes from the "IPCC Fourth Assessment Report (2007)".
  - 3. The types of greenhouse gases include N2O, CH4, CO2, HFCs, PFCs, SF6, NF3, etc.
  - 4. Standards, methodology, assumptions, and/or tools used: All energy usage comes from meter readings, the natural gas monthly settlement form/requisition form, and the AS400/part number inventory change record check list. The table contains no estimates.
  - 5. The emission factors used are mainly based on the recommendations in the EPA's latest version of GHG emission factors, and the uncertainty data for emission factors were used as reference. To assess the uncertainty in activity data, we used the technical specifications of the measuring instrument as the basis for our assessment.
  - 6. The value for 2021 is the estimated value, as the emission factor of electricity for 2021 has not yet been announced.

## Scope 1 Emissions Sources List (Unit: tCO<sub>2</sub>e)

Types	Scope 1 emissions
Carbon Dioxide (CO <sub>2</sub> )	□□□□□
Methane (CH <sub>4</sub> )	□□
Nitrous Oxide (N <sub>2</sub> O)	□□□□
Hydrofluorocarbons (HFCs)	□□□□
Perfluorocarbons (PFCs)	□□□□□
Sulfur Hexafluoride (SF <sub>6</sub> )	□□□
Nitrogen Trifluoride (NF <sub>3</sub> )	□□□□

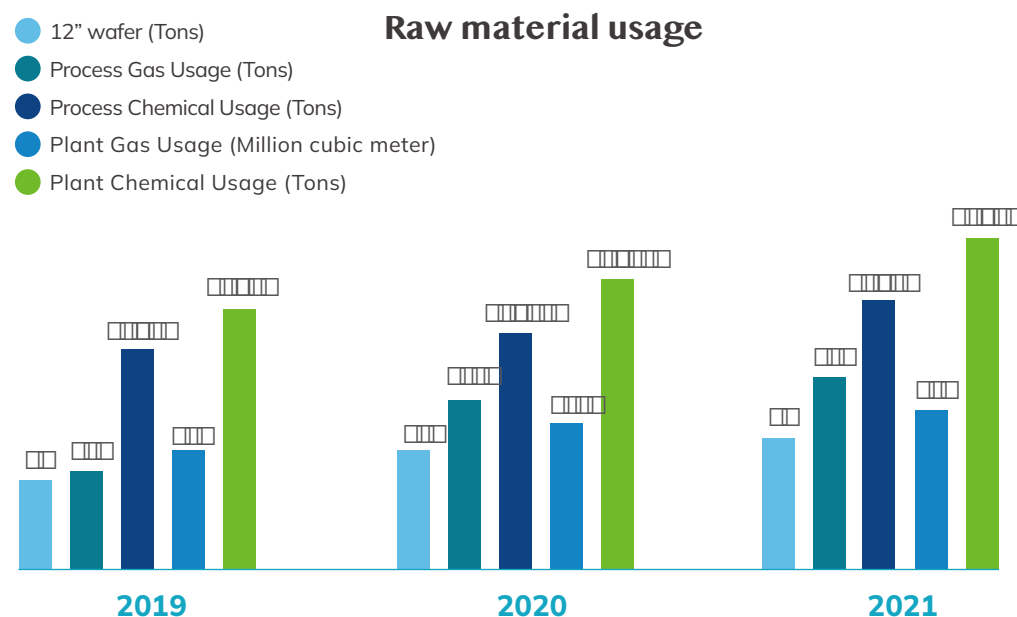


## 3.3 Resource Management

Winbond has always followed the principle of “optimal” material/fuel use to reduce consumption, waste output and GHG emissions. Production costs are lowered at the same time, making it better both environmentally and economically.

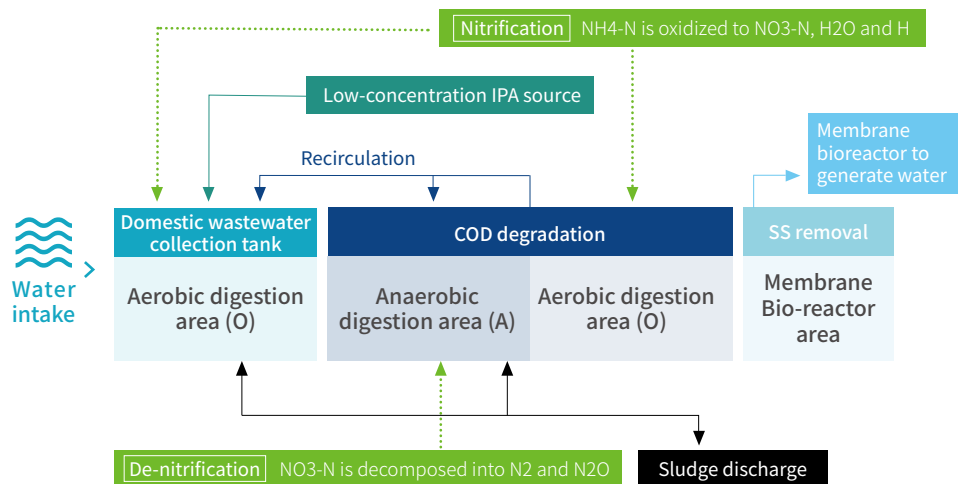
### Raw material management

Winbond regularly reviews the overall reduction performance of the company and constantly adjusts the operating parameters of raw materials to realize the requirements for optimization and minimization, which not only reduces the generation of pollutants and wastes but also reduces production costs, achieving a win-win outcome. Due to the continuous addition of new plant equipment in the past three years, there has been a gradual increase in all raw materials usage, but Winbond has also continued to invest in improving the efficiency of raw material usage and making good use of every resource.



## Kaohsiung Plant Waste Reduction Design

The Kaohsiung plant adopted a new wastewater treatment design, which utilizes the characteristics of microorganisms to decompose organic matter to treat the factory's domestic wastewater. We used low-concentration waste IPA as a carbon source to reduce the removal cost of waste liquid. It is estimated that we can reduce the cost of removing 36 tons of low-concentration waste IPA annually, saving NT\$570,000 annually. In addition, flow meters are used to replace traditional dosing barrels to calculate the dosing amount more accurately. Furthermore, not only will we be able to reduce the installation cost of tank pipelines and increase space utilization but also save about 34,000 kilograms of chemicals per year.



## Water Usage

Water is a critical global resource. The finite nature of global water resources reinforces Winbond's determination to optimize our water efficiency.

## Water Risk Assessment

Winbond employed the water risk assessment tool developed by the Water Resources Institute (WRI) and the "Aqueduct Water Risk Atlas" from the Aqueduct website to analyze the water resource distribution of Taiwan. The analysis found that all of our operating locations in Taiwan are located in regions with low water resource risk.

## Introduction of Water Footprint Verification

Winbond passed the ISO 14046:2014 water footprint verification in 2021, improving its water resources management system.



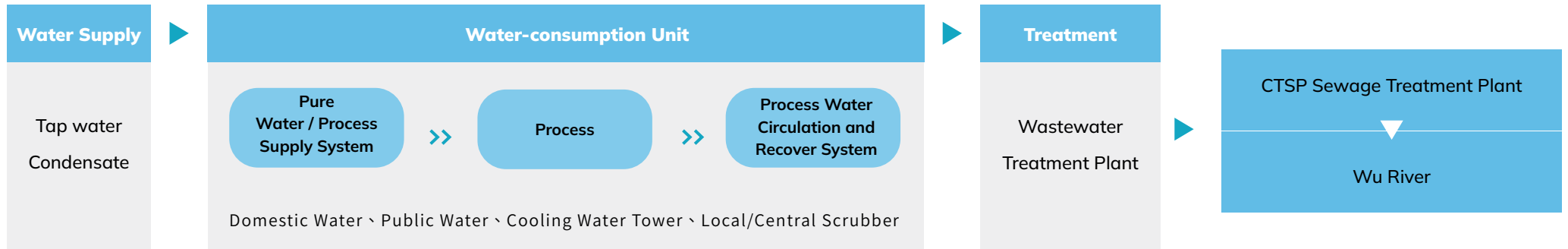
Winbond's main source of water is tap water supplied by Taiwan Water Corporation. Most are supplied by the Liyutan and Deji reservoirs with a small part coming from rainwater and air-conditioning condensate. In 2021, our total water consumption amounted to 3.3 million cubic meters. The water intensity per unit of product per layer of 12" wafer averaged 131 Liters and met our target for 2021 ( $\leq 150$  Liters/ Layer - wafer photomask). Winbond implemented 3 water conservation measures in 2021 that boosted water savings by 177,000 liters.

In 2021, we recycled up to 10.59 million cubic meters of water. Fab water recycling rate reached

83%



## Site Water Usage Process



**Note** Local Scrubber: Exhaust gas treatment equipment, Central Scrubber: Central waste gas scrubber



## 2021 Target Achievement

Metrics and Targets	2021 Targets	2021 Progress
Water consumption per unit of product (Liter /layer - wafer photomask)	$\leq$	
Fab Water Recycling Rate (%)	$\geq$	

## 2021 Water-saving Measures (Unit: million liters/year)

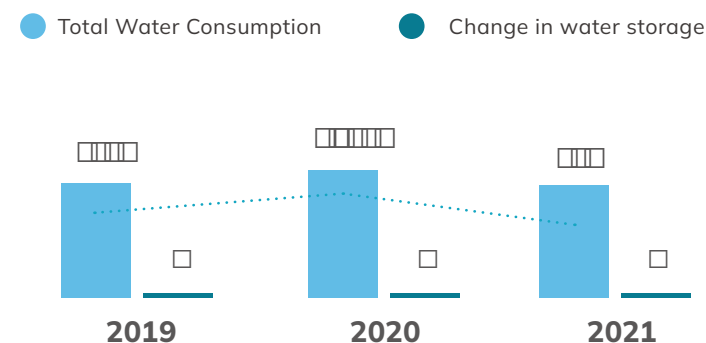
Water Conservation Measures	Explanation of Water Conservation Measures	Water Saving
Water Conservation and Drought Preparation Measures	Adjustment of water quality and water consumption by factory facilities	
Ammonia nitrogen wastewater treatment by using RO system to produce, recycle, and reuse wastewater	Removal of ammonium fluoride from waste liquid increases RO water production and recycling rate	
Water-saving Tube Cleaner equipment	Number of cleaning times for Tube Cleaner equipment reduced	

## Water withdrawal (Unit: million liters/year)

Water Resources Types		2019	2020	2019
Water withdrawal by source	Third-party water   Surface water (Total)			
	Total water withdrawal			

**Note** Winbond uses tap water provided by a third-party. We do not use surface water, ground water, seawater or discharge water. The thirdparty's water source is surface water (fresh water with  $\leq 1,000$  mg/L total dissolved solids); Total water withdrawal was calculated as the sum of surface water (total), ground water (total), seawater (total), discharge water (total), and third-party water (total).

## Water Consumption (Unit: million liters/year)



**Note** Change in water storage is calculated as the difference in total water storage between the start and end of the reporting period. The water storage tanks at our sites have a fixed capacity so there was no change.

## Kaohsiung Plant Water Saving Design

Winbond Kaohsiung Plant has incorporated various water conservations and reuse designs when constructing and designing the factory. We recycled rainwater, condensed water, and water discharged from washing towers to improve the usage rate of water resources. We also used recycled wastewater as reclaimed water to improve the plant's usage rate of water resources.



>>



>>



Rainwater

RO Filtration

Supply to Scrubbers

Scrubber drain

Air-conditioner condensate

## Daily water conservation

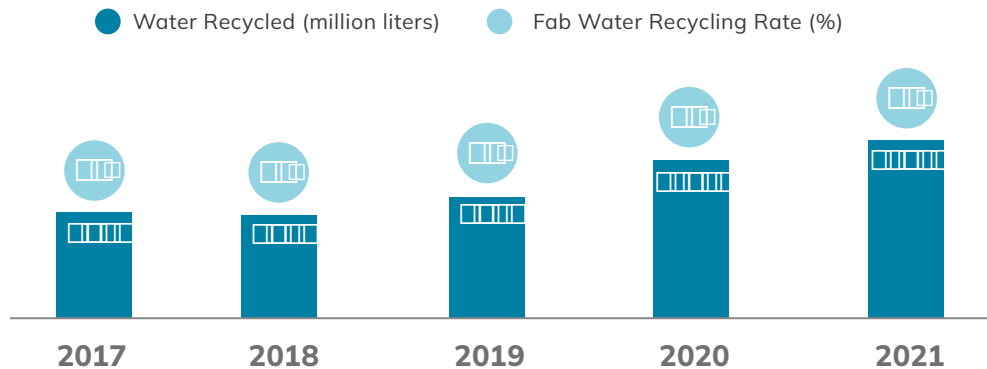
In 2021, the administrative department will completely replace Taiwan's factories and office buildings' faucets with sensor faucets to conserve water. We will further introduce intelligent floor cleaning robots, which can save about 92% of the water used for floor cleaning.



## Water Recycling

Winbond continues to increase the water recycling rate. In 2021, the site recycled approximately 83% of its water and 91% of its process water (meeting the science park's commitment under the environmental impact assessment to recycle more than 77% of all water used and more than 85% of process water). Cumulative water savings between 2017 and 2021 has now reached 6,970 million liters, equivalent to 138% of Baoshan Reservoir's capacity. (Note: This is based on Baoshan Reservoir's effective capacity of 5,040 million liters as measured by the MOEA Water Resources Agency in 2019.)

### Water Recycling Performance in Past Years



**Note** Fab Water Recycling Rate= (Recycled Condensate + Recycled Process Water + Recycled Reclaimed Wastewater) / (Tap Water + Recycled Condensate + Recycled Process Water + Recycled Reclaimed Wastewater -Evaporation).

## Wastewater Management

According to the principle of wastewater treatment, Winbond factory area is divided into three directions of treatment which are "reduction of process wastewater sources, wastewater removal treatment, and recycling and reuse." We set up corresponding treatment facilities according to the characteristics of the wastewater and treated the acidic and alkaline wastewater, fluoridated wastewater, wafer planarization wastewater, ammonia nitrogen wastewater, tetramethylammonium hydroxide wastewater, copper wastewater, and hydrogen peroxide wastewater generated during the wafer manufacturing process. We treated the domestic wastewater generated by employees by passing through a membrane bio-reactor (MBR). After the above-mentioned wastewater is properly treated by various treatment systems and the water quality reaches the "Water Quality Standard of CTSP Sewage System Management", it is discharged to CTSP Sewage Treatment Plant. Once the wastewater has been re-treated in the plant to discharge standards, it is discharged into Wu River.

The wastewater treatment facilities of Winbond were designed to collect up to 20 types of waste liquids through separate pipelines. Each wastewater type is then treated through 11 distinct wastewater treatment facilities. Operating and discharge permits are applied for in accordance with the Water Pollution Control Act and the Soil and Groundwater Pollution Remediation Act. Testing is conducted by a laboratory accredited by the Environmental Analysis Laboratory every six months to confirm that the discharge water quality satisfies CTSP's influent standard. To reduce the environmental burden of the wastewater treatment facilities and chemical usage, we also collect and treat waste liquids from the washing towers, cooling towers, process cooling water, and recycled soft water from production processes for secondary water applications throughout the site. We continue to refine our water pollution prevention and control facilities to reduce the pollutant biochemical oxygen demand (BOD), chemical oxygen demand (COD), and the amount of suspended solids (SS) and sludge. The COD, SS and BOD readings for 2021 were far below the CTSP influent standard respectively.

### Water Emission Quality (Unit: mg/L)

Influent Standard/ Threshold Value	Chemical Oxygen Demand	Suspended Solids	Biochemical Oxygen Demand
CTSP Influent Standard	□□□□□□□□	□□□□□□□□	□□□□□□□□
Measured on 2021.04.28	□□□□	□□□	□□□
Measured on 2021.11.11	□□□□	□□□	□

### Water drainage (Unit: million liters)

Item	Type	2019	2020	2021
Emissions by Destination	Total Surface Water Emissions	□□□□	□□□□	□□□□
Emissions by Treatment Level	Total Emissions after Level 3 Treatment	□□□□□□	□□□□	□□□□

**Note** According to discharge by destination, Winbond's wastewater was mainly discharged into surface water (fresh water ≤ 1,000 mg/L total dissolved solids).

## 3.4 Waste Management

Winbond ensures that waste generated during business operations is properly and safely disposed off in accordance with the "Waste Disposal Management Procedure." Waste reduction, reuse and recycling are used to reduce the amount of waste produced by our sites in order to minimize environmental impact.

Winbond generated around 7,727 tons of waste in 2021. Waste generated per layer of 12" wafer photomask averaged 0.308 tons; 100% of hazardous industrial waste was disposed of through licensed local waste disposal organizations. Recycling rate was 93% with 7,212 tons of waste recycled, meeting our annual target of exceeding 90%.

### Waste Management Process



## Waste Recycling Rate (Unit: %)

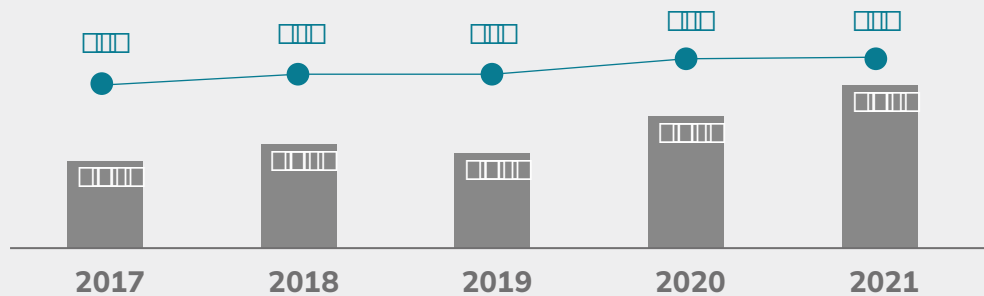
Year	2019	2020	2021
Total Waste Recycling Rate			

## Waste Generation, Disposal and Transfer (Unit: Tons)

Waste Composition	2019	2020	2021
General waste			
Hazardous waste			
Waste Recycling			
Percentage of hazardous waste			

● Total waste

● Percentage of recycled waste



### Note

1. The amount of waste generated is the value reported under waste disposal regulations.
2. All waste generated by Winbond sites is removed for processing by qualified disposal organizations and none is processed directly on-site.

## Kaohsiung Plant Waste Reduction and Waste Reuse Design

### Design of Hydrofluoric Acid Sludge Innocuous Treatment and Reuse

Winbond Electronics Kaohsiung Plant has been investing in the R&D of waste treatment processes in the early stage of plant design. One of them is a project about the innocuous treatment and reuse of hydrofluoric acid. In the semiconductor manufacturing process, a large amount of hydrofluoric acid which is commonly known as bone dissolving water is used. Its chemical properties are extremely harmful to the environment and human beings. Therefore, Winbond turned harmful hydrofluoric acid into harmless calcium fluoride sludge through the wastewater treatment process and made it into artificial fluorite or cement additives. These materials produced can be used as regenerative materials for steelmaking welding flux and pavement bricks, which largely reduces the production of toxic sludge.



## 3.5 Emissions Management

Winbond's air pollution prevention strategy starts with reducing emissions at the source. Process improvements are used to reduce the amount of pollutants generated to a reasonable level. Pollutants in the missions are then treated with high-performance control equipment to ensure that atmospheric emissions exceed government standards for pollutant content. All past measurements found that Winbond emissions were all lower than EPA emission standards.

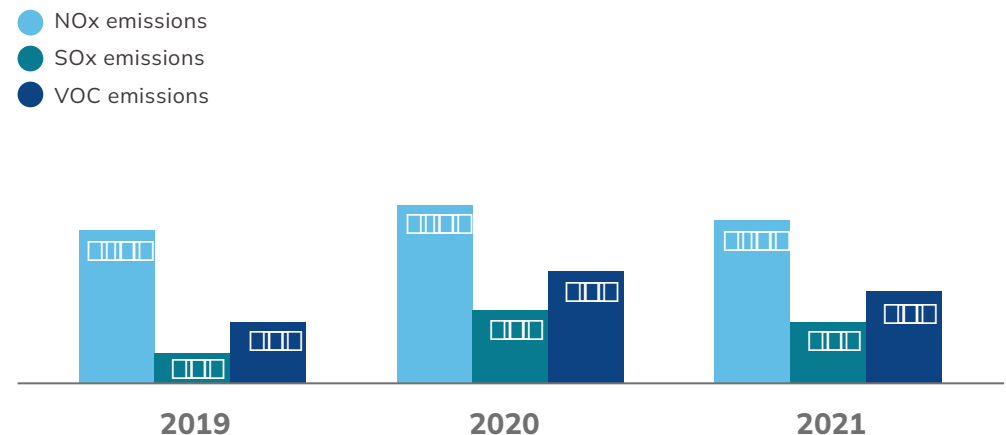
Emissions from Winbond processes are categorized as acidic, alkaline, volatile organic or general emissions based on their attributes. General emissions are mainly hot exhaust from machines which do not cause air pollution. Effective air pollution prevention equipment is used for each type of pollutant. Winbond has installed local scrubber equipment for certain hazardous, flammable, FCs and PFCs emissions from production processes. These emissions go through the absorption and incineration process before being channeled to the central emission washing tower for washing and neutralization of their inorganic acids and alkaloids. Emissions that contain VOCs are sent directly to the zeolite rotor for absorption before being treated by vertical incinerators.

The air pollution prevention equipment at Winbond can be immediately switched to a backup system in an emergency or during maintenance. They are equipped with emergency power and other backup systems as well as an advanced real-time monitoring system that tracks changes in the system's operating parameters on a 24-hour basis. An alert is immediately sent if a pre-set threshold is exceeded for immediate action to ensure reliable and continuous operations 24 hours a day, 365 days a year. The effective treatment of air pollutants conforms with the relevant regulations of the "Air Pollution Control and Emissions Standards for Semiconductor Industry" and the "Air Pollutant Emissions Standards for Stationary Pollution Source."



Winbond has installed zeolite rotor treatment systems for handling volatile organic gas (VOC) emissions. Cleaner natural gas is used as fuel to reduce secondary pollution from combustion. Our average removal rate for VOCs in 2021 reached **98%** and exceeded the relevant EPA regulations.

**Air Pollutant Emissions** (Unit:Tons)



## 3.6 Hazardous Substance Management

Winbond adheres strictly to international guidelines and standards such as QC 080000 (Hazardous Substance Process Management System Requirements), RoHS Directive (EU Restriction of Hazardous Substances in Electrical and Electronic Equipment), REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), California Proposition 65 (The Safe Drinking Water and Toxic Enforcement Act of 1986), TSCA (Toxic Substances Control Act) and Canada Convention. These ensure that the hazardous substance content of wafer, chip and package IC products manufactured by Winbond satisfy international environmental regulations and customers' green product requirements. They must also avoid polluting the environment and posing a threat to human health. Winbond has drawn up the "Hazardous Substances Control Regulations" and set up a cross-department hazardous substance management team to oversee all product-related design, purchasing, production and sales processes. Suppliers and subcontractors are also required to adopt green product requirements. Our ultimate goal is to supply customers with Hazardous Substance Free (HSF) products that meet their requirements. Winbond also pays attention to creating environmental protection concepts for the employees. All employees (including new employees) have received "Hazardous Substance Identification and Pollution Prevention Training." The following principles are followed during R&D, purchasing, production, operations and services to reduce the impact of our company operations on the natural environment and human beings:

1. Reduce the resource and energy consumption of products and services.
2. Reduce emissions of pollutants, toxic substances and wastes; and properly dispose of the waste.
3. Improve the recyclability and reusability of raw materials or products.
4. Optimize the sustainable use of renewable resources.
5. Extend the durability of products.
6. Enhance the effectiveness of products and services.

The HSF Policy commits Winbond to the design, purchasing, manufacture, and sale of hazardous substance-free products. Every effort is made to fulfill the company's responsibilities as a corporate citizen through compliance with international regulations, satisfaction of customers' requirements, and protection of the environment. The Hazardous Substance Process Management System Requirements (HSPM) representatives convene a management review meeting every year to review and discuss policies, targets, regulations, audit outcomes and management performance. We are continuously improving the effectiveness of our hazardous substance management system.





chapter

# 04

## Harmony and Inclusion

- 4.1 Talent Recruitment, Development and Retention
- 4.2 Employer-employee relations
- 4.3 Occupational Safety and Health
- 4.4 Community and Social Participation



## Harmony and Inclusion

Talent cultivation and development is valued by Winbond in keeping with our spirit of a “human-oriented” approach. We strive to build a friendly workplace, provide employees with a safe and healthy working environment, fulfill our corporate social responsibility and make a positive contribution. We continue to give back to society under our philosophy of “giving back what you take.”



## Material Topics and Management Approach

### Occupational Safety and Health

Material Topic : Occupational Health and Safety

GRI 403: Occupational Safety and Health

Item	Management Approach
<b>Policies/ Commitments</b>	Winbond strives to comply with the latest international environmental, safety and health standards. We are also committed to fulfilling our social responsibility as a world-class company by providing a healthy working environment that conforms to statutory requirements through respect, caring, as well as mechanisms for worker consultation and participation. It is the social responsibility of a world-class company to ensure there are zero hazards and to reduce the environmental burden. Winbond always attach great importance to quality. We strive to achieve zero defect for our products throughout the manufacturing process from design to finished products to meet customers' highest requirements. In addition, we set up testing procedures during each stage of our operating processes, which meet the AEC-Q100 standards, thereby attaining quality goals.
<b>Responsibilities</b>	A Winbond ESH and Risk Management Committee chaired by the President has been established. Regular meetings of the Committee are convened to discuss occupational, environmental, safety and health matters.
<b>Resources</b>	<ul style="list-style-type: none"> <li>Internal and external Occupational Health and Safety training.</li> <li>Incentive mechanism for reporting of anomalies.</li> </ul>
<b>Reporting/ Communication Mechanism</b>	<p>ESH Management System Consultation and Communication Procedures.</p> <ol style="list-style-type: none"> <li>1. Make a proposal by filling out the "ESH and Risk Committee Proposal Form."</li> <li>2. Issues can be raised through employee representatives taking part in the site ESH and Risk Management Committees.</li> </ol>

<b>Specific Actions</b>	The ISO 45001 management system has been introduced for continuous improvement of the Occupational Safety and Health system.
<b>Mechanism for Evaluating Management Approaches</b>	<ul style="list-style-type: none"> <li>• A PDCA validity assessment of the Occupational health and safety management system is conducted every 6 months in accordance with Winbond's "Internal Audit Procedure for ESH System;" external verification by third-party is also conducted every year.</li> <li>• The ISO 45001 management system is regularly updated to maintain the validity of the Occupational Safety and Health management system.</li> <li>• Statistics of the annual violations of Occupational Safety and Health Act regulations, solutions or improvement measures, and the number of cases</li> <li>• Statistics of the completion rate of physical or online courses for Occupational Safety and Health</li> </ul>
<b>Outcome of Management Approach Assessment</b>	<ul style="list-style-type: none"> <li>• There were no violations of Occupational Health and Safety regulations in 2021.</li> <li>• Maintain certification for the new version of the ISO 45001 management system.</li> </ul>

## 4.1 Talent Recruitment, Development and Retention

Winbond adheres to international human rights conventions and labor rights laws in protecting employees' freedom of association and right to speech. We do not discriminate on the basis of employees' race, age, gender, sexual preference, disability, pregnancy, politics, and religion. We are also committed to creating a workplace free from discrimination. Human rights training and education are conducted at every level of Winbond each year to prevent illegal discrimination. To ensure equal opportunity and prevent potential human rights risks, a strict recruitment procedure has been devised that prohibits illegal discrimination against applicants from the very beginning of the recruiting process. Training courses for managers on talent selection also cover non-discrimination against applicants.

Winbond continues to refine its HR management system and optimize its HR integration system in areas such as recruitment, retention, compensation, benefits and talent cultivation. We also communicate the people-centric corporate culture of Winbond to boost employee identification with the company. Many resources invested toward attracting and retaining talent have helped Winbond maintain its competitiveness in a fast-changing world.

### Workforce Structure

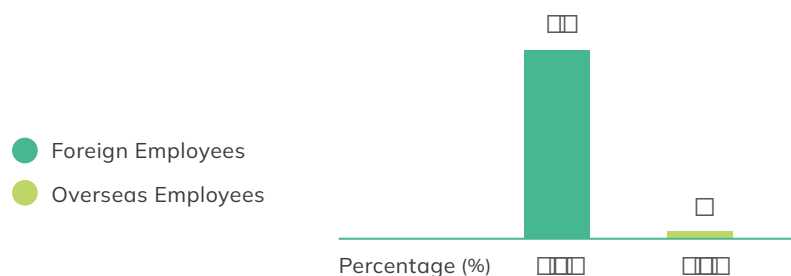
#### Global Talent Strategy

Winbond has established global operating locations in Taiwan, US, Japan, Israel, Germany, and Mainland China to provide better services. At the end of 2021, the Winbond's head office in Taiwan employed 3,248 people including 2,474 management, R&D/production and administration/sales personnel, as well as 774 production support personnel.

**Global Workforce Distribution** (Unit: persons)

Item	Head Office (Taiwan)		Asia (not including Taiwan)		North America		Middle East		Europe	
	Fixed-term Contract	Indefinite Contract	Fixed-term Contract	Indefinite Contract	Fixed-term Contract	Indefinite Contract	Fixed-term Contract	Indefinite Contract	Fixed-term Contract	Indefinite Contract
Male	□	□□□□	□□	□□□	□	□□	□	□□	□	□
Female	□□	□□□□	□	□□	□	□□	□	□	□	□
Subtotal	□□	□□□□	□□	□□□	□	□□	□	□□	□	□
Total	□□□□□		□□□□		□□		□□		□	

## Distribution of Foreign and Overseas Employees

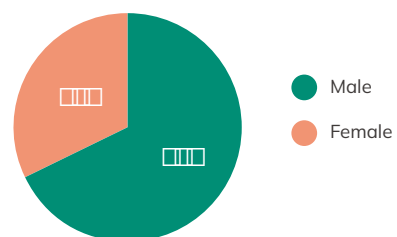


**Note** The calculation of foreign and overseas employees is based on dividing the number of foreign and overseas employees by the total number of employees of the head office in Taiwan

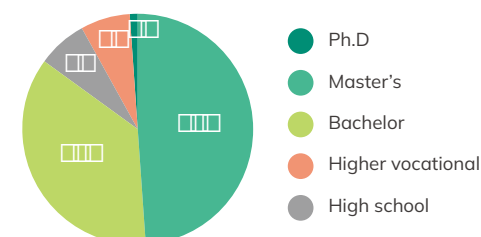
## 2021 Employee Composition

Winbond regularly examines the composition of our employees and draws up recruiting strategies for quality talent in order to recruit suitable professional expertise for maintaining our competitiveness in the industry. In 2021, 50% of all employees of the head office in Taiwan held a master's or Ph.D. degree, while 36% of employees held a bachelor's degree. Our employee composition reflected the knowledge-intensive nature of the semiconductor industry. In terms of age distribution, Winbond adheres to all local and overseas regulations and guidelines on the non-employment of child labor or those who have not completed their compulsory education. All employees are over the age of 18 with 74% of our employees aged between 31 and 50.

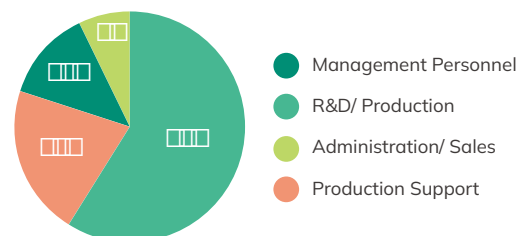
### Ratio of Male to Female Employees



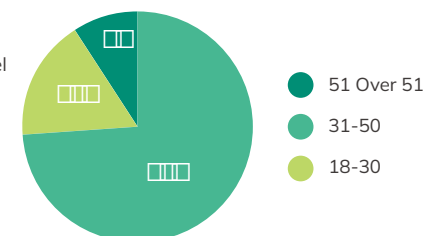
### Distribution of Employees' Educational Backgrounds



### Distribution of Employee Roles



### Employee Age Structure

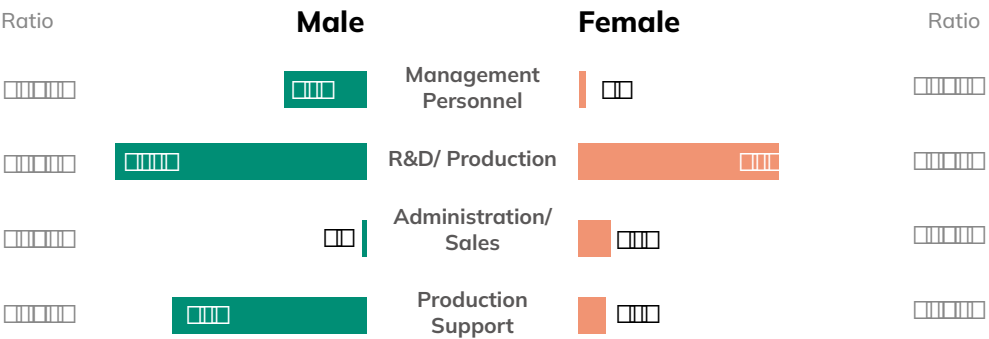


**Note** The calculation is based on the data of the head office in Taiwan on December 31, 2021



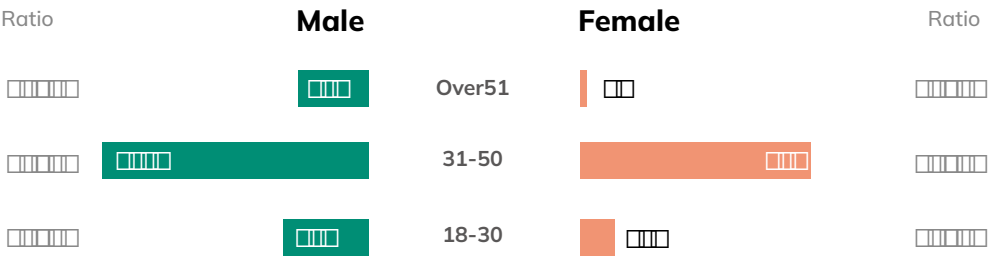
Distribution of Male and Female Employees

Due to the nature of the technology industry, the job market, and other factors, the majority of Winbond employees are male. There are 2,212 male and 1,036 female employees based at the head office in Taiwan, and the gender ratio is 2: 1. Winbond maintains the number of female employees at a certain percentage, treats employees equally and offers job protection. To maintain the balance of our employee gender distribution, there are no gender-based differences in selection and promotional prospects.



Age Distribution of Male and Female Employees

Winbond employees based at the head office in Taiwan are mainly aged between 31 and 50. The ratio of male to female is 2:1.



Employee Type and Roles

Our 3,248 employees of head office in Taiwan are divided into those on fixed-term contracts and those on indefinite contracts. Distribution of roles is 499 in management roles and 2,749 in non-management roles.

Distribution of Employee Employment Contracts

Item	Male		Female		Total number of people	
	Number of People	Ratio	Number of People	Ratio	Number of People	Ratio
Fixed-term Contract	100	4.5%	20	1.9%	120	3.7%
Indefinite Contract	1000	45.2%	200	19.3%	1200	37.0%
Total	2,212	68.10%	1,036	31.90%	3,248	100%

Distribution of Employee Employment Types

Item	Male		Female		Total number of people	
	Number of People	Ratio	Number of People	Ratio	Number of People	Ratio
Full-time	1000	45.2%	200	19.3%	1200	37.0%
Part-time	100	4.5%	100	9.7%	200	6.1%
Total	2,212	68.10%	1,036	31.90%	3,248	100%

**Note** Full-time personnel includes employees on indefinite contracts, engineering assistants, and periodic contracts ; part-time personnel are part-time employees on fixed-term contracts

Distribution of Employee Roles

Item	Male		Female		Total number of people	
	Number of People	Ratio	Number of People	Ratio	Number of People	Ratio
Manager	100	4.5%	20	1.9%	120	3.7%
Non-Management	1000	45.2%	200	19.3%	1200	37.0%
Total	2,212	68.09%	1,036	31.89%	3,248	100%

**Note** Management refers to section chief or higher grades responsible for supporting and directing employees in their department



## Talent Recruitment and Performance Evaluation

Winbond offers compensation and benefits superior to statutory requirements. The principle of equality is used to attract and retain talented people. In addition to quarterly reviews of legislation on employee compensation, benefits and gender, Winbond also regularly studies the job market to adjust the standard of employee compensation and benefits accordingly. A comprehensive evaluation system is also used to reward outstanding performers; an appropriate and reasonable level of turnover is maintained in accordance with the company's development goals to bring new ideas and mindsets to Winbond. Winbond adheres strictly to local and overseas labor laws and the RBA CoC. We prohibit the use of child labor or those who have not completed their compulsory education (under each country's local law).

### Diverse Recruitment Channel

A diverse range of recruitment channel is used by Winbond including job search platforms and campus recruitment. We reach out to new graduates joining the work force through a strict selection mechanism. Employee referrals of talented people are encouraged. An internal transfer system is also used to find talented people and match them to the right roles. Due to the demand for the different types of high-level technical expertise found in each country, we employ many foreigners from Japan, Korea, India, US, Malaysia, and Indonesia. The multicultural exchange in the workplace fosters new perspectives and thinking.

- **Campus recruitment:** Campus recruiting events are used to interact and network directly with students. Students can also receive employment counseling on the spot. Although fairs were canceled in 2021 due to COVID-19, freshmen can still search for jobs and enter the workplace through social medias and online interviews.
- **Internal transfer system:** The recruitment requirements are issued by the hiring unit. HR will post internal job openings in the recruitment system to promote the flow of talent and diversification of employee skills.
- **Recruitment website:** Applicants can find out about Winbond job opportunities

and descriptions through mainstream career websites, Facebook, or LinkedIn. They can also use the above-mentioned social media channels to contact Winbond's recruitment team by sending instant messages for job-related consultations.

- **Employee referrals:** Winbond employees can refer talented people to the company. Candidates will have a better understanding of the job vacancy and the culture of the company through employees identification with the company and introduction, leading to suitable talents placed in suitable positions.

### New Hires and Turnovers in 2021

Winbond strives to build a diverse, inclusive and equal-opportunity workplace. We believe that diversity in the management and workforce can help us keep track of market trends, understand the needs of customers, and maintain our competitive advantage.

To promote balance in diversity and conform to the requirements of the EU General Data Protection Regulation (GDPR), the gender and date of birth fields were removed from the Company's resume form in 2020. We hope this will lead to more objective selection of talent during recruitment.

In 2021, Winbond recruited 693 new employees based at the head office in Taiwan and our annual new hire rate was 21%. Of these, 56% were young people under the age of 30 and their recruitment was aimed at revitalizing the organization. A further 43% were aged between 31 and 50. Their inclusion brought a wealth of work experience for boosting and revitalizing organizational performance.

In 2021, the overall semiconductor industry talent market is active. Amid the large-scale recruitment, turnover rates also increased, however, the retention rates remained healthy. The analysis showed that employees with less than one year of service experience accounted for the majority of the turnover rate, accounting for about 30%. Most of the reasons were that the employees were still in the stage of career exploration. Therefore, Winbond made it more transparent and clearer while selecting talents. Senior employees in the unit help new employees to familiarize themselves with their work content at a much quicker pace and clear training plans so that new employees can quickly adapt to Winbond's culture.

## New Hiring and Turnover Statistics

Category	New Hires in 2021		Employee Turnover in 2021	
	Number of People	Percentage of that employee category	Number of People	Percentage of that employee category
Female	□□□□	□□□□	□□□□	□□□□
Male	□□□□	□□□□	□□□□	□□□□
Over 51 years old	□	□□	□□	□□
31 to 50 years old	□□□□	□□□□	□□□□	□□□□
Under 30 years old	□□□□	□□□□	□□□□	□□□□

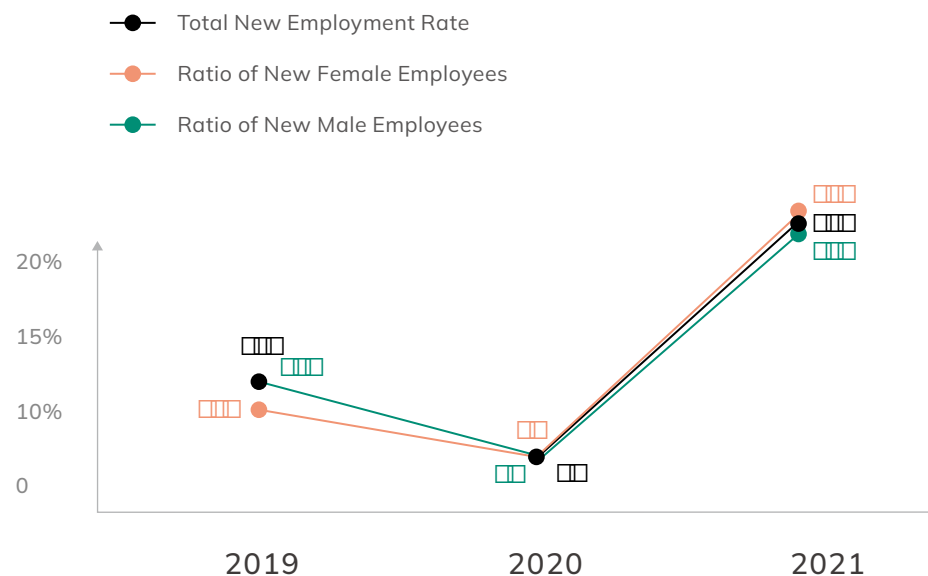
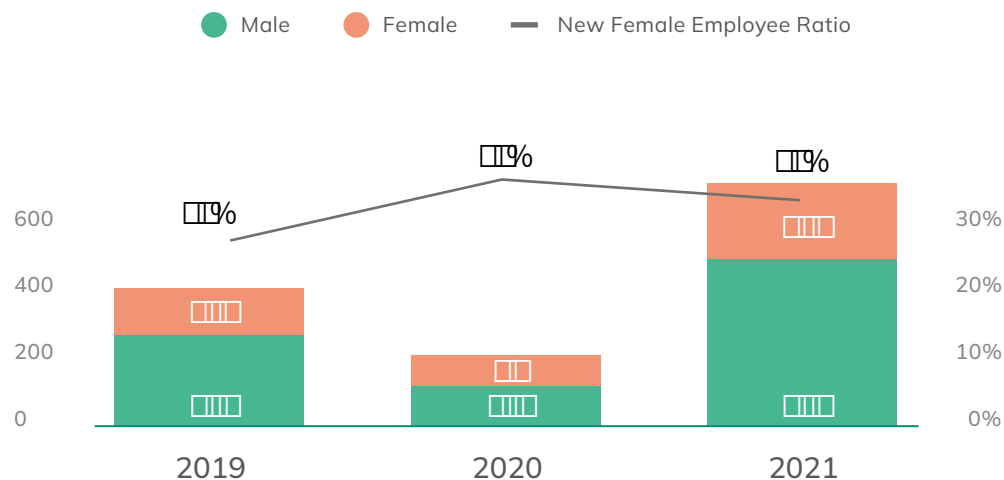
**Note** The percentage of new hires/resigned employees to that employee category is that gender or age group divided by the number of new hires/resigned employees in 2021

## New Hire Ratio

Year	Male		Female		Total	
	Number of People	Ratio	Number of People	Ratio	Number of People	Ratio
2019	□□□□	□□□□	□□□□	□□□□	□□□□	□□□□
2020	□□□□	□□	□□	□□	□□□□	□□
2021	□□□□	□□□□	□□□□	□□□□	□□□□	□□□□

**Note** New hire rate is the number of new recruits for the year divided by the total number of personnel with the same gender on December 31 of the same year

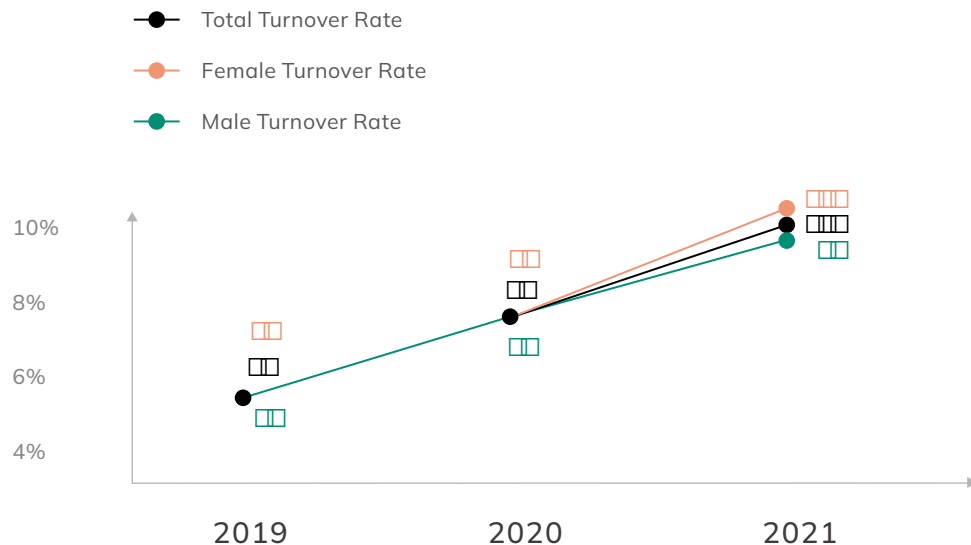
## New Recruit Hire Statistics



## Employee Turnover Statistics

Year	Male		Female		Total number of people	
	Number of People	Ratio	Number of People	Ratio	Number of People	Ratio
2019	□□□	□□	□□	□□	□□□	□□
2020	□□□	□□	□□	□□	□□□	□□
2021	□□□	□□	□□□	□□□	□□□	□□□

**Note** Turnover rate = Number of employees of that gender resigned from the company that year (including retirements) divided by the total number of personnel of the same gender on December 31 of the same year



## Hiring Individuals with Disabilities

Winbond continues to work with government employment agencies to examine the resumes of people with disabilities and increase their acceptance rate. At the end of 2021, there were 17 employees with disabilities and these counted as 19 after weighting by the degree of disability. The main reason why Winbond did not meet the statutory quota was that applicants were not qualified for the available job openings. A difference allowance was therefore paid in accordance to the law, and we will continue to provide job opportunities for people with disabilities.

All employees with disabilities are involved in actual business operations. Winbond provides such employees with an introduction to their commuting routes and work flows tailored to their disability. Appropriate personnel, equipment and working environment are also provided once they start work to ensure that they can put their talents to good use.

## Number of Employees with Disabilities

	Male		Female		Total number of people	Weighted by degree of disability
	Number of People	Ratio	Number of People	Ratio		
Hires	□□	□□□□	□	□□□□	□□	□□

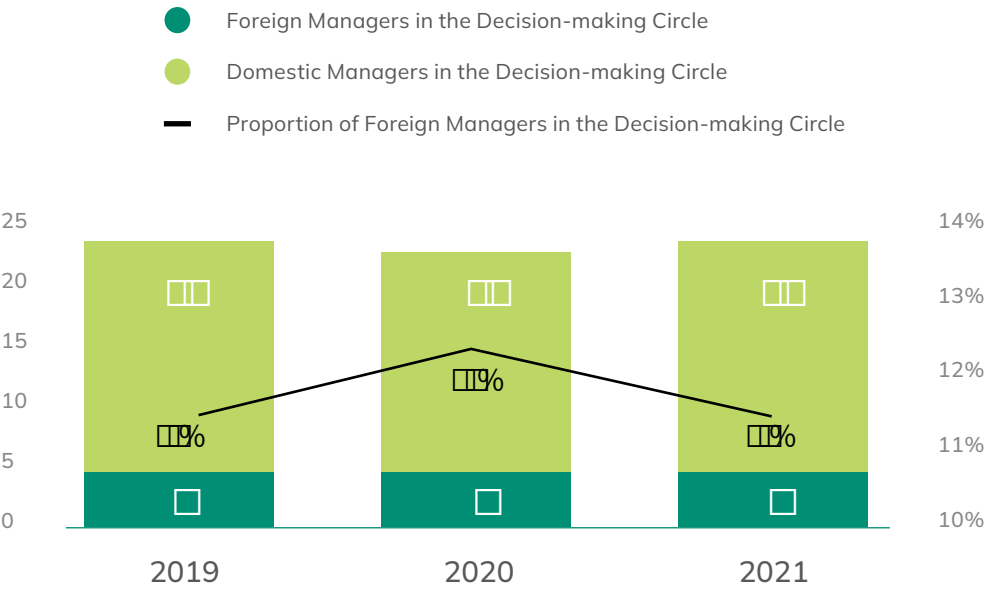
## Recruitment of Foreign Specialists

Winbond continues to recruit experts from around the world to ensure the diversity of our workforce and to build a talent pool for specialized fields. Foreign nationals from more than 7 countries now work in Taiwan with those from Japan and Korea being the largest groups. To attract and retain foreign talents, Winbond not only provides competitive remuneration and comprehensive assistance program but also offers equal opportunities for career development regardless their gender or origin. In 2021, there will be one more

manager in Winbond's Taiwanese decision-making circle compared to 2020, and the number of foreign managers in the decision-making circle remained unchanged.

To attract and retain foreign talents, Winbond provides competitive remuneration and assigns dedicated personnel to assist in daily life, such as work permit and residence permit application, housing, education for their children, and language and cultural interpretation. We strive to reduce the risks of cultural maladaptation so that foreign colleagues can not only live and work in compliance with laws but also live and work in peace and contentment.

Proportion Foreign Managers in the Decision-making Circle



**Note** Managers in the decision-making circle are managers above the deputy directors

## Recruitment of Indigenous People

Winbond has a multicultural workforce. In 2021, 12 of our domestic employees were from indigenous backgrounds. Indigenous employees are offered leave during traditional festivals to protect their right of participation and to do our part in preserving the indigenous culture of Taiwan.

Number of Indigenous Employees and Applications for Tribal Festival Leave

Year	Number of Indigenous Employees	Applications for Tribal Festival Leave	
		Number of People	Percentage
2019	1	1	100%
2020	1	1	100%
2021	2	1	50%

## Performance Management System

Winbond has established a comprehensive performance management system to ensure that the performance targets for managers and employees are aligned with company objectives. By understanding the work performance of employees and assisting them with the development of their personal skills, the competitiveness of the company as well as the overall performance of the organization and team can all be enhanced.

A new recruit evaluation mechanism was put into place by Winbond for new recruits on probation. Individual feedback from new recruits and their supervisors' evaluation are used to determine the suitability of new recruits as soon as possible. In terms of performance management, performance targets are set for employees at the start of the year and tracked through performance evaluations every half year. Employee performance is examined through the performance evaluation system in the middle and

at the end of each year. One of the key evaluation items is their core competency (including conduct business with integrity and ethical behavior, and sustainable contribution). The outcome of the evaluation serves as the basis for rewards, promotions, and performance counseling. 100% of all direct and indirect personnel underwent the performance evaluation process in 2021.

Winbond optimizes the “Performance Management System” from 2021 onwards to incorporate “Objective Setting,” “Performance Communication” and “Performance Evaluation” to better realize the benefits of performance management; the “Performance Communication” platform not only establishes a constructive and transparent channel for two-way communication between supervisors and employees but also assists supervisors with employee instruction; “Performance Evaluation” is a composite evaluation that not only assesses employee ability to meet Objective but also incorporates competency evaluation and core competency evaluation to strengthen our core culture, as well as management competency and specialist competency to track employee ability and identify talent gaps. Greater emphasis will be placed on the development of employees’ long-term and future abilities.

## Compensation and Benefits

Winbond offers the most competitive compensation package and comprehensive benefits. These include generous base salaries, allowances, bonuses, and remuneration. Various cash bonuses are also disbursed in a timely manner to share the fruits of our business with employees. Employee performance, professional knowledge and skills are also taken into account when determining bonuses and employee remuneration.

### Remuneration Policy

Employee remuneration is based on the principle of internal fairness and external competitiveness. It includes the fixed compensation (e.g. base salary, allowances) and variable compensation (e.g. operational performance bonuses and employee remuneration). Cash bonuses are also disbursed in a timely manner to share the fruits of our business with employees to attract, motivate and retain talent. Individual employee remuneration is based on the employee’s role and professional skills. Bonuses and employee remuneration reward employees for individual performance and contribution.

In 2021, the entry-level monthly salary at Winbond was between 1.4 to 1.8 times higher than the statutory minimum wage. To reward and retain talent, we also conduct market salary research every year to review our compensation and make salary adjustments. For the sake of human rights, compensation, benefits, evaluations and promotions are handled in an objective manner and not influenced by employee gender, race, skin color, religion, political affiliation, sexual preference, age, marital status, pregnancy, disabilities, blood type, star sign, or their role as workers’ representatives. The annual salary of the highest-paid worker in Taiwan is about 10.7 times higher than an employee on the median salary. The salary adjustment for the highest-paid employee in 2021 was approximately 90% higher than that of the median employee in 2020.



## Ratio of Entry-Level Salary to Local Minimum Wage

	2019	2020	2021
Direct Personnel			
Indirect Personnel			

**Note** Direct personnel is based on the monthly salary of entry-level employees with no experience; indirect employees are based on the monthly salary of entry-level employees with a university education.

## Ratio of Entry-level Salary between Male and Female Employees

2021	Minimum starting salary		Minimum wage
Remuneration	Female	Male	
Ratio of entry-level salary			

**Note** There is no gender-based difference in basic salary

## Salary Statistics of Full-time Employees in Non-Management Roles

Item	2020	2021	Annual Salary Difference
Number of Full-time Employees in Non- Management Roles			
Total Salary of Full-time Employees in Non-Management Roles			
"Average Salary" of Full-time Employees in Non-Management Roles			
"Median Salary" of Full-time Employees in Non-Management Roles			

## Employee Salary Ratio

Type of Personnel	Female	Male
Senior Management		
Middle Management		
Non-Management		

**Note** Middle management are those at the section and department level; senior management are those at or above the division level



## Generous Benefits

Winbond provides every employee with a full-spectrum of benefits ranging from work related incentive bonuses, lifestyle-related subsidies, to employee leave and a variety of clubs. These increase employee motivation and help them find fulfillment through work-life balance.

The cost of employee benefits at Winbond includes base salary, holiday bonuses, special bonuses, and performance bonuses, pensions and other benefits. In 2021, the total cost of employee benefits was NT\$17,325,311,000 (including consolidated subsidiaries). This included NT\$16,591,518,000 in short-term employee benefits and NT\$733,793,000 in retirement benefits.

### Note

1. All the welfare and benefits would be issued based on the related regulations. The information presented is mainly based on the Taiwan headquarters.
2. Short-term benefits refer to employee benefits that should be repaid within 12 months of the current period after the relevant services were provided by employees (with the exception of separation benefits).

## Total Employee Care

<b>Bonuses</b>	<ul style="list-style-type: none"> <li>Holiday Bonuses</li> <li>Special Bonuses</li> <li>Incentive Bonus</li> </ul>	<ul style="list-style-type: none"> <li>Operational Performance Bonus</li> <li>Employee Remuneration</li> <li>Winbond Star Bonus</li> </ul>	<ul style="list-style-type: none"> <li>Patent Bonus</li> <li>Pension</li> </ul>
<b>Subsidies/ Insurance</b>	<ul style="list-style-type: none"> <li>Childbirth Allowance</li> <li>Wedding Allowance</li> </ul>	<ul style="list-style-type: none"> <li>Childcare Allowance</li> <li>Group Insurance Retirement and Transfer Program</li> </ul>	
<b>Leave</b>	<ul style="list-style-type: none"> <li>LOHAS Holiday</li> <li>Unpaid Parental Leave</li> </ul>		
<b>Lifestyle Support</b>	<ul style="list-style-type: none"> <li>Foreign Employee Care</li> <li>Health Exam</li> </ul>	<ul style="list-style-type: none"> <li>Healthcare</li> <li>Health Promotion</li> </ul>	
<b>Club</b>	<ul style="list-style-type: none"> <li>Sports</li> <li>Arts and Culture</li> </ul>	<ul style="list-style-type: none"> <li>LOHAS</li> <li>Public Welfare</li> </ul>	

## Bonuses

Winbond encourages aggressive innovation and enthusiasm of learning among employees through a diverse range of incentive bonuses. A total of NT\$3,155,348,000 was disbursed in 2021.

## Diverse Incentive Bonuses

Incentive Bonus Type	Explanation
<b>Winbond Star Bonus</b>	Public recognition for individuals and teams that lived up to the Winbond work culture (Conduct business with integrity and ethical behavior, Accountable team work, Enthusiasm of learning, Aggressively innovate, Sustainable contribution) and made an important contribution to the Company.
<b>Special Bonuses</b>	Employees are rewarded in a timely manner for outstanding performance or for their performance in special projects.
<b>Operational Performance Bonus</b>	The fruits of business are shared with employees based on the company's performance in each quarter.
<b>Employee Remuneration</b>	The company's annual profits are shared with employees. The total amount is decided by the company's articles of incorporation. Employees are then rewarded on the basis of their contribution to the company and individual performance.
<b>Incentive Bonus</b>	A fund is offered for employee activities and gatherings. These help to strengthen employee relations, boost morale and maintain a positive atmosphere at work.
<b>Patent Bonus</b>	Boost patent output by encouraging employees to develop original inventions related to product design, manufacture, testing, application and marketing.

- **Subsidies/Insurance**

#### a. Childcare Allowance

In response to the government's encouragement of Chinese people to have children, Winbond has implemented the "Childcare Subsidy" policy since April 2011. Winbond employees receive a monthly allowance of NT\$5,000 for each newborn child until the child reaches the age of 4. The policy has been effective in boosting the birth rate among employees. The monthly allowance was also increased to NT\$6,000 in April 2021. As of 2021, the allowance has been applied for 1,574 children since 2011. Winbond not only supported employees' families by alleviating the financial burden for new parents but also improved the reinstatement rate for employees that took parental leave and boosted their happiness at work.

### Childcare Allowance Performance Statistics

Item	Explanation
Effect	<ul style="list-style-type: none"> <li>• Number of children applied: As of 2021, 1,574 children have benefited from the allowance since 2011</li> <li>• Total subsidies in 2021: NT\$28.93 million</li> </ul>

#### b. Group insurance

In addition to enrolling every employee in Labor Insurance and National Health Insurance as required by law, Winbond also provides comprehensive group medical insurance including life insurance, accident insurance, hospital insurance and cancer insurance. Insurance coverage is also not limited to employees themselves but also extended to their spouse and offspring. Optional group insurance is available at the employee's own expense for themselves, their families and parents. Employees can therefore choose an appropriate level of coverage for their needs. The family group insurance option provides employees and their families with more comprehensive protection of their health,

allowing employees to concentrate on their work. NT\$17,731,000 in premiums were paid between January and December 2021.

#### c. Pension Fund System and Transfer Program

Winbond appropriates funds (old system) or makes contributions (new system) for each permanent employee's pension. For those on the old pension system (Labor Standards Act), 2% of their monthly salary is paid to the pension preparatory fund. The contribution rate is also reviewed annually and a lump sum payment is made to meet the pension obligations of employees eligible for retirement. The payment is deposited into the account under the name of Supervisory Committee of Winbond's Labor Retirement Reserve at the Bank of Taiwan by the end of March in the following year. As of the end of 2021, Winbond planned its fair value (consolidated) amount for assets to be NT\$1,879,521,000. The future amount required to be appropriated had been presented as accrued pension liabilities according to the law. The net defined benefit liability (consolidated) amount was NT\$2,621,015,000.

For the new pension system (Labor Pension Act), Winbond contributes 6% of each employee's monthly salary based on their pay grade to their personal pension account. Employees may also voluntarily contribute up to 6% of their monthly salary based on their pay grade. Total appropriations (old system) and contributions (new system) for pensions amounted to NT\$230,698,000 in 2021. For relevant information, please refer to the Winbond 2021 consolidated financial report.

Winbond notifies all employees of any major operational changes in accordance with the local regulatory requirements of each operating location. Assistance is provided if necessary with transferring to another internal unit or for applying to the government for related subsidies.

- **Leave**

#### a. LOHAS Holiday

Winbond offers LOHAS holidays that exceed the requirements of the Labor Standards Acts to promote work-life balance among employees. Employees are entitled to 7 days

of LOHAS holiday in their first year with the company (pro rata); we offer a flexible leave system that allows leave to be taken in hourly increments for employees that need it. Winbond even encourages employees to take longer vacations each year. Employees can spend more time relaxing with their family and friends, balance their work and life, and live a more interesting life. 2,591 of employees made use of this option in 2021.

## b. Unpaid Parental Leave

Winbond offers unpaid parental leave as an employee benefit to help employees balance their careers with their families and to encourage employees to have children. A flexible leave and attendance management system provides employees with more flexibility and peace of mind for taking care of their children. A total of 27 Winbond employees applied for unpaid leave in 2021. Reinstatement rate after unpaid parental leave in 2021 was 85.7%.

## Unpaid Parental Leave Statistics

	Male	Female
Number of employees entitled to unpaid parental leave in 2021 <sup>1</sup>	□□□□	□□
A: Number of employees on unpaid parental leave in 2021	□	□□
B: Number of employees that should be reinstated in 2021	□	□□
C: Number of employees actually reinstated in 2021	□	□□
D: Number of employees reinstated in 2020	□	□
E: 2020 reinstatements - Number of employees still with the company after one year <sup>2</sup>	□	□
Reinstatement rate (%) = C/B	□□□□	□□□□
Retention rate (%) = E/D	□□□□	□□□□

### Note

1. According to the parental leave stipulated by the government, employees with children under the age of 3 can apply for two years. Therefore, the number of employees who have taken maternity leave or paternity leave is estimated since 2019.
2. Only employees that remained with the company for one full year starting from the date of reinstatement, up to 2021/12/31

## • Lifestyle Support

### a. Foreign Employee Care

Winbond proactively recruits global talents to refine our advanced production processes and improve the quality of R&D expertise. Foreign employees usually encounter issues regarding cultural, lifestyle and language when they first arrive in Taiwan. Some employees with family relocating to Taiwan even require additional assistance in helping their family settle in. Our foreign employee supportive team are dedicated to making their life easier by providing introduction to Taiwan's culture at work, company systems, helping them to apply for work permits, arranging for their children's school enrollments, and looking for proper rental for them to make Taiwan their second home. Regular follow-ups are used to check on their requirements at work and at home, so they can settle into their new life in Taiwan with least trouble. As of the end of 2021, 60% of foreign employees have been with Winbond for more than 5 years.

### Winbond Japan

"My Winbond colleagues are very friendly. Senior employees are also very open-minded and willing to listen to everyone's opinions. This has made my job easier. The Company also provides challenging assignments that keep me motivated, and many opportunities for me to improve my skills. I am amazed that the Company has been able to prioritize employee health and safety in the face of an unpredictable epidemic. Flexible strategies were quickly established so that I could take care of both my work and my family.



Naomi Morimoto, Winbond Japan

By sharing information with head office personnel through effective communication, we can complete our joint tasks together and feel a sense of pride in our achievements. We respect and help each other. We work together to realize our common goal."

## b. Health Exam

With the consent of the employees, Winbond provides high-quality, comprehensive health exams and special exams that exceed statutory requirements. These exams are arranged every year. We also regularly organize advanced abdominal ultrasounds, PAP smears and breast scans for women, eye examinations, and other exams, as well as hygiene education and consultation by specialist physicians every year. Preventive medicine, such as early screening and prevention, is practiced for holistic health management and promotion.

Employees assigned to special hazardous operations must undergo regular special health exams for health promotion in accordance with the "Regulations of the Labor Health Protection." In 2021, a total of 104 workers in special operations underwent health exams. All were classified as category 2 or lower for the purpose of health management and promotion based on the results.

Annual Health Exam	AED Certification
	

## c. Healthcare

Item	Content
<b>Maternal Health Protection and Management</b>	<p>The following measures are provided by Winbond in addition to implementing maternal health promotion measures in accordance with the law:</p> <ol style="list-style-type: none"> <li>1. <i>One-to-one hygiene education and consultation and provide pregnancy gifts and gift cards that inform mothers about exclusive Winbond benefits and the application method.</i></li> <li>2. <i>Break rooms and dedicated parking spaces are provided for pregnant women to alleviate the discomforts of pregnancy.</i></li> <li>3. <i>Provision of warm and comfortable breast feeding rooms.</i></li> </ol>
<b>Preventing and Managing Abnormal Workload-triggered Disorders</b>	<p>The health management unit manages each employee according to their risk levels, including risk level notification for all employees. Regular follow-up is practiced for people in the high-risk group for cerebrovascular disease &amp; cardiovascular disease. One-to-one consultations are also organized with specialists. For employees who sleep little, we will arrange professional clinical psychologists to conduct stress relief and sleep consultation, and provide customized skills on how to get a good night's sleep and breathing training. Professional nurses also provide timely listening services. Referrals to specialist consultants, psychiatrists, or related resources can be provided if necessary.</p>
<b>Liver Function Anomaly Health Management</b>	<p>Hepatitis and liver cancer are among the main health risks experienced by workers in Taiwan. The nurses regularly check on the condition of employees with elevated liver function test results. Specialists are also available for health consultations.</p>

<b>Breast feeding room</b>	<b>Break room for pregnant women</b>
	
<b>Flu vaccination</b>	<b>Health exam - Optometry clinic</b>
	
<b>Free health consultation with specialists</b>	<b>COVID-19 vaccination</b>
	

#### d. Health Promotion

Winbond attaches great importance to physical and mental health of employees and the balance between work and life. We implement the concept and attitude of LOHAS in the care of employees and are committed to creating a friendly and happy workplace. This allows all employees to enjoy work and life. From the perspective of health, LOHAS, and public welfare, we plan and implement various systems and activities to improve the health and vitality of employees so that employees' health, family and work can be developed equally.

Winbond believes that creating a comfortable and high-quality working environment will bring more vitality and growth to employees and make them happier. We comply with the relevant protection measures for female employees and employees under the age of 18 and provide each outstanding employee with generous compensation and benefits and fair promotion opportunities. We provide professional training courses, physical and mental growth, and language and communication training. We cultivate our employees to practice our values: Conduct business with integrity, Accountable team work, Enthusiasm of learning, Aggressively innovate, and Sustainable contribution. This allows the employees to gain a lot of positive energy and grow together with the company in a happy atmosphere.

Winbond implements employee CPR & AED skills training and equipment management and provides a safe environment. In 2021, 93% of all Central Taiwan Science Park Facility employees have completed CPR & AED training. They have applied for the AED Certification ( $\geq 70\%$  completed the training), and it has been approved by the Ministry of Health and Welfare. The company's intention to ensure a safe working environment is demonstrated.

Winbond assists employees by providing convenient sporting venues to balance physical and mental health. The hardware facilities include a recreation center equipped with a variety of sports and recreational venues such as a gym, basketball courts, badminton courts, volleyball courts, table tennis room, billiards room, children's library, and a multimedia area with books, newspapers, and magazines.

Winbond hopes that employees can get in the habit of exercising regularly. We not only offer free classes on stretching but also a variety of sports clubs. In 2018, we launched



the Million Calorie Campaign to promote sports and fitness. Peer support is leveraged to get everyone into the habit of exercising for health and figure. More than 10 million calories have been accumulated for the whole year, and the campaign is still active in 2021. In response to COVID-19, during the epidemic prevention period, the health management unit continued to make announcements to remind employees to do home workouts continuously to enhance epidemic prevention abilities.

### Health Management System

To provide more timely, continuous and complete information, Winbond procured a health management system software in 2019. Employees can now connect and upload their latest blood pressure measurements to the back-end health management database. Winbond employees can use the personal health management function of the system to obtain a picture of their own health such as: blood pressure, blood sugar, body weight, water intake, sporting time and calorie counts. The health management unit can also configure the health management system back-end. Reminders can then be sent to the health management unit if abnormal physiological readings are picked up in certain groups. The information facilitates future follow-up.

The health management system platform also allows employees to register for various activities including the following: Flu vaccination, breast ultrasound, abdominal ultrasound, LOHAS seminar, LOHAS charity events, road safety seminar, fast walking activities, and weight-loss classes.




In response to COVID-19, the health management unit has also configured the health management system back-end. The employees can now log in to the system at any time and upload their vaccination status. We can keep abreast of the employees' vaccination coverage.

A total of **3,889** people used the health management system in 2021

In 2021, a total of **2,398** people expressed their support through this system

- Club**

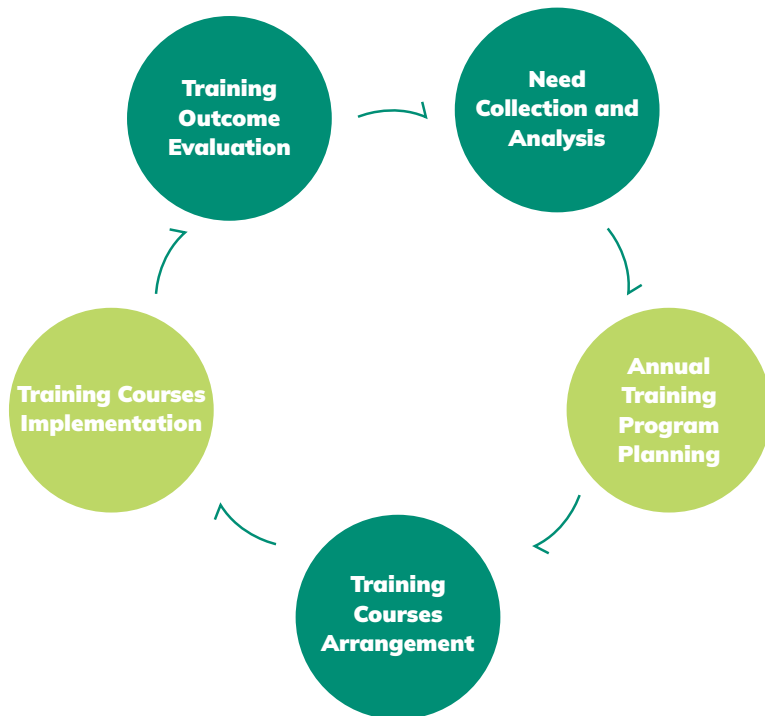
Diverse clubs have been established by Winbond to encourage employees to engage in healthy club and public welfare activities. “Regulations for Management of Employee Welfare Committee Club Subsidies” have been established in the hope that club activities will boost employee interactions, physical and mental well-being, and productivity. There are currently 43 registered clubs at the end of 2021. The four types of clubs are sports, LOHAS, arts and culture, and public welfare. Clubs suspended physical activities while some clubs continued to conduct online activities in 2021 due to COVID-19.

Club Type	Description
Sports Clubs	<p>The 24 sports clubs for ball sports, cycling, running and other sports account for 56% of all clubs. Many senior executives play an active role in the club activities to encourage other colleagues in their unit to exercise; the badminton and softball clubs at CTSP in particular have been frequent winners of the “CTSP Cup - Ball Sports Competition.”</p> <div>    </div> <div> <p>Zhubei badminton club activity</p> <p>Zhubei table tennis club activity</p> <p>Zhubei pool club activity</p> </div>
Arts and Culture Clubs	<p>Anime and Manga Club and Photography Club make up 12% of all clubs. These clubs make effective use of company resources to host educational seminars, annual photography exhibitions, and film appreciation sessions. These types of activities enjoy the highest level of family participation.</p>
LOHAS Clubs	<p>These 13 clubs make up 30% of all clubs and boast the most diversity. They include the Health Counseling Club, Camping Club, and Board Games Clubs. Their varied activities offer employees a way to expand their horizons and cultivate new hobbies.</p>
Public Welfare Clubs	<p>There is 1 club which accounts for 2% of all clubs named the Silence Club, the mission of the club is to engage quietly in public welfare activities such as helping the disadvantaged, social services, and environmental sustainability as part of CSR fulfillment. Founded in 2010, club activities include neighborhood cleanup, dream fulfillment, children's home cleanup/repairs, and children's breakfast program.</p>



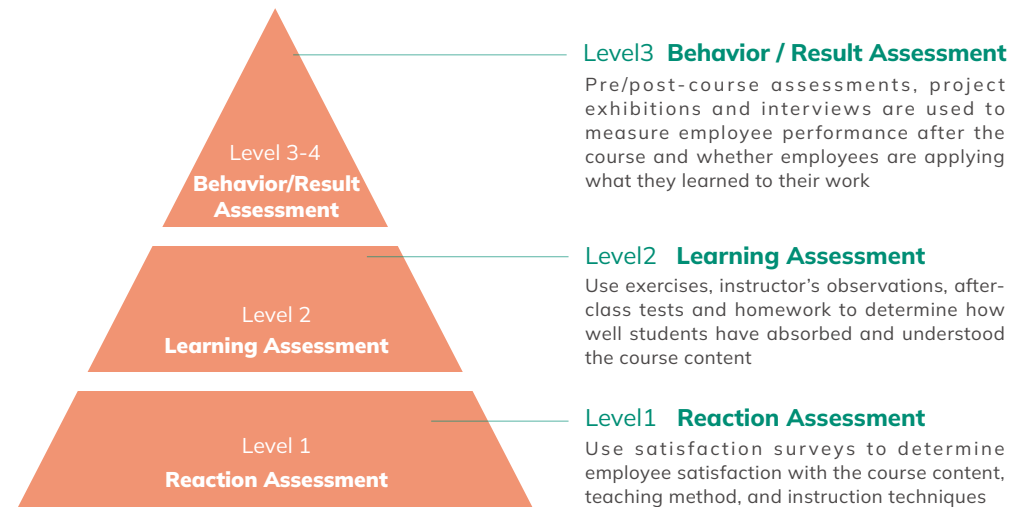
## Talent development and learning outcomes

Talent development is a cornerstone of progress at Winbond. Our company vision, business philosophy and cultural values are supplemented by training requirement surveys and training evaluation to draw up personalized learning and development courses in four areas: core competency, management skills, specialist skills, and data science. A variety of courses are organized to let employees enhance their personal competitiveness, discover their potential, unleash their personal ability, and demonstrate their originality. In addition to basic training courses for all employees, Winbond offers diverse online courses through its cloud learning platform so that employees can study on their own initiative. In response to COVID-19 and global environmental trends, the course design was re-examined and upgraded to live online courses. While preventing the epidemic, we will not stop learning. We abide by the epidemic prevention regulations while taking into account training needs and the quality of courses.



Winbond conducts multiple demand analyzes that are combined with organizational strategy, company vision, business philosophy and corporate culture to devise an annual training plan and hold the necessary courses. The courses include company culture promotion, work efficiency improvement courses, and management and leadership training courses for supervisors. In addition to lecture-based courses, a variety of content and activities will be designed for different course attributes to provide students with a better learning experience and journey.

To track and verify the effectiveness of training, the 4-stage education and training evaluation model proposed by the Donald L. Kirkpatrick, an American academic, is used by Winbond for the design, execution and outcomes of courses based on their course attributes and to determine whether they meet the course objectives. Multi-level inspection methods such as satisfaction surveys, before and after class exams comparison, practical assignment after class, project presentation, interviews, and other evaluation methods are used to track and review training outcomes. We strive to help employees give their best work performance through practically applying what they have learned in the courses.



Our company vision, business philosophy and cultural values are supplemented by training requirement surveys to draw up personalized learning and development courses in four areas including the following: core competency, management skills, specialist skills, and data science. A variety of courses are organized to let employees enhance their personal competitiveness, discover their potential, unleash their personal ability, and demonstrate their originality. In addition to company-wide training courses for all employees, diverse online courses are offered by Winbond through its cloud learning platform so that employees can study on their own initiative. The average satisfaction rating for physical courses was 4.4 (out of 5) and 4.3 (out of 5) for digital courses in 2021.



Winbond believes that continued learning is fundamental to innovation. In 2021, many new online courses and seminars will be added in response to the digital transformation, such as:

- In line with our digital transformation efforts, Winbond has created a digital online learning data science portal, which is continuously added to and expanded with

new learning resources. This allows employees to access courses of their choice that are suitable for their own knowledge level and job responsibilities anytime and anywhere, improving their grasp of data science. The portal has already accumulated 6,154 views, and 782 online courses are available for employees to access for self-study. Employees are able to learn fundamental concepts and technical skills related to AI and digital transformation, helping them learn how to apply this knowledge to their work.

- Following the corporate digital transformation trend, Winbond has also held a series of lecture on digital transformation, where leading elites in various fields were invited to share their experiences with digital transformation. These lectures provided potential insights and actionable advice on how company executives can implement digital transformation, helping employees to more rapidly prepare for digital transformation and gradually turn the company into an intelligent enterprise.
- The Company has created an internal series of data science courses, such as its courses on Power BI data visualization and JMP data analysis software. This allows our employees to further connect their work with data science and apply data science to their work.

In addition, we also continued to host existing courses. Employees were offered a variety of training resources and activities to improve their professional abilities. For direct employees, training emphasized continued development through on-job training, machine operator training, and promotion of corporate culture or policies. For indirect employees, we provided employees with specialized training based on their competency and grade. However, most female employees are in administrative support units and the specialist knowledge they need is generally learned through on-the-job training. As a result, male personnel's average training hours were slightly higher than those of female personnel.

## Number of Employees Receiving Specialist Courses and Number of Hours

Course Type	Number of Courses Held	Trainees	Total number of trainees	Total training hours
Labor Safety and Health Course	□□	Company-wide employees	□□□□□□	□□□□□□
Labor Standards Act	□	Company-wide employees	□□□□□□	□□□□□□
Audit Course	□	Employees who need to perform related business	□□□□□	□□□□□
ISO and 5S Course	□	Employees who need to perform related business	□□□□□	□□□□□
Corporate Governance	□	Employees who need to perform related business	□	□□□
Core Competency	□□□	Company-wide employees	□□□□□□	□□□□□□
Management Skills	□□□	Company supervisors	□□□□□□	□□□□□□
Data Science (Including computer courses)	□□□	Company-wide employees	□□□□□□	□□□□□□
Specialist Skills (Including technology industry and IT courses)	□□□□	Company-wide employees	□□□□□□	□□□□□□

## Total Number of Education and Training Hours Sorted by Gender and Employee Type

Employee Type / Gender	Male	Female	Total training hours
Manager	□□□□□	□□□□	□□□□□
Non-Management	□□□□□	□□□□□	□□□□□
Total training hours	□□□□□	□□□□□	□□□□□

## Number of Employees taking Education and Training Sorted by Gender and Employee Type

Employee Type / Gender	Male	Female	Total number of people
Manager	□□□	□□	□□□
Non-Management	□□□□	□□□	□□□□
Total number of people	□□□□	□□□	□□□□

## Average Employee Training Hours Sorted by Gender and Employee Type

Employee Type / Gender	Male	Female	Total Average
Manager	□□	□□	□□
Non-Management	□□	□□	□□
Total Average	□□	□□	□□

**Note** Management refers to section chief or higher grades responsible for supporting and directing employees in their department

## New Hire Training

Through online learning platform, Winbond provided online training courses for new employees when they register, including life guidance, cultural promotion and introduction of various company policies in 2021. There is a total of 19 online courses, allowing new employees to quickly settle into Winbond. The average satisfaction rating for all training courses in 2021 was 4.24 (out of 5) and the completion rate was 97.3%.

A “Winbond Camp” training program lasting 2 weeks per batch has begun from the second half of 2016 and is targeted at new employees with less than 3 years of professional experience. Employees can gain knowledge and skills from these courses

and learn from experiences shared by seniors and supervisors. We also provide cultural experience courses to help develop newcomers as ambassadors of Winbond culture and effectively enhance the organizational identification and willingness of retention. In 2021, due to the epidemic prevention regulations, online training for new employees was held for the first time. The satisfaction rate for online new employee training is 4.31 (out of 5). The satisfaction rate for physical new employee training is 4.62 (out of 5), with an average of 4.47 (out of 5).

A diversified talent survey was conducted in early 2021 among different employees at random to realize talent requirements. The survey found that employees present strong need for training resources, and many more female executives will encourage female employees to seek further career development. The introduction of the Success Factor training platform by Winbond in 2019 greatly boosted the e-learning capabilities of employees. Due to the severity of COVID-19 in 2020, Winbond enhanced the content of the training platform, which currently offers more than 2,000 specialist, management and data conversion courses. Employees around the world can now engage in learning at any time and any where, demonstrating considerable enthusiasm for learning. The course content will be further enriched in 2021 by integrating with offline physical courses, providing more diversified learning content to improve employee skills. In 2021, Winbond cooperated with Professor Li Jia-Yan of National Taiwan University on a smart manufacturing project. The graduate students led by the professor and Winbond jointly carried out project development and research to help students connect with the industry in advance while at school.

## Manager Training

Winbond designs exclusive courses for different levels of supervisors. Through various training methods such as courses on management training, project and task assignment, and job rotation, we cultivate supervisors at all levels and enhance the capacity of leaders at all levels.

We assist junior supervisors in understanding the knowledge, skills, and attitudes that should be possessed after a role transition. We will observe the practical application of junior supervisors through the framework of “Pre-diagnose → Learn → Practice → Final-

evaluation.” We will also meet the practical needs of incumbent supervisors by holding relevant courses on various management issues to assist supervisors in dealing with daily management issues.

For the development and cultivation of middle and senior supervisors, we help senior supervisors to discover their personal strengths through management evaluation, personality trait evaluation and other tools, and apply them to team and personal development. We continue to strengthen leaders at all levels through management courses, job rotation, project experience, external training to well-known foreign schools (such as Stanford, LSE, INSEAD). In response to the rapid changes in the global environment, Winbond has invited more than 10 experts to share and give us guidance to enhance the breadth and height of thinking that senior executives should have when making future decisions in 2021. The experts discussed the development of the post-epidemic era, the handling of the COVID-19 crisis, semiconductor innovation, artificial intelligence, new-generation communication, and port congestion so that managers can grasp the latest environment and trend. In addition, to fulfill the corporate culture’s spirit of “enthusiasm of learning,” Winbond will also hold internal sharing sessions every quarter to exchange and inherit business wisdoms. In 2021, we gradually invited global overseas supervisors from the US, Israel, and Japan to participate in the online conference as we know that learning is borderless. We converted the materials into digital form after the meetings and shared the knowledges with every employee in the company to maximize the use of resources and reflect Winbond's culture.

## Core Management Competency Course

Management Personnel	Professional Course
Junior Management	Management courses on leadership, communication, interview techniques, and performance management
Middle Management	Advanced management competency training for managers
Senior Management	Business management philosophy and methods

## 4.2 Employer-employee relations

Winbond abides by the “Responsible Business Alliance Code of Conduct”, the “UN Universal Declaration of Human Rights” and other internationally recognized human rights standards. We have the corporate social accountability policy approved by the Board of Directors. We follow the highest standards of ethical requirements and protect labor, support and protect human rights, prohibit any discrimination, and respect labor rights such as freedom of association. We post ethical corporate management and related human rights specification on the company's website. We also clearly specify rewards and punishments in the work rules for our employees to follow. In 2022, we will plan conduct risk assessment of human rights management and establish a human rights management system.

### Open Employer-Employee Communications

Winbond offers a variety of open and transparent channel for effective communication and interaction with employees at any time, including: suggestion box, 75234 hotline (complaints), Care complaint box, and sexual harassment complaints committee. There are also various regular functional communication meetings including: the employer-employee meeting, management seminars, Employee Welfare Committee, Environmental Safety Committee, production management meetings, and quality re-education meetings.

Winbond employees can express their opinions or offer suggestions in an anonymous or non-anonymous manner through various channels. Winbond responds to all feedback, and the content of all responses is published on the internal homepage. Focus groups and individual interviews are also conducted by Winbond to collect employee opinions on a regular or irregular basis to serve as a basis for improvements to management policy and service quality. At the same time, courses are arranged for new recruits to ensure that employees are familiar with the relevant channel. A total of 16 cases were received through the suggestion boxes (physical and online) and dealt with in 2021. Winbond’s 75234 employee complaint hotline and Care complaint box also received 3 cases that are now closed. There was 1 case of sexual harassment that is now closed. Employer-employee meetings were convened 9 times with 1 related votes made. 4 management conferences were attended by 1,703 people for a total attendance of 76%.

## Diverse Channel for Employee Feedback

Channel
<p><b>Suggestion Boxes</b></p> <p>Suggestion boxes are placed near the employee cafeteria and production line break rooms. All employees can use them to make suggestions on work or life issues.</p>
<p><b>Grievance Hotline</b></p> <p>Winbond has set up a 75234 employee feedback hotline. An “Internal Complaints Form” can also be submitted in writing or by email to the “Employee Suggestion and Feedback Box” set up by the HR Department or implementing unit. All feedback is handled by dedicated personnel. To protect employees and jobseekers from sexual harassment in the workplace, Winbond drafted the “Rules for Prevention of Sexual Harassment in the Workplace,” set up a “Sexual Harassment Prevention Information Website,” and established a “Sexual Harassment Complaints Committee” to handle sexual harassment cases under the Gender Equality in Employment Act.</p>
<p><b>Factory Communication and Discussion Meetings</b></p> <p>Direct employee communication and discussion meetings are held twice a year by factory supervisors. Two-way communication with production line workers is used at the meetings. The meetings are focused on management and production issues. Re-education courses are also conducted on quality and RBA CoC.</p>
<p><b>Employer-employee Meetings</b></p> <p>Employer-employee meetings are held regularly. Employee suggestions are compiled every quarter by labor representatives elected by all employees, and a meeting is convened to fully discuss and resolve issues such as employer-employee coordination, promotion of employer-employee cooperation, working conditions and benefits, and productivity improvements.</p>
<p><b>Management Conference</b></p> <p>The purpose of management conferences is to facilitate direct two-way interaction between all managers and the Chairman and President. The focus of communications is on company operations and management systems.</p>



## Employee Commitment

Winbond's core culture is defined by "Conduct business with integrity and ethical behavior," "Accountable team work," "Enthusiasm of learning," "Aggressively innovate," and "Sustainable contribution." We continuously promote through announcements, conferences, courses and videos, and other channels to deliver to colleagues and to strengthen the commitment between the company and employees in both directions. To understand employees' perceptions of core values, the degree of implementation, and engagement, the "Employee Opinion Survey on Core Values" was conducted in mid-2021. The survey was conducted on all employees and engineering assistants at the head office in Taiwan. A total of 2,213 copies were collected, with a response rate of 76%. The 2021 "Employee Opinion Survey on Core Value" is based on five core values and is divided into five groups of questions, each of which has four questions resulting in a total of twenty questions.

The results of accountable team work questions from the "Employee Opinion Survey on Core Value" showed that from the perspective of colleagues, more than 97% of colleagues are willing to devote themselves to work to make the company better. This shows that Winbond employees have high team cohesion and are committed towards the company.



## 4.3 Occupational Safety and Health



### Winbond Occupational Health and Safety Goals

1. Zero accidents
2. Zero work injuries
3. Reduction of environmental impact

### Safety and Health Management System

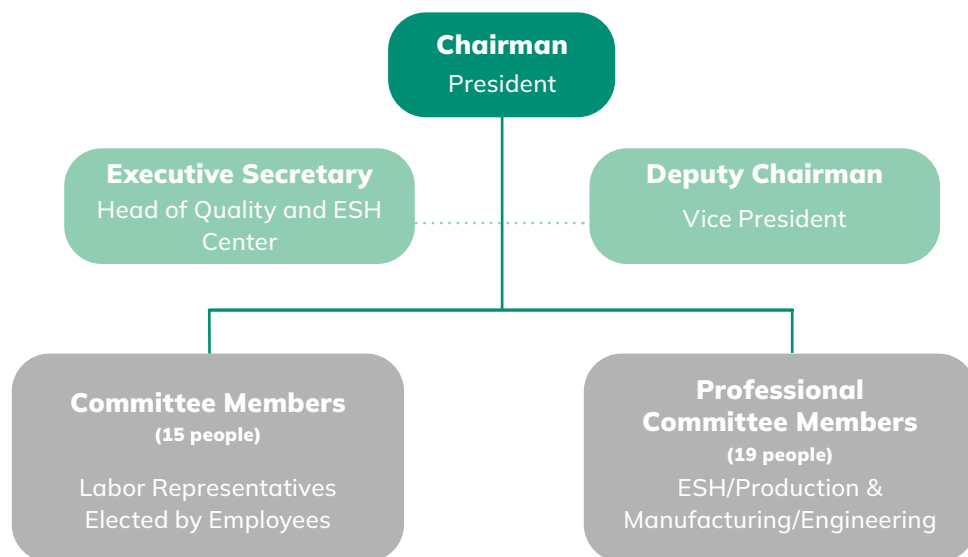
The Company endeavors to meet the advanced international safety, health and environmental standards and is committed to providing employees with a complying and healthy working environment through respect, caring and counseling, and participation mechanisms. Continuous improvement will be used to promote employee safety, eliminate hazards, reduce environmental, health, and safety, and asset risks. We carry out health promotion activities, enhance cohesion, and set LOHAS as our corporate culture. Disaster and loss can be prevented beforehand through sound management and active participation of all employees. Zero accident and reduction of environmental loads are the social responsibility of a world-class corporation. Through the optimization of prevention and improvement measures, we will gradually reduce the rate of personnel injury, implement the concept of safety and health, and become a green enterprise with sustainable development.

### ESH and Risk Management Committee

The Winbond ESH and Risk Management Committee is regularly convened to discuss ESH matters. The 34 members include management representatives, employee nominated representatives from each unit, labor representatives elected by employees, as well as ESH and health management personnel. There are 15 labor representatives elected by employees, and they account for one-third of the committee to provide employees with a channel for face-to-face communication with management personnel



on ESH issues. Each department also appoints an ESH secretary to provide assistance, advice, and promotion of ESH affairs so that all employees can stay informed.



## Occupational Safety and Health Management System

Winbond has already obtained ISO 45001 Occupational Health and Safety Management System and Taiwan Occupational Safety and Health Management System (TOSHMS) certification. Internal audits are conducted every 6 months and external audits are conducted by an international certification company every year to ensure that the system is operating normally. Our ISO 45001 and TOSHMS conversion certifications have already been completed in 2019 to maintain the validity of the occupational health and safety management systems. Winbond strictly abides by the government's safety and health laws and implements safety and health management work, including conducting safety and health risk assessments, formulating and implementing various safety and health work regulations, and organizing safety and health education training and

drills. Winbond has won many government awards on safety and health, including the “Friendly Workplace Certification” issued by the Ministry of Labor, the “Health Promotion Badge” issued by the Ministry of Health and Welfare, the “Excellence in Control of Operational Environmental Exposure to Hazardous Substances” and “Excellent unit of safety of hazardous materials use/procurement management and high-risk operations management” issued by the Central Taiwan Science Park Bureau.

In terms of hardware security control, hardware vendors are required to provide a Semiconductor Equipment and Material International (SEMI S2) assessment report verified by a third party to comply with the requirements for intrinsic safety. This must be done before Winbond procures equipment from these vendors. A variety of safety controls are also carried out between machines being delivered to the site and actual installation. To ensure safety during machine installation, the Equipment Sign-Off program tests whether the safety features are working normally and whether all of the machine's internal firefighting, safety, environmental protection facilities and labels are complete. The machine can only be put into operation after testing.



## Number of Employees Covered by the Occupational Health and Safety Management System

2021	Number of People Covered by Management System		Total Organization Personnel		Ratio	
	Employees	Non-employees	Employees	Non-employees	Employees	Non-employees
Not audited	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Passed internal audit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Audited or verified by external body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Work-related Injuries Statistics for Employees

Year	Total Hours of Work	Occupational Injury			Ratio of deaths due to work-related injuries	Ratio of severe work-related injuries	Ratio of work-related injuries on record
		Number of employees with severe work-related injuries	Number of Fatalities	Number of employees with work-related injuries on record			
2019	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Note** There were no cases of work-related injuries in 2021

## Work-related Injuries Statistics for Non-Employees

Year	Total Hours of Work	Occupational Injury			Ratio of deaths due to work-related injuries	Ratio of severe work-related injuries	Ratio of work-related injuries on record
		Number of employees with severe work-related injuries	Number of Fatalities	Number of employees with work-related injuries on record			
2019	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Note** The non-employees total number of working hours in 2019 and 2020 has been updated. It is multiplied by 8 hours of working hours per day.

## Accident Investigation and Injury Prevention

A complete standard operating procedure (SOP) on accident investigation has been established by Winbond to reduce accident damage and risk. The SOP is applicable to all Winbond employees, contractors, and visitors. In the event of an accident, different levels of investigation are carried out based on the severity and type of the accident. The level of investigation also determines the composition of the investigation team.

The operation of the ESH management system undergoes routine internal audit, review and update every 6 months. An external audit is also conducted every year so that Winbond can continue to ensure a safe working environment for employees, control potential risk factors and make continuous improvements.

## Standard Accident Investigation Process



## Statistical analysis of disabling injuries in 2021

In 2021, Winbond's statistical analysis information on occupational injuries is based on the important disabling injury statistical indicators announced by the Ministry of Labor. The disabling injury severity rate (disabling injury days per million working hours SR) and the disabling injury frequency rate (disabling injury times per million working hours FR) are selected for analysis. The statistics do not include off-site traffic accidents.

In 2021, there was 0 case of employee disability injuries, the disabling injury severity rate was 0, and the disability injury frequency was 0. The number of work-related fatalities is 0, and the incidence rate of occupational diseases is 0. The company-wide absentee rate due to illness (including occupational injury, sick leave, menstruation leave, and other hospitalization leave) was 0.44%, and the male and female absentee rate was 0.29% and 0.75%, respectively. In 2021, there were 0 case of contractor disability injuries; the disabling injury severity rate was 0, and the disability injury frequency was 0.




## Occupational Health and Safety Management Training and Injury Prevention

Occupational health and safety training is conducted by Winbond every year to reduce the incidence of occupational injuries and to strengthen employees' understanding of safety and health regulations. In 2021, Winbond provided 13,499 training hours to 11,059 non-managerial participants; and 1,817 training hours to 1,695 managerial level participants. A total approach to education and training at Winbond has cultivated an organizational culture that takes occupational safety and health seriously. This in turn provides employees with a healthy and safe working environment.

## Occupational Health and Safety Training Performance

Gender	Male		Female		Total	
Employees	Number of Participants	Hours of Training	Number of Participants	Hours of Training	Number of Participants	Hours of Training
Management	□□□□	□□□□	□□□	□□□	□□□□	□□□□
Non-Management	□□□□	□□□□	□□□□	□□□□	□□□□□	□□□□□

## Occupational Nurse Training Performance

Item	Content	Number of employees trained in 2021
CPR and AED Training	 <p>Regularly conduct first aid training for all employees and the medical staff of the emergency response team so that there is no time difference in first aid.</p>	In response to the epidemic, the employees are divided into groups. 454 employees completed the training.
Advocacy of Unlawful Infringement Prevention in the Workplace - Management Training	 <p>Management regulations and relevant education and training were put into place to help all employees understand preventive measures and introduce them to the company's internal complaints and reporting mechanisms. Promotion measures are provided for all employees every year as well.</p>	A total of 46 people have completed the management-level training course.
Crisis Response - Management Training	 <p>Managers may need to assist in emergencies or at-risk employees (special cases, mental illness, emotional breakdown, suicide risk, employees with pending complaint) in the workplace. An advanced course on crisis response was therefore organized.</p>	A total of 175 people have completed the management-level training course.

## Environmental Safety and Health Risk Assessment

The “ESH Risk Assessment Operating Procedure” was defined by Winbond to ensure the personal safety of employees in the workplace and to minimize risks. The procedure involves the identification of ESH risks and opportunities to the environment, personnel and hygiene from activities, products or services. Risk level is calculated by Winbond based on past operational history and the current situation. The potential situation, effect or impact (e.g. personnel injury, environmental impact, production disruption, or financial loss) and probability are assessed. Improvement measures are then drawn up for risk reduction in the following order: elimination, replacement, engineering control, signage/warning/management control, and personal protective equipment.

An internal audit is conducted by Winbond at least once a year to ensure the effective implementation of the “ESH Risk Assessment Operating Procedure.” Any major changes to production processes, facilities and operational content as well as accidents all trigger a new evaluation.



## Emergency Response Measures(ESH)

Winbond’s ESH and Risk Management Division has defined emergency response procedures for internal anomalies and external natural disasters such as fire alert/alarm, gas leak alarm, chemical spills, earthquakes, and odors. The procedures are used by internal units as the basis for developing corresponding response processes, response teams, drills and training.

## Occupational Health and Safety Risk Identification and Response Strategies

Risk Type	Risk identification	Strategy/Action Adopted
Operational Risks	<ul style="list-style-type: none"><li>• Fire</li><li>• Power Outage</li><li>• Chemical Spill</li><li>• Emissions of Air Pollution/ Wastewater Emissions</li></ul>	<ul style="list-style-type: none"><li>• The design of the fire protection system and its installation is based on international standards (NFPA, FM) and domestic fire safety regulations. It includes the fire detection and alarm system, various automatic fire suppression systems, and fire compartmentalization.</li><li>• Installation of emergency generators and uninterruptible power systems.</li><li>• Plant facilities and protection are designed and constructed to international industrial standards. Machinery and equipment must also conform to international safety standards (SEMI-S2, FM4910).</li><li>• 24-hour monitoring system for emissions/ wastewater treatment facilities.</li></ul>
Natural Disaster Risk	<ul style="list-style-type: none"><li>• Earthquake</li><li>• Water Shortage</li></ul>	<ul style="list-style-type: none"><li>• Plant buildings are designed to withstand earthquakes up to 7.0. Machinery and equipment incorporate shock-resistant design.</li><li>• Installation of reserve water tanks.</li></ul>
Regulatory Risk	<ul style="list-style-type: none"><li>• Occupational Safety Laws</li><li>• Fire Safety Laws</li><li>• Environmental Protection Laws</li></ul>	<ul style="list-style-type: none"><li>• Regularly carry out compliance inspections.</li><li>• Identify and respond to the impact of new regulations or amendments.</li><li>• Make regular inspections and reports as required by law.</li></ul>

## Emergency Response Team Organizational Structure and Duties

An Emergency Response Team (ERT) is stationed in each area throughout the sites. The ERT is commanded by a division or higher level manager. ERT team members are required to undergo regular training and drills. In the event of an emergency, the mission of the ERT is to minimize casualties, financial losses and disruption to production.

### Commander

Coordination of emergency response (command and dispatch) Issuing of orders for Emergency Response Team (ERT)

### Deputy Commander

- Collection of factory affairs information and liaising
- Discussion of action plans and logistics resupply

### Company Spokesperson

Internal and external communication

### Equipment Support Team

Dispatching and replenishing protective equipment and materials

### Factory Affairs

- Assist with emergency rescue and environmental monitoring at the scene
- Provision of incident information
- Monitoring of fire alarms, toxic gas spills and other incidents

### Control Team

- Evacuation and counting of personnel and access control
- Guiding support units and traffic control
- Situation records and liaison

### Medical Team

- First-aid and arranging of medical evacuation
- Transportation of first-aid equipment and record-keeping

### Rescue Team

- Search for source of leakage
- Leak/disaster prevention
- On-site decontamination
- Environmental monitoring
- Site management/cordon
- Assist personnel with gearing up or gear removal, equipment transport and record-keeping

## 2021 Emergency Response Drills



Winbond has defined response processes and plans for potential emergencies and incidents in each area. Regular emergency response drills are held to contain disasters and improve the emergency response capabilities throughout the site.

A total of 85 emergency drills were conducted by Winbond for fire, chemicals leaks, gas leaks, massive water leaks, and other events in 2021.

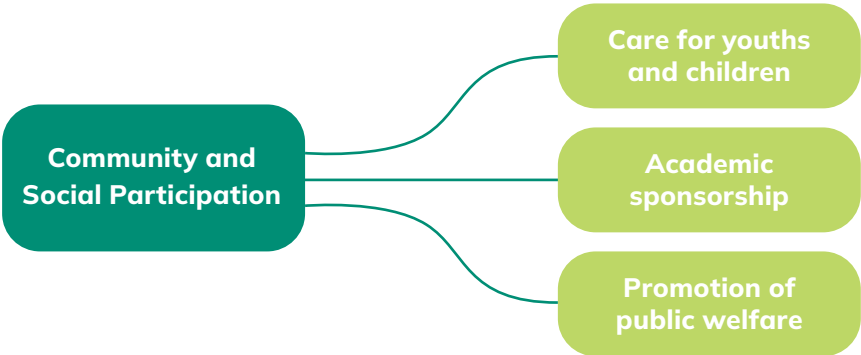
## Emergency Drill Statistics

Item	Total Sessions
Fire	□□
Chemical Spill	□□
Gas Leak	□
Massive Water Leaks	□
Other (Emergency Evacuation/Loss of Consciousness/Power Outage)	□□
<b>Total</b>	<b>85</b>



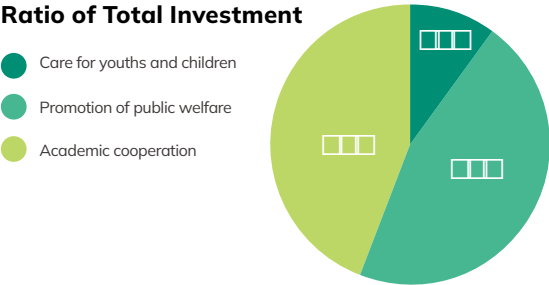
# 4.4 Community and Social Participation

Winbond has been involved in public welfare for many years. "Care for the Disadvantaged, Care about Environmental Sustainability, Fulfill Corporate Social Responsibility" are Winbond's core CSR values. To fulfill the ideals of caring for society, serving the public, and environmental friendliness, Winbond mobilizes internal company resources along with the enthusiasm and compassion of employees for areas such as "caring for children and youths," "promotion of public welfare," and "academic sponsorship." The core capabilities of the industry are channeled into substantive social action. Employee participation is also encouraged to build cohesion, communicate the importance of giving back to society, and set the benchmark for CSR.



Community and Social Participation and Distribution of Resources in 2021

Form	Amount Invested (Unit: NTD)
Care for youths and children	■■■■■■■■■■
Promotion of public welfare	■■■■■■■■■■
Academic cooperation	■■■■■■■■■■
Total	5,386,500



## Academic Cooperation

In response to the government's "National Key Fields Industry-University Cooperation and Skilled Personnel Training," Winbond financially supported National Cheng Kung University to establish the Academy of Innovative Semiconductor and Sustainable Manufacturing. We proactively promote the development of Taiwan's key industries and nurture talents. The school cultivates students' professional knowledge while building a mutually beneficial bridge between the industry and college. We will use the rich resources within the company and the practical experience of the supervisors and teachers to jointly promote various learning channels and research opportunities such as semiconductor academic programs, industry-academia research, corporate visits, and internships. This allows students to be exposed to practical applications in advance while cultivating interdisciplinary professions and thinking. We jointly nurture young students, assist college students and postgraduates at National Cheng Kung University to have opportunities for interdisciplinary learning and reduce the gap between industry and academia.

Winbond has also spared no effort in expanding other campuses and cultivating talents. In 2021, we cooperated with Professor Chia-Yen Lee of National Taiwan University on a smart manufacturing project. The graduate students led by the professor and Winbond jointly carried out project development and research. The main contents include data analytics efficiency, quality enhancement, yield improvement, energy saving analysis and other topics. We helped students to connect with the industry in advance while at school. Meanwhile, we also contributed to the academic research developments of National Chiao Tung University in the field of information and communication and retained outstanding professors. We improved the semiconductor industry environment by combining academic resources.

In addition, through long-term support for International Symposium on VLSI-TSA and VLSI-DAT, Winbond can accelerate the upgrade of Taiwan's information and communications industry and increase the exchange of industrial technologies at home and abroad. We assist in promoting the exchange platform of leading technology for researchers related to semiconductor process and design and encourage the refinement of Taiwan's semiconductor technology. Based on the above, Winbond invested more than NT\$10 million in talent cultivation and technology research and development in 2021, hoping to see more outstanding achievements and contributions to semiconductor talent cultivation and leading technology.



## Sponsorship Amount for Academic Cooperation

Item	Donation (NTD)
Symposium Sponsorship	□□□□□□□□
Sponsored Academic Articles Published	□□□□□□



## Social Care

### Caring for youths and children

- *Happy Breakfast Program for School Children in Remote Areas:*

Breakfast is the most important meal of the day for school children as it provides the energy they need to attend school and focus in class. To help improve the breakfast of school children in remote areas, Winbond has been working with a non-profit organization since 2011, by which senior managers make voluntary donations to fund the happy breakfast program for remote elementary schools in Hsinchu and Taichung. The breakfasts and support for remote schools are aimed at sustaining the basic needs and health of school children so they can be physically and mentally equipped to explore the world. Winbond provided NT\$550,000 in breakfast funding in 2021 to continue supporting healthy learning for school children.



- *Donation of second-hand computers*

To enrich the information equipment resources needed by school children in remote communities, Winbond has proactively invested in the second-hand computer donation program. We take concrete actions to promote the basic needs of digital work and

enhance the ability to use information technology. We hope to narrow the information gap between urban and rural areas while raising awareness of environmental protection and recycling. In 2021, we donated five second-hand computers to Taiwan Association for Quality Education, providing digital learning opportunities and enhancing digital capabilities.



• Fundraising for Tuition Assistance

Statistics from the Taiwan Fund for Children and Families (TFCF) indicated that around 14,000 elementary students in Taiwan apply for tuition assistance each year. There is a gap of around 700 places in regular sponsorship funding. These amount to \$2,000 per place each semester and \$2.8 million per year in total. To supplement education resources for children from impoverished families so they can attend school on a regular basis, Winbond has been working with Taiwan Fund for Children and Families since 2017 by inviting employees to join the effort of raising education grants. From the company president to entry-level employees, our colleagues responded enthusiastically to the drive. 952 employees raised \$3,216,000 in 2021. The amount is sufficient to support 804 elementary school students for a whole year!

Fundraising for Uplift Tuition Assistance

Item	2019	2020	2021
Number of Donors	□□□	□□□	□□□
Donations (\$10,000)	□□□□□□□	□□□□□□□	□□□□□□□
Number of Beneficiaries	□□□	□□□	□□□

Academic sponsorship

- Symposium on VLSI

Winbond demonstrates its enthusiasm for the industry by continuing to sponsor symposiums that create new technological exchange opportunities for the semiconductor industry. Through long-term support for International Symposium on VLSI Technology, Systems and Applications (VLSI-TSA), we can accelerate the upgrade of Taiwan’s information and communications industry and increase the exchange of industrial technologies at home and abroad.



- ***K.T. Li Foundation for Development of Science and Technology***

The “Taiwan Semiconductors, New Layout of the Century” K.T Li Memorial Forum held by the K.T Li Foundation for Development of Science and Technology was sponsored by Winbond in 2021. We encourage newcomers to enhance the cooperation of semiconductors among industry, colleges, and R&D institutes. We hope that continuous promotion of the prosperity of Taiwan's semiconductor industry can be jointly discussed at the forum. An opportunity for the sustainable growth of the industry can be created.

- ***Pan Wen Yuan Foundation***

Since 2020, Winbond has supported the Pan Wen Yuan Foundation to promote the exchange of technologies such as semiconductors, information, and communications. We hope that we will be able continue to encourage outstanding research talents in the fields of semiconductors, information, communications and optoelectronics through sponsorship and exchanges. We support scientists in realizing their ideals with innovation and enthusiasm.

## **Promotion of public welfare**

- ***Donation of Positive Pressure Testing Booth (PPTB)***

In May 2021, when the epidemic in Taiwan was severe, Winbond donated PPTB to Ten Chen and Yeezen General Hospital for screening purposes. The front-line medical staff



could perform duties in a better quarantine environment. We hope to improve the outdoor collection and testing environment, create a positive epidemic prevention force in the society, and fulfill a part of our social responsibility.

- ***Friends of the Police “Special Fund for Social Order Maintenance”***

In 2021, Winbond donated the “Special Fund for Social Order Maintenance.” to the Friends of the Police. The solatium of the special fund includes items such as the crackdown on organized crime and drugs and contact tracing of the epidemic (bonus). The special fund is also provided for emergency purposes during the severe epidemic period. In 2021, we sponsored a total of NT\$1.5 million, hoping to comfort the police officers for their hard work in carrying out epidemic prevention and jointly creating a society with good social order.

## **Emergency aid**

- ***Emergency care for employees:***

The Company has set up employee emergency aid and loan programs to help employees in financial distress when the employee or his/her family suffers sudden calamity, such as injury, disability, death, or accident, to make sure they can continue to work and live with assurance that their livelihood is secure.

- ***Blood donation activity***

The Company calls on employees to donate blood as a happy donor every year, which illustrates the Company's belief in the value of life in actions. In 2021, a total of 2 blood donation activities were held with 138 participants, and 234 blood donation bags were collected.

chapter

# 05

## Integrity and Stability

5.1 Corporate Governance

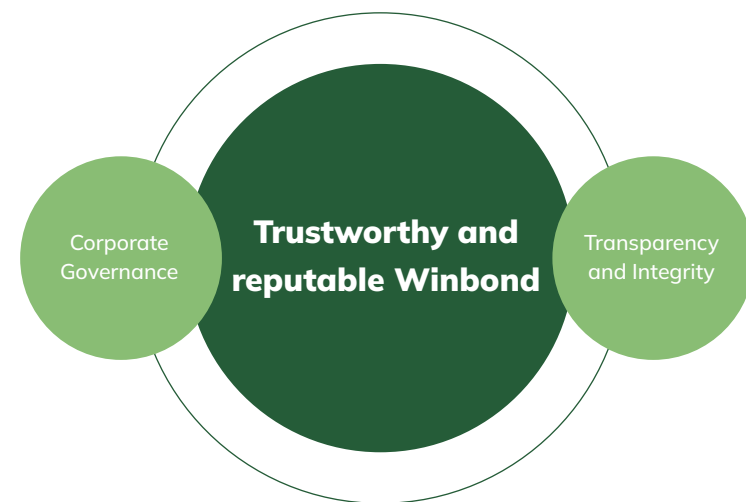
5.2 Transparency and Integrity





## Integrity and Stability

"Conduct business with integrity and ethical behavior" is Winbond's highest standard of ethical behavior, which is implemented in all operations of the company, including all supervisors and employees, and extends to its stakeholders. With the efforts of all colleagues, Winbond has been ranked in the top 20% since the first corporate governance evaluation. Winbond will continue to embrace the corporate culture founded on "Conduct business with integrity and ethical behavior" to establish our trustworthy and reputable company reputation.



## Material Topics and Management Approach

### Corporate Governance and Business Ethics, Regulatory Compliance

Material Topic : Corporate Governance and Business Ethics

GRI 205: Anti-corruption, GRI 206 : Anti-competitive Behavior

Item	Management Approach
<b>Policies/Commitments</b>	Winbond adheres strictly to the principles of fair competition. Product sales are also conducted in a legal and proper manner. Integrity is emphasized in our external dealings with customers. Internally, we expect employees to practice self-discipline, follow internal company rules, and adhere to domestic laws in order to establish a sound corporate governance and risk management mechanism.
<b>Responsibilities</b>	Winbond has set up communication channel and measures have also been put to place to keep complaints confidential and secure. Company managers may not dismiss, transfer or otherwise affect the work of employees for making a complaint; nor may the company personnel of any grade discriminate, coerce or target employees for making a complaint. The process is governed by the "Winbond Internal Complaints Rules."
<b>Resources</b>	Business ethics-related training courses are regularly organized by the Human Resources (HR) Department.
<b>Reporting/Communication Mechanism</b>	<ul style="list-style-type: none"> <li>Winbond attaches great importance to corporate social responsibility and corporate ethics and abides with government laws and regulations to manage and develop our business with integrity. In addition to the Reporting Channel for stakeholders on the Winbond's official website, Winbond also provides hotline and mailbox. Employees and external individuals can both use this channel to make anonymous or non-anonymous reports, if they discover that the Company's employees have engaged in illegal activities, such as unfair business practices, bribery, earning illegal profits, fraud, coercion, etc.</li> </ul>

	<ul style="list-style-type: none"> <li>Reported cases are handled by a dedicated unit, and task forces shall be established when necessary to verify the reports received. Winbond upholds the principle of confidentiality and protection for complaint cases and handles the cases with fair and proper treatment. Winbond shall not lead the complainant case to dismissal, job transfer, or any actions that affect the work of the employee. The employee who files the complaint shall not be discriminated or intimidated by other employees. All stakeholders including staff members are encouraged to file complaints against unlawful conducts.</li> </ul> <hr/> <p><b>Reporting Channel</b>          Hotline : +886-4-2521-3579          Mailbox : internal_audit@winbond.com  <a href="#">Reporting channel on the stakeholder engagement area of Winbond's official website</a></p>
<b>Specific Actions</b>	The online course on "Employee Code of Ethics" would be held every year. The course covers "business ethics" (prevention of insider trading; fair trade, advertising and competition; confidentiality, and prevention of retaliation) and "Corporate Social Responsibility."
<b>Mechanism for Evaluating Management Approaches</b>	<ul style="list-style-type: none"> <li>Target management meetings are regularly convened to track and review objective achievement situation and take any necessary management measures to further refine management performance.</li> <li>Annual Corporate Governance Evaluation.</li> </ul>
<b>Outcome of Management Approach Assessment</b>	<ul style="list-style-type: none"> <li>Winbond was ranked in the top 6-20% by the 2021 Corporate Governance Evaluation.</li> <li>No violations of laws and regulations on corporate governance and business ethics.</li> </ul>



Item	Management Approach
<b>Policies/ Commitments</b>	<ul style="list-style-type: none"> <li>Compliance with domestic and international regulations in every field and at every level is important to Winbond. It is also the fundamental principle in the management of all company operations. We are continuing to hold ourselves to the highest standards on the basis that compliance must come before profit.</li> <li>To achieve legal compliance goals, the company will comprehensively review the relevant laws and regulations for the fields involved in all aspects of the operation. We will formulate and adjust the relevant actions of the company's operation accordingly.</li> <li>"Conduct business with integrity and ethical behavior" is Winbond Electronics' philosophy. Externally, we value the company's reputation; internally, we require employees to strictly abide by relevant domestic and international regulations as well as the internal company rules. We create a sustainable business environment through the legal compliance mechanism.</li> </ul>
<b>Responsibilities</b>	<ul style="list-style-type: none"> <li>Depending on what kind of regulations the material topics involve, the responsible departments directly involved in the legal compliance when engaging in daily business affairs is responsible for the confirmation of legal compliance. The legal department plays the role of assisting in answering questions or giving opinions.</li> <li>Whether it is linked to performance evaluation or reward mechanism depends on the regulations of each responsible departments.</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>We consult with external professionals or authorities, such as accounting firms or the TWSE, when necessary.</li> <li>According to the funds required to achieve the objectives every year, appropriate budgets are prepared to allocate to the required human support and financial needs.</li> </ul>

<b>Reporting/ Communication Mechanism</b>	Legal Department assist with the legal questions or provide legal advice.
<b>Specific Actions</b>	<ul style="list-style-type: none"> <li>Appropriate learning methods and frequencies are adopted every year according to the situation. Education and training are given to employees (including management) to strengthen legal compliance awareness among employees.</li> <li>We regularly review and take note of changes in domestic and overseas regulations. The Company's internal rules or regulations are also reviewed to see if any corresponding additions or amendments are needed. If the competent units confirm that additions or amendments need to be made, the revision shall be completed according to its schedule (no later than the effective date of the modified regulation). Relevant business shall be carried out according to the latest regulation.</li> </ul>
<b>Mechanism for Evaluating Management Approaches</b>	<ul style="list-style-type: none"> <li>The business execution of competent units is confirmed to ensure compliance with the latest regulations. Such as signing the terms of the contract and the business activities and actions to be taken.</li> <li>Collect statistics on the completion rate for physical or online compliance education and training courses and accuracy of answering questions after class.</li> <li>The violations, resolutions, improvement measures and number of cases in each field (including the ESG aspects) during the year are tracked by Winbond.</li> </ul>
<b>Outcome of Management Approach Assessment</b>	The evaluation results of the management approach comply with the requirements to achieve the objectives.

# 5.1 Corporate Governance

## Composition of Board of Directors

The Board of Directors is the highest governance unit at Winbond. A strategy meeting is convened every quarter for the management team to brief the Board on the company’ s business and financial situation. If there is a major discrepancy, the Board ensures that an analytical review is carried out by the managers to update the business plan and the annual budget promptly. They also strengthen communication between the management team and the Board, and work together to enhance the transparency of Winbond’ s business information. Institutional investor conferences are convened every 6 months for disclosure of the company’s business and financial situation. All related information is disclosed on the Market Observation Post System website and Winbond website.

The 12th-term Board of Directors consists of 11 directors. The Board includes 4 independent directors and 2 female directors. Directors who do not hold managerial positions or are not an employee of the Company make up more than two-thirds of board members. The directors’ 3 relationships includes spouse and family within the second degree of kinship may exist among less than half of a company's directors. They must comply with Article 26-3 of the Securities and Exchange Act. All board members have extensive business operations experience. The ages of board members cover different generations, and their professional background covers different industries. All board members possess the ability to perform their duties, supervise, and give constructive feedback and strategies. Institutional directors Walsin Lihwa Corporation and Chin Xin Investment Corp are major shareholders of the Company. Walsin Lihwa Corporation is a founder of the Company, also the largest shareholder and a director since Company's inception. According to the above evaluation results, the Company's Board of Directors is independent.

For more information on the number of Board meetings, attendance rate and continuing education for directors, please refer to the 2021 Annual Report.


Members of the 12th Winbond Board of Directors

All 11 directors have extensive industry experience

4 independent directors  
(36% of the Board)

2 female directors  
(18% of the Board)

The directors undertook on average 10.8 hours of education and training in 2021



For more information about the members of the Winbond Board of Directors, please scan the QR CODE



# Directors' Remuneration and Evaluation of Board Performance

Under the Winbond "Directors' Remuneration and Board of Directors Performance Evaluation Guidelines," a self-evaluation is conducted by the directors in December every year on the performance of the Board as a whole, the performance of individual Board members, and the performance of Functional Committees. The outcomes of the evaluations are compiled by the administrative unit of the Board. It is submitted to the Remuneration Committee and Board. The information is used to formulate a board performance improvement plan for the following year to continue to strengthen the corporate governance performance of Winbond. Outcome of the 2021 performance evaluation for the Board as a whole is divided into five major aspects. The evaluation score has improved compared with 2020, and the areas to be improved in 2022 are as follows :

- (a)Arrange external evaluation for the Board of Directors to improve the operational performance through expert advice and adjustments.
- (b)Continued provision of multi-faceted development courses to enhance the decision-making ability of Board members.

The outcomes of the 2021 evaluation were submitted to the Remuneration Committee and the Board of Directors on Tuesday, March 15, 2022.

## Board of Directors Performance Evaluation Process



## Remuneration Committee

The Remuneration Committee was established by Winbond in 2011. The Committee is responsible for setting and reviewing the performance evaluation and remuneration policy, system, standard, and structure as well as individual compensation for Winbond directors and managers. The “Directors’ Remuneration and Board of Directors Performance Evaluation Guidelines” and “Guidelines for Managers’ Remuneration and Performance Evaluation Management” were also drawn up to maximize the long-term effectiveness of the Board and to ensure a close linkage between the performance of managers and the company strategy (ESG). It provides competitive remuneration and improves business performance.

The 4th Remuneration Committee is made up of all independent directors and is convened at least twice a year. Recommendations made by the Committee are put to the Board for discussion, while the standard of compensation and benefits are regularly adjusted based on market conditions and employee requirements.

For more information about the number of Remuneration Committee meetings and attendance rates, please refer to the 2021 Annual Report.

## Audit Committee

Important company proposals must first be submitted to the Audit Committee for review according to the law. The outcome of the review is then submitted to the Board of Directors for a decision to be made. The Winbond Audit Committee is primarily concerned with supervising the following items:

1. *Fair presentation of the company's financial statements.*
2. *Appointment (dismissal) of the CPA as well as the CPA's independence and performance.*
3. *Effective implementation of the company's internal controls.*
4. *Company compliance with the relevant laws and regulations.*
5. *Control of existing or potential risks by the company.*

For more information about the number of Audit Committee meetings and attendance rates, please refer to the 2021 Annual Report

## Shareholder Engagement and Rights

Winbond has appointed a spokesperson and a deputy spokesperson. Investor relations and stock affairs units have also been established to ensure that investors and shareholders can have timely access to disclosed business information. There have been no extraordinary motions or change of agenda at Winbond general shareholders’ meetings in the last 10 years, ensuring that shareholders may exercise their statutory rights during shareholders’ meetings.

Winbond has implemented procedures for prevention of insider trading to protect shareholder equality and maintain the fairness of stock market transactions. Company personnel or employees are prohibited against profiting from information not available on the market. Education on prevention of insider trading is conducted every month to prevent accidental violations of the relevant laws.

An institutional investor conference is held by Winbond every six month with two of such conferences held in 2021. The conferences provide general investors with a picture of the company’s business situation and industry developments as a whole. It helps communicate our corporate philosophy and business approach and provide an opportunity for general investors to communicate with the management team and boost our market profile. These help to highlight our value and protect shareholder equity.



External channel  
of communication  
provided



Define  
management  
procedure for  
prevention of  
insider trading



Regular disclosure  
on Winbond  
operations



2 institutional  
investor  
conferences  
and 1 general  
shareholders’  
meeting are hosted  
each year

For more information on shareholder equity, please refer to the  
videos and presentations from the institutional investor conferences.



## 5.2 Transparency and Integrity

Winbond values business ethics and corporate social responsibility. "Conduct business with integrity and ethical behavior" is the company's highest ethical standard. The human resources unit is responsible for establishing and developing business ethics as part of the company's culture. We formulated regulations, continue to make improvements, supervise, control, educate and train our employees to make them become familiar with the connotations of business ethics. In 2011, 2014, and 2015, Winbond formulated policies such as "Corporate Governance Best Practice Principles," "Ethical Corporate Management Best Practice Principles," "CSR Best Practice Principles," "Corporate Social Responsibility Manual," "Code of Ethics for Directors" and "Employee Code of Conduct." There are all done to embed integrity management into the company's culture.

An annual report on business ethics promotion and training is presented to the Board by the HR in the fourth quarter of each year. Internal cultural promotion, weekly articles on corporate philosophy, and promotion of policy announcements published on the employees' homepages are used to strengthen the implementation of education and training on labor rights, environmental protection, health and safety, ethical standards, and prevention of insider trading. Winbond strengthens internal ethical awareness to ensure compliance with corporate ethics and government regulations and implements sound business ethics.

### 2021 Business Ethics Performance

- Winbond cultivates employees' understanding of "business ethics" by providing courses on "business ethics and "corporate social responsibility" in accordance with the relevant laws and internal rules every year. In 2021, starting from 3rd quarter, the online course "Promotion of Ethics for Employees" will be hosted. The contents of the course include "business ethics" (anti-corruption, insider trading prevention, fair trading, avoiding and reporting conflict of interest, advertising and competition, identity privacy protection, preventing retaliation, protection of confidential information, intellectual property rights, and personal data, non-conflict minerals, anti-trust (Fair Trade Act), and other topics) and "corporate social responsibility." A total of 3,563 global employees have been trained, with a total of 1,425 hours. The training was completed 100% by all directors and employees.
- There were no economic or environmental violations at Winbond, nor were there any cases of corruption, anti-competitive behavior, or violations related to marketing and labeling.
- No complaints on violation of business integrity were submitted through the Reporting channel in 2021.

## Education and Training on Integrity Management

Winbond conveys the importance of business ethics through multiple forms from top to bottom by delivering articles written by senior management, and other forms such as a series of corporate culture activities, through the company's internal website, email, Electronic Direct Mail (EDM), digital courses, cultural section to share how to practice and embed in daily work or life. In 2021, a special production was made on the Chairman talking about culture and explaining the importance of company culture with global employees.



## Internal Controls and Audits

Winbond's internal audit unit is directly under the Board of Directors. The appointment and dismissal of the audit chief shall be approved by the Audit Committee and the Board of Directors. In addition to reviewing and verifying the self-evaluation results of the internal control system for each unit and subsidiary, the internal audit unit also evaluates the control operations of various operating activities of Winbond's internal control system to measure the effectiveness and compliance of the existing internal control and its impact. The frequency and content of each periodic audit are determined according to the laws and regulations as well as the risk assessment. Other important procedures or special cases may be audited by the auditing personnel at any time or irregularly.

The audit unit conducts audits according to the annual audit plan approved by the Board of Directors to determine the effectiveness of the internal control system design and implementation. Audit findings are followed up until corrective actions have been completed to ensure the appropriate measures were taken by the relevant units timely. The audit chief reports to the independent director (convener of the Audit Committee) monthly after the completion of audit reports and the follow-up reports and delivers them to the independent directors for examination before the end of next month following the completion of the audit. The audit chief reports to the Board of Directors and Audit Committee quarterly. 2021 audit plan has been implemented in accordance with regulations, and audit results and follow-up improvements have been reported to the Audit Committee and the Board of Directors.

## Illegal Business Activities Reporting in Mechanism and Handling Procedures

Winbond provides the Reporting channel for stakeholders. Employees and external individuals can both use this channel to make anonymous or non-anonymous reports, if they discover that the Company's employees have engaged in illegal activities, such as unfair business practices, bribery, earning illegal profits, fraud, or coercion, etc. It is conducted in accordance with the "Ethical Management Violation Handling Guidelines."



## Tax Management

A unit responsible for tax governance has been established by Winbond to handle all tax reporting under the tax law. The reporting of tax shall be reported and approved according to the regulations. We also support government policies on business innovation, research and development, and tax credits while also working to improve the transparency of our tax information. Seminars or education and training are conducted to comply with international tax laws, or external professional consultants are retained or consulted when required by the business to ensure proper tax compliance and reporting. As of the end of 2021, Winbond has received a government loan of NT\$5,131,600 thousand at a below-market rate of interest, which is 0.5%-0.7%. It will be used in purchase of machinery and equipments and turnovers of operating capital. The loan is repayable over a seven-year period. .

For relevant information, please refer to Winbond' s 2021 Q4 consolidated financial report.

### ***Six Principles of Taxation Policy***

1. Comply with local tax laws, report tax returns honestly, pay taxes on time, and fulfill our social responsibility as taxpayers.
2. For changes in local and international tax regulations, thorough assessment taken to evaluate the impact and quickly formulate decisions accordingly.
3. Tax information is regularly disclosed in the financial statements and annual report to ensure information transparency.
4. Transactions between affiliated enterprises follow the same principles as for normal transactions and comply with the internationally accepted Transfer Pricing Guidelines defined by the Organization for Economic Cooperation and Development (OECD).
5. Winbond has built a relationship based on mutual trust and honest communications with the tax authorities.
6. All material transactions and decisions made by the company take the effect of tax and leases into account.



chapter

06

# Appendix

**Appendix A** About This Report

**Appendix B** GRI Content Index

**Appendix C** Sustainability Accounting Standards Board (SASB) Index

**Appendix D** Third-Party Assurance Statement

# About This Report

## About this Report

Winbond Electronics Corporation (“Winbond”) began publishing the “Corporate Social Responsibility Report” in 2015. In 2022, it is renamed as “Sustainability Report” according to the government regulations. The report provides transparent and complete disclosure on the impact of our business operations in the Environmental, Social and Governance (ESG) aspects as well as our actions on sustainability topics. The report shows that in addition to Winbond’s focus on sustainability, topics such as social justice, community welfare, employee development and environmental protection are important to the company as well. Related measures have been implemented through the promotion and spread of business activities as a response to stakeholder expectations and requirements of Winbond’s sustainability and management.

## Scope

The scope of information of Winbond disclosed in this report covers from January 1, 2021, to December 31, 2021. The report boundary includes Taiwan headquarters. In addition to the presentation of data from Winbond, the report also includes material information on suppliers, demonstrating Winbond’s influence and sense of responsibility towards the value chain. There are no restatements of information in this year’s “2021 Sustainability Report” compared to the “2020 CSR Report” last year.

## Management method

Internal Audit	<ul style="list-style-type: none"><li>• The contents of this report were reviewed by the Winbond CSR Implementation Committee and the management representatives of each department.</li><li>• The President’s Office is responsible for the proposal and implementation of CSR policy, systems, related management approach, and substantive implementation plans, with regular reports made to the Board of Directors.</li></ul>
External Audit	<ul style="list-style-type: none"><li>• The financial data was audited and verified by the accounting firm Deloitte Taiwan. The default currency is New Taiwan Dollars.</li><li>• Independent verification of this report was conducted by BSI Taiwan in accordance with the AA 1000 APS 2018 Addendum Type I Assurance Standard to confirm that it conforms with the “core” options of the GRI Standards. Please refer to the independent assurance declaration included in the appendix of this report for more details on the results.</li><li>• ISO 14064-1 GHG emissions and ISO 27001 Information Security Management System (ISMS) were verified by BSI Taiwan.</li><li>• IATF 16949, ISO 14001, ISO 45001 and TOSHMS certification were approved by DQS Taiwan Inc.</li></ul>



## Editorial Principles and Guidelines

Winbond compiles and researches material economic, environmental and social topics in Taiwan and abroad. The topics of concern to stakeholders are then determined through materiality analysis. All the relevant departments are interviewed to establish their implementation performance and to set the relevant topics as the core disclosures of this report. This report complies with the Core options of the GRI Standards issued by the Global Reporting Initiative, and the industry standards issued by the Sustainability Accounting Standards Board (SASB).

## Publication Time

The Winbond CSR Report is published annually and this is the 8th report. Paperless operations are promoted by Winbond to save energy, reduce carbon emissions, protect the environment, and care for planet Earth. This report therefore continues the tradition of being published in an electronic format on the Winbond website for all stakeholders to read.

### Feedback

If you have any questions or suggestions regarding this report, please do not hesitate to contact us. Our contact details are as follow:

**Quality System Department, Winbond Electronics Corporation**

**Contact Person** Mr. Hua-Hsing Liu

**Address** No. 8, Keya 1st Rd., Daya District, Taichung City 42881

**Tel** +886-4-25218168 ext. 76826

**E-mail** CSR@winbond.com

**Company Website** www.winbond.com

**Current version** Published in June 2022

**Previous version** Published in June 2021

**Next version** To be published in June 2023



# GRI Content Index

\*material topics

<b>GRI 101 : Foundation 2016</b> (contains no disclosures)				
<b>GRI 102 : General Disclosures 2016</b>				
GRI Standards	Disclosure	Corresponding Section	Page	Remarks
<b>Organizational Profile</b>				
<b>102-1</b>	Name of the organization	1.1 Introduction to Winbond	□□	
<b>102-2</b>	Activities, brands, products, and services	1.1 Introduction to Winbond	□□	
<b>102-3</b>	Location of headquarters	1.1 Introduction to Winbond	□□	
<b>102-4</b>	Location of operations	1.1 Introduction to Winbond	□□	
<b>102-5</b>	Ownership and legal form	1.1 Introduction to Winbond	□□	
<b>102-6</b>	Markets served	1.1 Introduction to Winbond	□□	
<b>102-7</b>	Scale of the organization	1.1 Introduction to Winbond	□□	
<b>102-8</b>	Information on employees and other workers	4.1.1 Workforce Structure	□□□	
<b>102-9</b>	Supply chain	2.6 Sustainable Supply Chain	□□	
<b>102-10</b>	Significant changes to the organization and its supply chain	-		No significant changes during the reporting period
<b>102-11</b>	Precautionary Principle or approach	2.3 Risk Management	□□	
<b>102-12</b>	External initiatives	1.2 Sustainable Development Strategy	□□	
<b>102-13</b>	Membership of associations	1.1 Introduction to Winbond	□□	
<b>Strategy</b>				
<b>102-14</b>	Statement from senior decision-maker	Message from the Chairman and CEO	□	

<b>Ethics and Integrity</b>				
<b>102-16</b>	Values, principles, standards, and norms of behavior	5.2 Transparency and Integrity	□□□	
<b>102-18</b>	Governance Structure	5.1 Corporate Governance	□□□	
<b>Stakeholder Engagement</b>				
<b>102-40</b>	List of stakeholder groups	1.3 Materiality Analysis and Stakeholder Engagement	□□	
<b>102-41</b>	Collective bargaining agreements	-		There are no collective bargaining agreements as no union has been formed
<b>102-42</b>	Identifying and selecting stakeholders	1.3.1 Stakeholder Communication and Response	□□	
<b>102-43</b>	Approach to stakeholder engagement	1.3.1 Stakeholder Communication and Response	□□	
<b>102-44</b>	Key topics and concerns raised	1.3.2 Management of Material Topics	□□	
		CH1 Sustainability Philosophy - Taking the Lead	□□	
		CH2 Vision and Value	□□	
		CH3 Greening the Environment - Committed to Environmental Protection	□□	
		CH4 Harmony and Inclusion	□□	
		CH5 Integrity and Stability	□□□	
<b>Reporting practice</b>				
<b>102-45</b>	Entities included in the consolidated financial statements	1.1 Introduction to Winbond	□□	
<b>102-46</b>	Defining report content and topic boundaries	Appendix A About this Report	□□□	
<b>102-47</b>	List of material topics	1.3.2 Management of Material Topics	□□	
<b>102-48</b>	Restatements of information	-		There were no restatements of information
<b>102-49</b>	Changes in reporting	1.3.2 Management of Material Topics	□□	
<b>102-50</b>	Reporting period	Appendix A About this Report	□□□	
<b>102-51</b>	Date of most recent report	Appendix A About this Report	□□□	
<b>102-52</b>	Reporting cycle	Appendix A About this Report	□□□	



<b>102-53</b>	Contact point for questions regarding the report	Appendix A About this Report	□□□	
<b>102-54</b>	Claims of reporting in accordance with the GRI Standards	Appendix A About this Report	□□□	
<b>102-55</b>	GRI Content Index	Appendix B GRI Standards Reference Table	□□□	
<b>102-56</b>	External assurance	Appendix D Third-Party Assurance Statement	□□□	
<b>Business Performance*</b>				
<b>GRI 103 Management approach 2016</b>	<b>103-1</b> Explanation of the material topic and its Boundary	1.3.2 Management of Material Topics	□□	
	<b>103-2</b> The management approach and its components			
	<b>103-3</b> Evaluation of the management approach	CH1 Sustainability Philosophy - Taking the Lead	□□	
<b>GRI 201 Economic Performance 2016</b>	<b>201-1</b> Direct economic value generated and distributed	1.1 Introduction to Winbond	□□	
	<b>201-3</b> Defined benefit plan obligations and other retirement plans	4.1.3 Compensation and Benefits	□□□	
<b>Corporate Governance and Business Ethics*</b>				
<b>GRI 103 Management approach 2016</b>	<b>103-1</b> Explanation of the material topic and its Boundary	1.3.2 Management of Material Topics	□□	
	<b>103-2</b> The management approach and its components			
	<b>103-3</b> Evaluation of the management approach	CH5 Integrity and Stability	□□□	
<b>GRI 205 Anti-corruption 2016</b>	<b>205-2</b> Communication and training about anti-corruption policies and procedures <b>205-3</b> Confirmed incidents of corruption and actions taken	5.2 Transparency and Integrity	□□□	There were no incidents of corruption
<b>GRI 206 Anti-competitive Behavior 2016</b>	<b>206-1</b> Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	5.2 Transparency and Integrity	□□□	There were no incidents of anti-competitive behavior
<b>Energy management</b>				
<b>GRI 302 Energy</b>	<b>302-1</b> Energy consumption within the organization	3.2.1 Energy Management	□□	

	<b>302-3</b> Energy Intensity <b>302-4</b> Reduction of energy consumption	3.2.1 Energy Management	□□	
<b>Water Management</b>				
<b>GRI 303 Water and Effluents 2018</b>	<b>303-3</b> Water Withdrawal	3.3.2 Water Usage	□□	
	<b>303-4</b> Water Discharge	3.3.4 Wastewater Management	□□	
	<b>303-5</b> Water Consumption	3.3.2 Water Usage	□□	
<b>Emissions Management</b>				
<b>GRI 305 Emissions 2016</b>	<b>305-1</b> Direct (Scope 1) GHG emissions	3.2.2 Carbon Management	□□	
	<b>305-2</b> Energy Indirect (Scope 2) GHG emissions	3.2.2 Carbon Management	□□	
	<b>305-4</b> GHG emissions intensity	3.2.2 Carbon Management	□□	
	<b>305-7</b> Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	3.5 Emissions Management	□□	
<b>Waste</b>				
<b>GRI 306 Waste 2020</b>	<b>306-3</b> Waste generated	3.4 Waste Management	□□	
<b>Regulatory Compliance*</b>				
<b>GRI 103 Management approach 2016</b>	<b>103-1</b> Explanation of the material topic and its Boundary	1.3.2 Management of Material Topics	□□	
	<b>103-2</b> The management approach and its components	CH3 Greening the Environment - Committed to Environmental Protection	□□	
	<b>103-3</b> Evaluation of the management approach	CH5 Integrity and Stability	□□□	
<b>GRI 307 Environmental Compliance 2016</b>	<b>307-1</b> Non-compliance with environmental laws and regulations	5.2 Transparency and Integrity CH3 Greening the Environment - Committed to Environmental Protection	□□□ □□	There were no incidents of non-compliance
<b>GRI 419 Socioeconomic Compliance 2016</b>	<b>419-1</b> Non-compliance with laws and regulations in the social and economic area	5.2 Transparency and Integrity	□□□	
		CH5 Integrity and Stability	□□□	



Employee Relations				
<b>GRI 401 Employment 2016</b>	<b>401-1</b> New employee hires and employee turnover	4.1.2 Talent Recruitment and Performance Evaluation	□□□	
	<b>401-2</b> Benefits provided only to full-time employees	4.1.3 Compensation and Benefits	□□□	
	<b>401-3</b> Parental leave	4.1.3 Compensation and Benefits	□□□	
Occupational Health and Safety*				
<b>GRI 103 Management approach 2016</b>	<b>103-1</b> Explanation of the material topic and its Boundary	1.3.2 Management of Material Topics	□□	
	<b>103-2</b> The management approach and its components			
	<b>103-3</b> Evaluation of the management approach	CH4 Harmony and Inclusion	□□	
<b>GRI 403 Occupational Health and Safety 2018</b>	<b>403-1</b> Occupational Safety and Health Management System	4.3.1 Safety and Health Management System	□□□	
	<b>403-2</b> Hazard Identification, Risk Assessment and Accident Investigation	4.3.2 Environmental Safety and Health Risk Assessment	□□□	
	<b>403-3</b> Occupational health services	4.1.3 Compensation and Benefits	□□□	
	<b>403-4</b> Worker participation, consultation, and communication on occupational health and safety	4.3.1 Safety and Health Management System	□□□	
	<b>403-5</b> Worker training on occupational health and safety	4.3.1 Safety and Health Management System	□□□	
		4.3.2 Environmental Safety and Health Risk Assessment	□□□	
	<b>403-6</b> Promotion of worker health	4.1.3 Compensation and Benefits	□□□	
	<b>403-7</b> Prevention and mitigation of occupational health and safety impacts directly linked to business relationships	2.6 Sustainable Supply Chain	□□	
	<b>403-8</b> Workers covered by the Occupational Health and Safety management system	4.3.1 Safety and Health Management System	□□□	
	<b>403-9</b> Occupational Injury	4.3.1 Safety and Health Management System	□□□	
	<b>403-10</b> Occupational Diseases	4.3.1 Safety and Health Management System	□□□	There were no incidents of occupational diseases

Training and Education				
GRI 404 Training and Education 2016	404-1 Average hours of training per year per employee	4.1.4 Talent development and learning outcomes	<div><div></div><div></div><div></div></div>	
	404-3 Percentage of employees receiving regular performance and career development reviews	4.1.2 Talent Recruitment and Performance Evaluation	<div><div></div><div></div><div></div></div>	
Employee Relations				
GRI 405 Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	4.1.2 Talent Recruitment and Performance Evaluation	<div><div></div><div></div><div></div></div>	
		4.1.3 Compensation and Benefits	<div><div></div><div></div><div></div></div>	
Quality of Product and Service*				
GRI 103 Management approach 2016	103-1 Explanation of the material topic and its Boundary	1.3.2 Management of Material Topics	<div><div></div><div></div></div>	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach	CH2 Vision and Value	<div><div></div><div></div></div>	
GRI 417 Marketing and Labeling 2016	417-2 Incidents of non-compliance concerning product and service information and labeling	5.2 Transparency and Integrity	<div><div></div><div></div><div></div><div></div></div>	
	417-3 Incidents of non-compliance concerning marketing communications			
Information security and personal information protection*				
GRI 103 Management approach 2016	103-1 Explanation of the material topic and its Boundary	1.3.2 Management of Material Topics	<div><div></div><div></div></div>	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach	CH2 Vision and Value	<div><div></div><div></div></div>	
GRI 418 Customer Privacy 2016	418-1 Substantiated complaints regarding concerning breaches of customer privacy and losses of customer data	2.5 Customer Relationship Management	<div><div></div><div></div></div>	There were no customer grievances

Self-defined Topic : Information Security		2.4 Information Security Management	□□	
Research, Development and Innovation*				
GRI 103 Management approach 2016	103-1 Explanation of the material topic and its Boundary	1.3.2 Management of Material Topics	□□	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach	CH2 Vision and Value	□□	
Self-defined Topic : Research, Development and Innovation		2.1 Innovation, Research and Development	□□	
Risk Management*				
GRI 103 Management approach 2016	103-1 Explanation of the material topic and its Boundary	1.3.2 Management of Material Topics	□□	
	103-2 The management approach and its components			
	103-3 Evaluation of the management approach	CH2 Vision and Value	□□	
Self-defined Topic : Risk management		2.3 Risk Management	□□	



# Sustainability Accounting Standards Board (SASB) Index

Disclosure Topic	Code	Category	Disclosure Metric	Corresponding Section	Page	Remarks
Greenhouse Gas Emissions	TC-SC-110a.1	Quantitative	(1) Gross global Scope 1 emissions (2) Amount of total emissions from perfluorinated compounds	3.2.2 Carbon Management	□□	Not subject to Scope 1 related emission controls
	TC-SC-110a.2	Qualitative disclosure	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	3.2.2 Carbon Management	□□	
Energy management in manufacturing	TC-SC-130a.1	Quantitative	(1) Total energy consumed (2) Percentage of electricity used from grid (3) Percentage of renewable energy	3.2.1 Energy Management	□□	
Water Management	TC-SC-140a.1	Quantitative	(1) Total water withdrawal (2) Total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	3.3.2 Water Usage	□□	
Waste Management	TC-SC-150a.1	Quantitative	Amount of hazardous waste from manufacturing, percentage recycled	3.4 Waste Management	□□	
Employee health and safety	TC-SC-320a.1	Qualitative disclosure	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	4.1.3 Compensation and Benefits	□□□	
	TC-SC-320a.2	Quantitative	Total amount of monetary losses as a result of legal proceedings associated with employee health and safety violations	4.3 Occupational Safety and Health	□□□	
Recruiting and managing a global and skilled workforce	TC-SC-330a.1	Quantitative	Percentage of employees that are (1) foreign nationals and (2) located offshore	5.2 Transparency and Integrity	□□□	No penalties associated with Occupational Safety and Health violations
Product Lifecycle Management	TC-SC-410a.1	Quantitative	Percentage of products by revenue that contain IEC 62474 declarable substances	4.1.1 Workforce Structure	□□□	
	TC-SC-410a.2	Quantitative	Processor energy efficiency at a system-level for : (1) servers, (2) desktops, and (3) laptops6	4.1.3 Compensation and Benefits	□□□	
Materials Sourcing	C-SC-440a.1	Qualitative disclosure	Description of the management of risks associated with the use of critical materials	-	-	No IEC 62474 declarable products
Intellectual property protection and competitive behavior	TC-SC-520a.1	Quantitative	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	-	-	No production of servers, desktops or laptop products
Total production	TC-SC-000.A	Quantitative	-	2.6.2 Sustainability Audits for Suppliers	□□	
				-	-	There were no violations of anti-competitive regulations
				1.1 Introduction to Winbond	□□	

# Third-Party Assurance Statement



## INDEPENDENT ASSURANCE OPINION STATEMENT

### Winbond Electronics Corporation 2021 Sustainability Report

The British Standards Institution is independent to Winbond Electronics Corporation (hereafter referred to as Winbond in this statement) and has no financial interest in the operation of Winbond other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance opinion statement has been prepared for the stakeholders of Winbond only for the purposes of assuring its statements relating to its sustainability, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by Winbond. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to Winbond only.

#### Scope

The scope of engagement agreed upon with Winbond includes the followings:

1. The assurance scope is consistent with the description of Winbond Electronics Corporation 2021 Sustainability Report.
2. The evaluation of the nature and extent of the Winbond's adherence to AA1000 AccountAbility Principles (2018) in this report as conducted in accordance with type 1 of AA1000AS v3 sustainability assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process.

This statement was prepared in English and translated into Chinese for reference only.

#### Opinion Statement

We conclude that the Winbond Electronics Corporation 2021 Sustainability Report provides a fair view of the Winbond sustainability programmes and performances during 2021. The sustainability report subject to assurance is free from material misstatement based upon testing within the limitations of the scope of the assurance, the information and data provided by the Winbond and the sample taken. We believe that the performance information of Environment, Social and Governance (ESG) are fairly represented. The sustainability performance information disclosed in the report demonstrate Winbond's efforts recognized by its stakeholders.

Our work was carried out by a team of sustainability report assurers in accordance with the AA1000AS v3. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that Winbond's description of their approach to AA1000AS v3 and their self-declaration in accordance with GRI Standards: Core option were fairly stated.

#### Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a review of issues raised by external parties that could be relevant to Winbond's policies to provide a check on the appropriateness of statements made in the report.
- discussion with managers on approach to stakeholder engagement. However, we had no direct contact with external stakeholders.
- 20 interviews with staffs involved in sustainability management, report preparation and provision of report information were carried out.
- review of key organizational developments.
- review of the findings of internal audits.
- review of supporting evidence for claims made in the reports.
- an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000AP (2018).

#### Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness and Impact of AA1000AP (2018) and GRI Standards is set out below:

#### Inclusivity

This report has reflected a fact that Winbond has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for the information of Environment, Social and Governance (ESG) in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the Winbond's inclusivity issues.

#### Materiality

Winbond publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of Winbond and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the Winbond's management and performance. In our professional opinion the report covers the Winbond's material issues.

#### Responsiveness

Winbond has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for Winbond is developed and continually provides the opportunity to further enhance Winbond's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the Winbond's responsiveness issues.

#### Impact

Winbond has identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. Winbond has established processes to monitor, measure, evaluate and manage impacts that lead to more effective decision-making and results-based management within the organization. In our professional opinion the report covers the Winbond's impact issues.

#### GRI Sustainability Reporting Standards (GRI Standards)

Winbond provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the Winbond's sustainability topics.

#### Assurance level

The moderate level assurance provided is in accordance with AA1000AS v3 in our review, as defined by the scope and methodology described in this statement.

#### Responsibility

The sustainability report is the responsibility of the Winbond's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

#### Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Peter Pu, Managing Director BSI Taiwan



making excellence a habit

Statement No: SRA-TW-2021097

2022-05-18

Taiwan Headquarters: 2nd Floor, No. 37, Ji-Hu Rd., Nei-Hu Dist., Taipei 114, Taiwan, R.O.C.

BSI Taiwan is a subsidiary of British Standards Institution.