

# 2019 Advantech Co., Ltd. Corporate Social Responsibility Report

Altruistic Management  
Social Contribution  
Advantech Beautiful Life







# About Advantech's 2019 CSR Report



## Report editorial principles

Advantech Co., Ltd. issued its 2019 Corporate Social Responsibility (CSR) Report with the major aims of transparently and openly presenting to its stakeholders and society its various CSR-related measures, results, management directions, and strategies, and expanding to environmental and social concerns. The Advantech 2019 CSR Report was published in 2020. The major task of the present edition is to adjust the report according to the Global Reporting Initiative (GRI) Standards and expand the communication and negotiation with various types of stakeholders.

## Report boundary and scope

The boundary of the Advantech CSR Report consists of Advantech Taiwan (Ruiguang, Sunny, Donghu, and Linkou), and Advantech Kunshan, China, as critical operation bases. This report also discloses the performance data of Advantech's Hsinchu, Taichung, and Kaohsiung offices. Although the revenue of Advantech-LNC Technology Co., Ltd. is included in the revenue of the Annual Report, because since 2018, it has been independent in its finance and human resources, information about Advantech-LNC and its Dongguan Plant is not disclosed herein. In 2019, Advantech purchased 80% of the stock of the Japanese company OMRON Nohgata, renaming it Advantech Technologies Japan (ATJ). Because the buyout has not yet been for 1 year, it is yet to be disclosed. Other subsidiaries and offices of Advantech are primarily about marketing and sales, so they are not included in this report.

## Reporting object and time

The present report primarily presents various performance data of 2019 (2019/1/1–2019/12/31). Information before this period as well as policies, goals, and plans for the future are also partially disclosed.


## Reporting criteria

This report was written following the “Core” option in the GRI Standards to disclose Advantech's strategies, philosophies, measures, and performances in CSR. The figures in this financial report are in New Taiwan Dollars (NTD). Performances related to environmental protection and safety are expressed in internationally accepted indicators. Conditions that are inferred or assumed are specified in relevant chapters. Compared to the previous edition, the present report does not set out to amend any descriptions in the old report that could lead to critical misjudgments by the reader.

## Report verification

To provide reliable open information to readers, this report has been verified by an independent third party, SGS Taiwan Ltd, meeting the requirement of AA1000AS Type 2 High Level of assurance. The verification statement is provided in the appendix of this report.

AA1000AS: The AA1000 Assurance Standard is a principle for sustainable development and accountability issued by Accountability of the United Kingdom. It is one of the major international standards for verifying CSR reports.



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### Report Release Date (expected annual reports)

Current issue: September 2020

Previous issue: November 2019

Next issue: Scheduled for September 2021

### Report Issuance

This report can be accessed online at the Advantech website. For any questions or suggestions related to this report, please contact us.

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# CEO's Expectations and Sustainable Management

- 1.1 CSR organization framework
- 1.2 Stakeholders and sustainability

## Using altruistic spirit and ESG criteria to inspect corporate sustainable management

Based on the Lita concept, which is a style of altruistic management, Advantech fulfills its philosophy of leveraging its core competitiveness to give back to society. In recent years, the company has been following environmental, social, and governance (ESG) criteria to assess its sustainable management policies and develop strategies corresponding to aspects such as corporate governance, industry development, and employee partner participation.

**Corporate governance** To strengthen corporate governance and to pursue outstanding growth and sustainable management, Advantech established the

Audit Committee in 2017 to reinforce the supervisory function of the board of directors.

**Industry development** Advantech coined the concept of ESG Powered by AIoT Competency and provides IoT data application platforms for schools, cultivates industry talents, and develops smart applications in agriculture, security, and energy, making the society safer, more environmentally friendly, and more convenient.

**Employee partner** The ESG Powered by Employee and Community Enrichment was developed to enrich the lives of employees, people in the community,

In response to the COVID-19 pandemic that started in late 2019, Advantech not only maintains its original spirit and principles to conduct daily projects but also considers the health, safety, and physical and mental states of its global employees, clients, and partners as top priority at this stage. Based on the regulations of governments in different countries, Advantech initiated mechanisms of working from home and flexible working hours at the first instance to ensure the health and safety of all people related to Advantech. In addition, the company releases

relevant information such as global operations, office status, and employee health via official and unofficial communication channels, including its official website, Employee Portal, email, and instant messaging, to maintain information flow and transparency. Also, Advantech's human resources personnel worldwide have proposed corresponding action plans for international business trips and pandemic-prevention measures for employees as references.



cooperation partners, and stakeholders by inviting employees to participate in educational, artistic and cultural, and social charity events.

In addition to the strategic directions based on the ESG criteria, Advantech also integrates its short-, mid-, and long-term goals established for enterprise sustainable operation. Through two major platforms, namely the corporation itself and the Advantech Foundation, stakeholders are driven to implement the sustainable declaration of promoting the value of IoT platforms, devoting to cultivation of talent, connecting global partners for co-creation, and realizing an intelligent planet.

**Short-term goals** Continue to apply the management philosophy of the Hedgehog Concept in *Good to Great: Why Some Companies Make the Leap...and Others Don't* to focus on developing Industrial IoT technologies and cultivating the industrial ecosphere. By establishing the Audit Committee, the supervisory function of the board is strengthened. Company brand, products, services, and corporate culture are seamlessly extended to Advantech's branches worldwide to perfect corporate governance and sustainable management.

**Midterm goals** Based on seeking stakeholder balance, through the tangible and intangible social give-back from Advantech and the Advantech Foundation, stakeholders such as employees, customers, society, and shareholders can build a happy life on the same platform.

**Long-term goals** Use the Lita concept and ESG criteria to keep examining corporate sustainable management. On the basis of comprehensive corporate governance and stakeholder balance, Advantech will keep using the Lita concept and its core competitiveness—its specialty in IoT technology—to solve problems that global society faces together with its partners. In addition, the Advantech Foundation will lead all employees to implement the vision of becoming a corporate role model, thereby comprehensively implementing the ideal of utilizing Advantech's core competitiveness to give back to society.

Liu Ke Cheng, CEO of Advantech



## CSR organization framework



### Understanding the altruistic spirit of the Lita Tree concept

As shown in Fig. 1.1, Advantech believes that the core for corporate sustainable management lies in seeking a perfect balance between four major stakeholders (shareholders, employees, clients, and society) as well as in achieving rigorous and comprehensive corporate governance. For Advantech, an enterprise is like an altruistic Lita Tree, and society is like the land that provides the tree nutrients. Comprehensive corporate governance and stakeholder balance enable the corporation to grow deep roots and establish a stable foundation. Sound organization development enables the corporation to grow a strong trunk that supports corporate operation. Proactive talent cultivation enables the enterprise to grow branches and leaves, expanding a green shade of market growth and growing bountiful fruits that are accumulated from profits, which are then enjoyed by everyone in the corporation. After the fruits of profit fall to the land, they further nourish the Lita Tree, fulfilling the corporate responsibility as a social citizen.

Advantech believes that to implement the spirit of the ever-multiplying Lita Tree, the first criterion is the perfect balance and full participation of stakeholders. For the shareholders who have long been supporting us, we promise that we will adhere to the spirit of integrity in management, reward shareholders with stable dividends, and head toward sustainable management. For employees who are active in and devoted to their work, we promise that we will build Advantech into an honest and open development platform, becoming a wonderful corporation upon which employees can depend their whole lives. For clients who trust us, we promise that Advantech will focus on becoming the promoter of an intelligent planet as its long-term goal in future development. For the society with which we coexist and co-prosper, we promise that Advantech will strive to become a role model of what an outstanding corporation should be, proactively spreading the Lita spirit and using our industry results to benefit society.



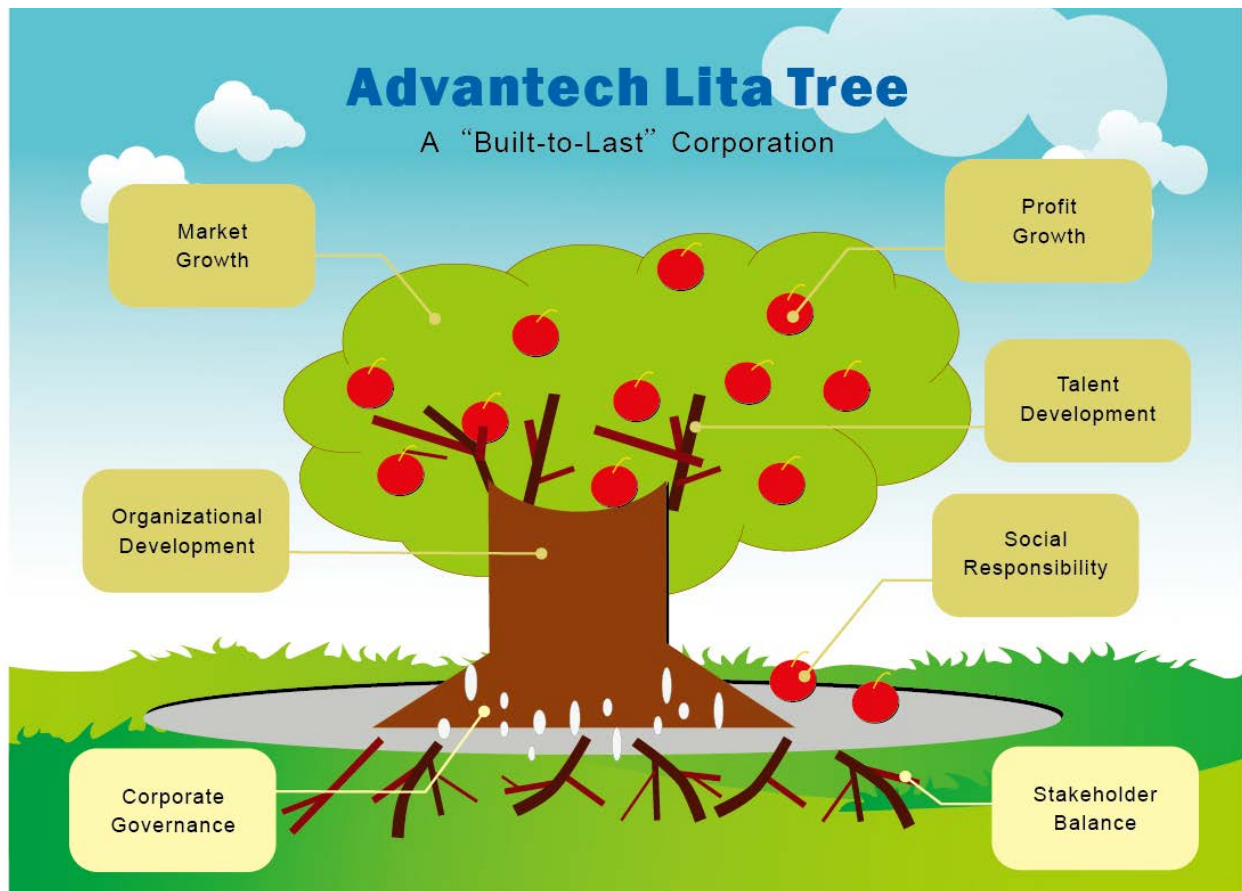
### The beginning of CSR and CSR promotion organizations

Advantech started issuing its CSR report in 2013. Its CSR Steering Committee is led by the chairperson. The general manager is assigned to attend crucial meetings and to report CSR promotion situations and strategies during board meetings, and the board of directors review the annual CSR report. In 2020, we are determined to review corporate resources and past conducts and to determine the directions toward which we should strive in development in the future. Using the ESG criteria to cover the overall conduct, we have established an ESG Corporate Sustainable Development Committee and Promotion Office to more effectively adopt concrete indices to promote Advantech's progress in aspects such as environmental sustainability, social responsibility and give-back, and corporate governance. Fig 1.2 shows the new organizational structure.

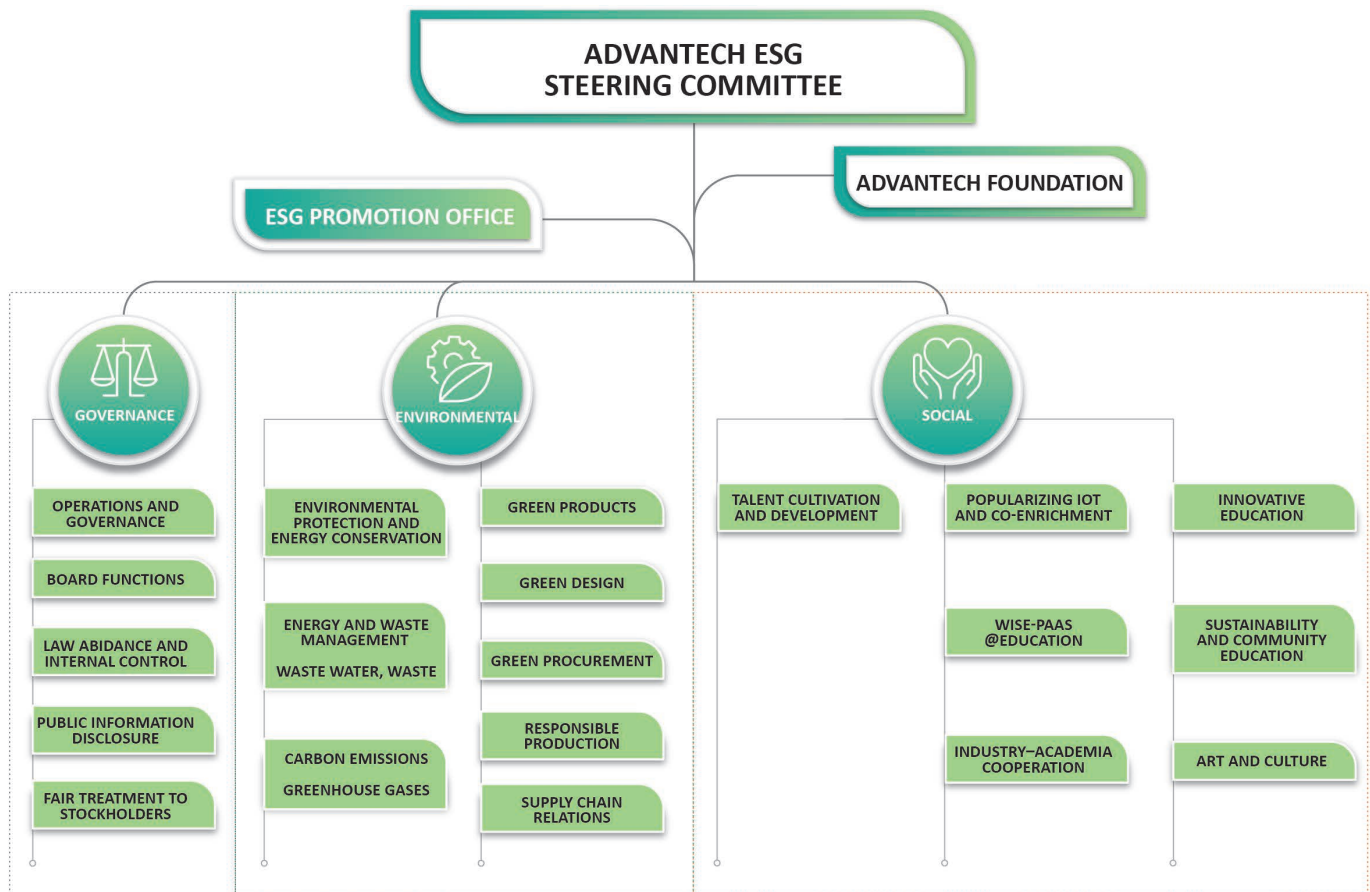
The ESG Promotion Office follows the plan–do–check–act management model to regularly identify stakeholders, collect and review topics stakeholders care about, and introduce them in the annual meeting to ensure that all major aspects of consideration have been covered. After the committee confirms, action plans are launched. For each business related to CSR, the ESG Promotion Office reports their progress and performance to the committee and reports the implementation results to higher-level managers. In addition, each year, higher-level managers discuss projects on industry–academia participation and on social welfare.



▼ Fig. 1.1 Schematic of the ideal of the Advantech Lita Tree



▼ Fig. 1.2 Advantech CSR Steering Committee





## Stakeholders and sustainability topic management



### Stakeholder identification and engagement

In the Advantech CSR Promotion Office's department daily operation and external business negotiation, based on the selection mechanism of substantive topics, personnel of each department are gathered to identify stakeholders on the basis of organizational operational communication and stakeholder inclusiveness. The five principles of the AA1000 Stakeholder Engagement Standard (i.e., dependency, responsibility, tension, influence, and diverse perspectives) are referenced to identify prioritized communication partners and to respond to topics of their concerns. Preliminarily, seven types of stakeholders are identified: clients and cooperation partners, employees, investors, media, suppliers, community, and non-profit organizations.

Stakeholder engagement is a critical component in Advantech's sustainability topic management. In

addition to maintaining interaction with stakeholders through various forms during daily business, we also use various channels such as CSR mailbox (csr@advantech.com.tw), phone communications, meetings, satisfaction surveys, on-site visits, and the participation of guilds and associations to engage with stakeholders.

The degree of attention paid to major topics in this report is based on the results of an annual questionnaire survey. Based on two factors (i.e., the degree of concern that major shareholders have on a topic and the impact of a topic on Advantech's finance, environment, and society), analyses are conducted to identify major topics that shareholders are concerned about. Topics under high concern or with high impact will be disclosed in relevant chapters in the report, as shown in Table 1.1.



### Investor relations
















Shareholders and investors are critical stakeholders of Advantech; therefore, we continue to strive to enhance the communication with them. In addition to regularly holding institutional investor conferences and shareholders meetings, we also regularly participate in conferences held by investment institutions in order to communicate with investors and shareholders. Moreover, when receiving questions from investors or analysis in the forms of phone calls or emails, we answer them whenever it is within the range of information disclosure. Also, we collect feedback and opinions and provide them as a reference for management, thereby increasing interaction with shareholders and investors as well as increasing the width and depth of strategic thinking at the management level.

Topics of which investors and shareholders are concerned about are mostly related to our long-term development strategies and competitive niche. Sound

financial structure and dividend allotment are also what long-term shareholder concerns. Regarding investor expectation on dividends, the board of directors has planned that in 2020, common stockholders may receive NT\$7.8 of cash dividend and NT\$1 of stock dividend per share. Compared to 2019, the cash dividend for 2020 has increased by 15% and the stock dividend was extra (stock dividend is not regularly provided each year.)

In 2019, Advantech held two institutional investor conferences and one regular shareholders meeting; each was attended by over 100 people. We also attended nine domestic and foreign forums held by investment institutions. In terms of the number of meetings, the company attended approximately 100 meetings held by investment institutions. In terms of the number of participants, Advantech met with approximately 600 domestic and foreign shareholders and investors.

▼ Table 1.1 Advantech stakeholders, topics of concerns, and communication channel

Stakeholders	Topics of concern	Communication channel	Frequency	Relevant chapter
 Client	Economic performance	KA QBR review meetings	Seasonal	 Corporate Management and Governance
		Interactive conferences	Irregular	
		Domestic and foreign exhibitions	Irregular	
		Assistance from local sales representatives and engineers	In time	
		Activity satisfaction surveys	Irregular	
		MyAdvantech magazine	Seasonal	
		Client CSR audits	Irregular	
		Designated zone for CSR on the company website	Ongoing	
 Employee	Employer–Employee and Labor–Management	Employee Welfare Committee	Ongoing	 A Beautiful Life with Work, Learning, and Love
		In-person and online employee meetings	Semi-annual	
		Internal employee website (Employee Portal) and social media website	Ongoing	
		Employee e-newsletters	Seasonal	
		Employee satisfaction surveys	Irregular	
		Global electronic billboard	Ongoing	
		Mailbox for employee complaints	Ongoing	
		CSR education training	New employee induction	
 Investor	Economic performance	Investor service mailbox and phone number on the company website	Ongoing	 Corporate Management and Governance
		Public information observation station	Ongoing	
		Shareholders meeting	Annual	
		Institutional investor conferences	Semi-annual	
		Conferences involving domestic and foreign investment institutions as well as face-to-face communication meetings	Irregular	
		Issue company annual report	Annual	
		Company news releases on the official website	Irregular	
		Designated zone for investors on the company website	Ongoing	
 Media	Economic performance	Interview or phone interview	Irregular	 Corporate Management and Governance
		Media luncheons	Irregular	
		Announce information about revenue	Monthly	
		Press conferences and press releases	Irregular	
		Specific company activities	Irregular	
		Designated public relations personnel	Ongoing	
		Institutional investor conferences specifically for the media	Annual	
 Supplier	Procurement practice	Supplier CSR promotion and assessment	Annual	 Customer Relations and Supply Chain Management
		Supplier environmental protection assessment	Annual	
		Supplier meeting	Irregular	
		Supplier assessment	Annual	
		Anti-corruption report mailbox	Ongoing	
 Community	Waste water and waste	Designated units responsible for communicating with the community	Irregular	 Vision for Green Operations
		Advantech Foundation	Ongoing	
		CSR mailbox on the company website	Ongoing	
		Disclosing information about the CSR report on the company website	Ongoing	
 Non-profit organization	Integrity management	Cooperation activities	Irregular	 Corporate Management and Governance  Innovative Technology and Sustainable Co-Enrichment
		Art displays	Updated every season	
		Disclosing information about the CSR report on the company website	Ongoing	



## Identifying critical topics and boundaries

This report adopts the method of critical topic analysis procedure. Following this, we have identified sustainability topics that stakeholders are concerned about and have used them as the basis for information disclosure. This has allowed us to achieve effective communication and provide crucial references for planning the future direction of our CSR. The overall procedure is shown in Fig. 1.3.



▲ Fig. 1.3 Advantech CSR critical aspects of consideration analysis procedure

▼ Fig. 1.4 SDGs relevant to Advantech





## Sustainable Development Goals of the United Nations

In 2015, based on humans' needs for sustainable development and on problems all countries were facing, the United Nations (UN) planned the Sustainable Development Goals (SDGs), which involved 17 goals and 169 corresponded targets for countries to collaborate as a vision for 2030. Topics of which the UN is concerned about are common to every country. Corporations worldwide can also refer to these 17 SDGs to identify the realms in which they are applicable and can develop.

In response to the global SDGs, Advantech promises to use its core technology in Industrial IoT and lead its employees, ecological chain partners, and research units in the industry and academia to co-create solution plans for smart cities and Industrial 4.0. This is aimed at creating sustainable new values for society, the environment, and the Earth.

Using our core IoT technology, Advantech can assist the world in achieving Goals 3, 7, 9, 11, and 12 in the SDGs. Specifically, it can improve medical service quality, increase energy efficiency, achieve industrial automation, reduce the carbon footprint in logistics and retailing, and improve production efficiency in manufacturing. Through the action strategies adopted by Advantech, such as innovative environment, IoT education, co-creation partners, and open platforms, we can also make effective contributions to Goals 8, 4, and 17 regarding productivity, employment and education, and cooperation to promote global sustainability.

## Sources of Advantech's sustainable topics

Advantech's procedure of identifying critical consideration aspects is based on the guidance of the report principles and the identification report content under the framework of the GRI Standards for sustainability reporting. Given the wide scope of sustainability topics, we use Table 1.2 to collect and organize related topics.

▼ Table 1.2 Sources of Advantech's sustainability topics

 <p><b>External</b></p>	<ul style="list-style-type: none"> <li>◆ Aspects and indicators in GRI</li> <li>◆ Opinions and feedback from stakeholders</li> <li>◆ SDGs goals and targets</li> </ul>
 <p><b>Internal</b></p>	<ul style="list-style-type: none"> <li>◆ Corporate CSR policies</li> <li>◆ Corporate operating strategies and goals</li> </ul>



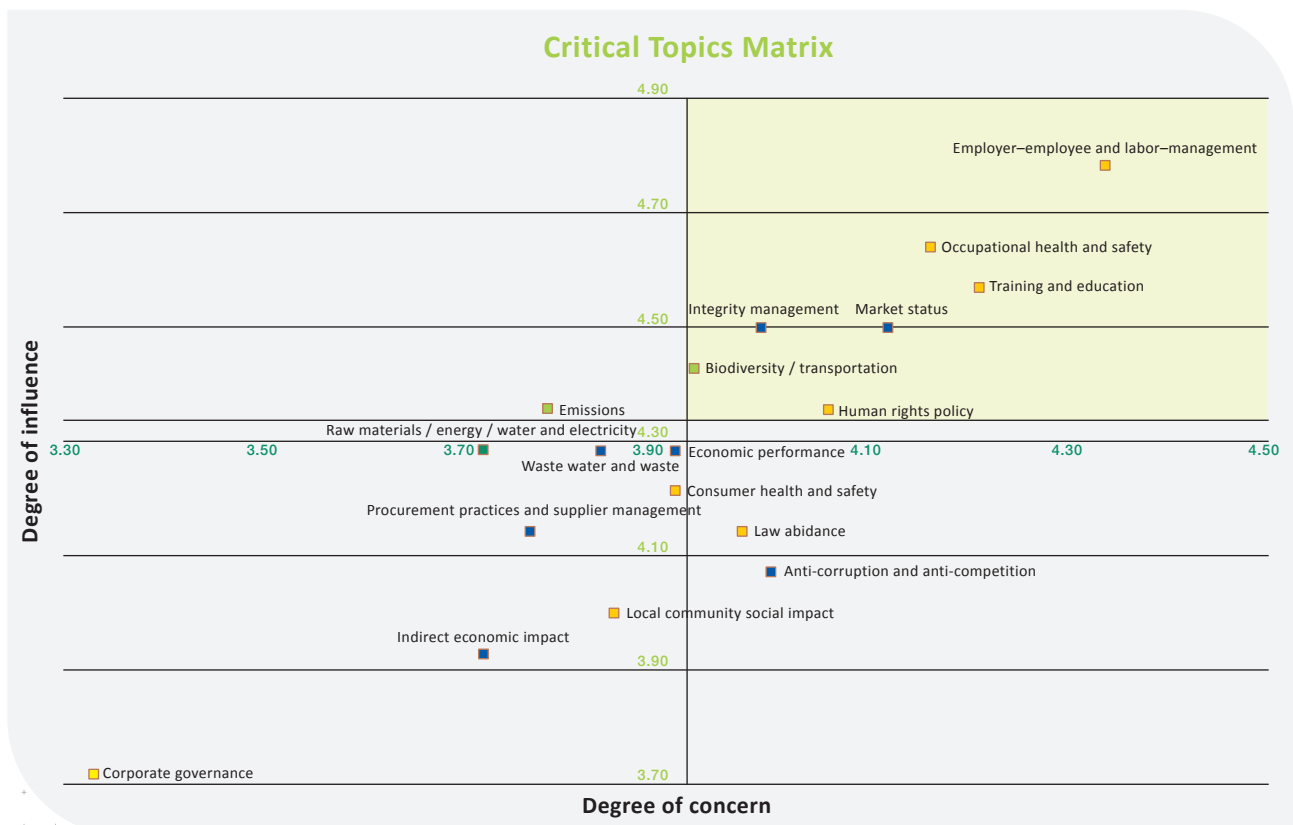


## Ranking critical topics

We conducted a survey to rank critical topics, from which 413 valid questionnaires were retrieved. To evaluate the relationship between stakeholders and Advantech, the score of concern of each topic as well as the degree of closeness were averaged to reflect the degree of concern of each stakeholder. The degree of influence of each topic regarding the economic,

▼ Fig. 1.5 Advantech CSR critical consideration aspect analysis results

environmental, and social impact on Advantech was scored by the Advantech CSR Promotion Team using an organizational perspective. After organization, topics critical to the sustainable development of Advantech were ranked. The degree of information coverage was considered to draw the threshold of criticalness. This report responds to critical topics whose degree of concern from shareholders reached 3.92 and whose influence to Advantech reached 4.34. Relevant results are shown in Fig. 1.5.



Based on cross-analysis results and referencing to corporate characteristics and management strategies, the committee organized a total of 11 critical topics. Each of the relevant indicators (Table 1.3) are disclosed in this report.

Environmental aspect	Economic aspect	Social aspect
1. Waste water and waste* 2. Energy* 3. Discharge* 4. Supplier management*	1. Economic performance* 2. Market status 3. Procurement practice*	1. Labor–employment relationship 2. Labor–Management relationship 3. Occupational health and safety 4. Training and education

▲ Table 1.3 Critical topics addressed in this report

\*denotes indicators added after the committee's discussion

## Identify topic boundaries

For each identified critical topic, we assessed its impact and determined whether its influences on the organization were internal or external. Table 1.4 identifies the boundaries of each topic within or outside the organization.

Legend	Description
●	Can be fully disclosed in this report.
◐	Can be partially disclosed in this report.

▼ Table 1.4 Boundaries of critical topics

Aspect of consideration \ Boundary		Internal		External
		Advantech Taiwan	Advantech Kunshan	Suppliers
Environmental	Supplier management	●	●	◐
	Emission of greenhouse gases	●	●	
	Using and wasting energy and resources	●	●	
	Waste water and waste	●	●	
Economic	Market status	●	●	
	Economic performance	●	●	
	Procurement practice	●	●	◐
Social	Training and education	●	●	
	Employee–employer relationship	●	●	
	Labor–management relationship	●	●	
	Occupational health and safety	●	●	





## Corporate Management and Governance

2019 revenue: **NT\$54.1 billion**  
 2019 net operating profit: **NT\$7.3 billion**  
 2019 earnings per share: **NT\$10.51**

- 2.1 Corporate introduction
- 2.2 Corporate governance
- 2.3 Risk management

### Establishing cross-industry service platforms to develop IoT smart applications

According to laws pertaining to the IT industry, the IT industry experiences a major transformation every 15 years. Specifically, a new key technology is developed every 15 years on average. In recent years, the world has officially entered the era of IoT and cloud computing. Relevant manufacturers in IoT will provide cloud infrastructure, cloud smart services, and relevant services to IoT and smart city industries in order to consolidate and satisfy the needs of each industry in the smart era. Advantech is confident to become one of

the most influential global enterprises in the realms of IoT, automation, and embedded computing. Therefore, the company has invested a huge amount of resources and manpower to reinforce its visibility in the vertical market. Moreover, through its supporting system of cross-industry service platforms, the company has developed IoT-centered smart applications to provide its clients value-oriented diversified, customized services, achieving the corporate goals of creating smart living and improving human welfare.



## 2.1

## Corporate introduction

Since its founding in 1983, Advantech has been a leading provider of industrial computers and smart systems, and it has played a role as an innovator in the development and manufacturing of high-quality and high-performance computing platforms. We provide various applications and services such as comprehensive integration of software and hardware systems, design customer-oriented services, and global logistics support. Advantech became a listed company in Taiwan in 1999. Its headquarters is established in the Neihu Technology Park in Taipei City, Taiwan. Based on customer demands,

the company is divided into three key divisions: the Industry IoT Division, the Embedded Design Division, and the Smart City Solution Planning Division. It has a total of 90 offices across Europe, the Americas, and Asia\*. Table 2.1 illustrates Advantech's products in 2019 and the corresponding sales performance. For further details, please refer to p.58 of the Annual Report; the production values are listed on p.77.

\* Please refer to the following link for a comprehensive list:  
<http://www.advantech.tw/contact>

▼ Table 2.1 Advantech's 2019 product categories and corresponding sales performance

Major products	Ratio	2019	
		Sales amount (TWD, thousand)	%
Embedded boards and cases		26,275,929	49
Industrial computers		21,776,158	40
Other		6,092,575	11
Total		54,144,662	100





Advantech and its affiliates are mainly involved in product manufacturing, assembling, sales, and after-sale services related to industrial computers. Some affiliates invest in relevant technology and sales activities related to the aforementioned products. Advantech's organizational structure is shown in Fig. 2.1. For more details, please refer to p.8 of the Annual Report.

▼ Fig. 2.1 Advantech organizational structure



Among them, because the Advantech Kunshan factory involves manufacturing systems, whose industry characteristics require considerations for labor conditions and environmental safety and health, Advantech simultaneously discloses related information.



## Future goals

At the start of the IoT and cloud computing era, in 2010, Advantech proposed “Enabling an Intelligent Planet” as the company’s corporate image and vision. In addition to broadening the application of existing products, we also adjusted the company’s operational strategies accordingly, changing the development focus to promoting integrated IoT solution plans. Since 2013, we have been adopting “Drive smart city innovation and co-create the IoT industry paradigm” as the company goal. We called on IoT industry-related partners to form an industry alliance, hoping to create an IoT ecological chain in Taiwan to facilitate the transformation of model industries in Taiwan.

Smart solution plans proposed by Advantech have encompassed various vertical fields, including smart medicine, smart energy-conservation, smart transportation, smart retail, smart agriculture, and smart manufacturing, and they have been introduced to Europe, America, Asia, and Australia. Take smart transportation as an example. Advantech assisted in creating the systems for YouBike and ETC in Taiwan, smart buses in Brazil, the dispatching system in the Qinghai–Tibet Railway, and airport shuttlebus management systems in Germany. Smart medicine solution plans have been applied to assist hospitals worldwide in creating more efficient care and diagnosis and treatment environment, including check-in systems in major hospitals in Taiwan, bedside terminal equipment in hospitals in Saudi Arabia, mobile medical workstations in Russia and London, and image transmission and management systems in operating rooms in hospitals in the Netherlands.

Advantech has also proactively been involved in various industry co-creation projects to speed up the formation of an industry ecological chain. Key promotion realms include topics related to promoting smart cities, IoT, and Industry 4.0. Advantech was the first in creating a cross-strait manufacturing center as an Industry 4.0 demonstration factory. By using IoT technology and sensors, the company has connected equipment to IoT systems for data collection, transforming the data into insights that enable further improvement of the factory’s overall productive efficiency. This has allowed us to optimize the production procedure, improve quality control, and implement the WISE-PaaS IoT Cloud Platform and Industry 4.0 Situation Room for data visualization, allowing us to conduct smart factory decision management at any time.

Advantech has generously shared its success experience with Industry 4.0, utilizing our WISE-PaaS IoT Cloud Platform and smart factory software/hardware integration Solution-Ready Packages to assist manufacturers to accelerate their smart factory construction. Leveraging these solutions, domestic leading enterprises such as China Steel Corporation, Everest Textile, Ching Luh Group, and Unimicron Technology Corporation have all completed their transformation. In addition, to accelerate the formation of an IoT industry chain, Advantech adopted a co-creation strategy to construct a comprehensive vertical realm solution plan.

The company has conducted joint ventures with IoT domain-focused system integrators such as Yeong Chin Machinery Industries Co., Ltd and Nippon-RAD to work together to speed up the localization of the industry and to satisfy market application demands for Industry 4.0. In response to the government’s Five Plus Two Industrial Innovation Plan, Advantech was supported by the Industrial Development Bureau. Together with the Industrial Technology Research Institute, the Institute for Information Industry, Digiwin Software Co., Ltd., Unimicron Technology Corporation, Chin Poon Industrial Co., Ltd., Unitech Ltd., and SYMTEK AUTOMATION ASIA CO., LTD., Advantech co-created the PCB A-Team smart manufacturing alliance, using Industry 4.0 to lead Taiwan to accelerate its industry upgrade.

In recent years, Advantech has joined several IoT-related official and unofficial organizations, including the Cloud Computing & IoT Association in Taiwan, Asian Silicon Valley-Major League IoT, and Taiwan Telematics Industry Association. Moreover, Advantech established a smart building alliance, became a founding member of the Taiwan Intelligent Aerotropolis Association, and conducted cross-industry alliance with leading industry companies to co-promote IoT and smart cities, proposing suggestions for the overall industry development and smart city construction. Moreover, the company has participated in diverse IoT platforms as well as associations and alliances of technology standards to hasten the localization and development of IoT in each industry. Table 2.2 lists the guilds, associations, and alliances Advantech has participated in.

▼ Table 2.2 Guilds and associations Advantech participated in

Participating unit	Membership payment	Membership type	Strategic meaning
Taipei Computer Association	Yes	General member	Promote computer use, promote economic development, and coordinate industry unity
Taichung Computer Association	Yes	General member	
Tainan Computer Association	Yes	General member	
Kaohsiung Computer Association	Yes	General member	
GO SMART Global Smart City Alliance Preparatory Advisory Committee Member	-	Preparatory Advisory Committee Member	Promote smart city application plans and export Taiwan's relevant applications
Taiwan Smart City Solutions Alliance	-	Founding member	Promote a real site demo in Taiwan Promote smart city exhibitions Promote Taiwan manufacturers as having key roles in smart city construction
Taiwan Electrical and Electronic Manufacturers' Association	Yes	General member	-
Taiwan Association of Machinery Industry	Yes	-	Assist in the introduction of smart machinery applications in machine tools in the machinery industry
Taiwan Automation Intelligence and Robotics Association	Yes	Grade 1 member	Signed a memorandum of cooperation in 2014 Serve as lecturers for practice courses of the association
Cloud Computing & IoT Association in Taiwan	Yes	Type B member	Promote cloud application services to increase the value of Taiwan's information and communications industry
Taiwan Telematics Industry Association	Yes	Type B member	Promote the development of Taiwan's telematics industry and improve the international competitiveness of the industry
Taiwan Cold Chain Association	Yes	Grade 1 member	Form a cold chain national team with partners from the industry, government, and academia to help establish cold chains in Taiwan and promote solutions to markets in Southeast Asia and South Asia
Asian Silicon Valley-Major League IoT	-	General member	Application and promotion of IoT technology to establish an innovative IoT industry
Edgecross Consortium	Yes	Founding member	Actualize the connection and integration of factory automation and information technology to rapidly realize Industry 4.0
e-F@ctory Alliance	-	General member	Promote factory automation and Industry 4.0 applications
Embedded Linux & Android Alliance	-	Founding member	Promote open, standardized Linux and Android software and hardware architecture and establish a comprehensive ecosystem for software and hardware industries
LoRa Alliance	Yes	Lora Adapter member	Lay out the development of low-power wide-area networks in IoT applications
Neihu Technology Park Development Association	Yes	-	-



## Corporate governance

Advantech deeply understands that only when corporate governance is perfected can the development of a corporate culture be everlasting. Advantech has selected people from industry and academia for its board of directors. The board is the highest strategic and management organization in the company. Subsequently, the Audit Committee and the Compensation Committee were established; this professional division of work has enabled the board to cover a wider scope. The company has also adopted an internal auditing system to review and assess internal control system design and implementation performance, the aim of which is to assist the board and upper management to achieve the goals of making the company make profit, ensuring performance, and preserving assets, and to reasonably assure the reliability of finance disclosure and the abiding of laws.

Advantech releases monthly revenue reports, holds institutional investor conferences every 6 months, and holds a shareholders meeting annually. According to Company Law, shareholders may make written proposals to a company during the annual shareholders meeting. In addition, Advantech's Chinese and English websites both have a designated zone for investors, where financial information and presentation slides from the institutional investor conferences are regularly provided for investors as a reference. Shareholders and investors may also use the investor's mailbox to ask questions and provide suggestions. Advantech strives to increase the transparency of corporate management and information; investors can look up all relevant information at the designated zone on the Advantech website or through the Taiwan Stock Exchange Market Observation Post System.



## Enterprise integrity management system

**Establish internal regulations** To establish effective work ethics and legal compliance, Advantech has established and amended its Code of Integrity Management and Advantech Code of Conduct. The company has also established relevant internal regulations based on relevant laws to ensure that legal regulations are met. For example, to meet the EU's General Data Protection Regulation, each Advantech unit adheres to the law and adjusts relevant operations to meet the regulations.

**Internal education training and promotion** The Department of Human Resources and Department of Justice cooperate to provide diverse training courses for Advantech's employees. Through diverse forms, including posters, electronic billboards, intranet pages, and internal email, we continue to promote relevant topics to our employees to deepen their understanding of work ethics and legal compliance.

**Promotion to external suppliers** Using supplier relationship management (SRM), Advantech delivers its supplier chain management policies and conducts regular promotions. In addition, the company has established promotion pages on Advantech integrity management and displays the Anti-Corruption Commitment on the SRM, requiring supplier confirmation, to obey Advantech's regulations such as anti-corruption clauses, green design and manufacturing, and international environmental declaration.

In 2019, the sixth corporate governance received a 6%–20% review from the Securities and Futures Institute of the Republic of China\*. Advantech will establish a special project focused on improvement in order to report to the board about its self-assessment results and to provide strategies for unqualified assessment results.

\* See <http://www.sfi.org.tw/>



## Board of directors

To effectively formulate the company's highest-level strategy implementation operation and management, Advantech's board of directors follows relevant regulations and the rights granted by the shareholders meeting, and the board as established various regulations and supervises the implementation results. Advantech's capital is NT\$7 billion\*. Table 2.3 organizes the financial revenue, expenditure,

and profits in recent years. The investment tax deduction for investment in equipment, technology, research and development, and talent cultivation is NT\$267 million. The source of this information is Advantech's tax declaration.

\* The capital is NT\$7,004,100,100 (as of mid-April, 2020, when the registration was altered.)

▼ Table 2.3 Advantech's financial revenue and expenditure as well as profitability (Unit: NT\$1,000)

Item		2019	2018
Financial revenue and expenditure	Business revenue	36,632,047	35,382,776
	Operating costs	24,933,359	24,955,020
	Gross profit	11,698,688	10,427,756
	Net income (loss) before tax	8,878,417	7,629,476
	Net profit (loss)	7,351,220	6,289,993
Profit	Net profit per share after tax (NTD)	10.51	9.01
Employee salaries and benefits	Total salary	3,222,013	3,031,144
	Total benefits	404,528	323,937
Payable to investors	Stockholder cash dividends	4,751,129	4,600,414
Payable to the government	Enterprise income tax	1,401,217	690,895

In addition to formulating comprehensive corporate governance plans, the board of directors also focuses on formulating the company's long-term development strategy directions, shaping the company culture, and cultivating higher-level management talents. To effectively realize the aforementioned goals, the board of directors regularly meets and invites department managers in turn to attend and present reports, thereby assisting the board in having a profound understanding of the company's operating situation. This enables them to raise questions, make decisions, or establish special projects in a timely manner, and bringing them to the chairperson or general manager for tracking the implementation progress. Starting in 2015, the CSR Promotion Office has been reporting its CSR promotion results to the board.

The board is highly self-regulatory. When their own interests or the interests of legal persons they represent are involved in a motion, they explain their position in terms of interest and influence at the board meeting, avoid participating in discussions on the motion, and do not exercise their voting rights on behalf of other board members.

Since 2015, Advantech has regularly held two large board meetings each year, one in March and one in

August (in accordance with the reports for annual and semi-annual profit reports). Compared to regular board meetings, these meetings primarily involve discussing established matters (such as financial report settlements and manager salaries) as well as topics related to law compliance. Topics related to long-term strategies and company plans are also discussed. They are not restricted to discussion time or motions; rather, sufficient discussions are held on the most important mid-term and long-term topics pertaining to the company. When needed, external experts are invited to provide opinion and give lectures to assist the board and management team to clarify the context of a strategy, such as corporate governance, passing down management experience, and international industry trends.

In addition, the board of directors has also established the Audit Committee and the Remuneration Committee. Audit Committee members provide relevant experience in supervising corporate governance and financial auditing, lead internal audits, and audit whether the company's daily operations, including finance, sales, production, and fees, follow the law and the company's governance regulations, so as to prevent fraud. The Remuneration Committee focuses on internal salaries and the establishment of reward and punishment

systems. It also establishes concrete, feasible plans for cultivating high-quality talents. The board hopes to utilize different methods to understand and expand its participation in corporate management and to consolidate sustainable, transparent corporate governance.

## 1.Board members

The current board consists of seven directors. To effectively consolidate corporate governance, the company constitution specifies that the number of independent directors may not be less than three and may not be less than 1/5 of the total number of directors. It is hoped that through introducing external, fair personnel, the company can be more open and fairer in making critical decisions.

Regarding the selection of independent directors, the board nominates people who specialize in management or who are higher-level corporate managers. It is hoped to utilize their excellent education and rich experience in assisting the company in making critical operation decisions and long-term development strategies.

## 2.List of directors

The current Advantech board consists of seven directors, as listed in Table 2.4.

▼ Table 2.4 Advantech's board of directors

Title	Name	Duration	Major experience and education attainment
CEO	KC Liu	3 years	Founder of Advantech Co., Ltd. Former HP Taiwan Sales Representative at the instrument department B.S. in Communications Engineering, National Chiao Tung University
Director	Ted Hsu	3 years	Current Chief Strategy Officer of Asustek Computer Co., Ltd. Chairman of United Trading E-Commerce Co., Ltd. Director of Asustek Computer Co., Ltd. Director of ASMedia Technology Inc (Stock) Company Director of Eusol Biotech Co., Ltd. EMBA at National Chiao Tung University
Director	Yenben Investment Co., Ltd. Representative: Donald Chang	3 years	3M President of Greater China 3M Vice President of Southeast Asia Managing Director of 3M Singapore Independent Director of Chung Hwa Pulp Corporation Bachelor of Chemical Engineering, Chinese Culture University
Director	Advantech Foundation Representative: Chaney Ho	3 years	Former General Manager of Inalways Corporation Tatung Institute of Technology
Independent director	Jeff Chen	3 years	StanleyBlack&Decker VP & President of Asia CEO of StanleyBlack&Decker Co., Ltd. CEO of Stanley Investment Co., Ltd. CEO of Stanley Qihe International Co., Ltd. CEO of Stanley Security Solutions Taiwan Ltd. Equipping management experience in large international companies and a profound understanding of professional knowledge in technology
Independent director	Joseph Yu	3 years	Professor at Department of Business Administration, National Chengchi University Independent Director of Yuanta Securities Co., Ltd. Independent Director of Yuanta Bank Co., Ltd. PhD in Business Administration, University of Michigan, USA Expertise in finance, business, management, and law in academia
Independent director	Benson Liu	3 years	Former Chairman and President of Bristol-Myers Squibb (Taiwan) Ltd. Independent Director of Global Unichip Corp. Independent Director of Vanguard International Semiconductor Corporation Corporate Director representative of the Maywufa Healthcare Group MBA of Northrop University, USA Professional experience in corporate governance and familiarity with relevant laws and regulations

## Remuneration Committee

The task of the Remuneration Committee is to consolidate corporate governance, strengthen the remuneration management function of the board, and assess and approve the salaries awarded to directors and managers. For the authority, composition, and selection method of the members of the Remuneration Committee, please refer to the Annual Report. In 2019, the Remuneration Committee held three meetings, and the attendance rate was 100%.

## Auditing Committee

To consolidate the supervisory responsibility of the board and to strengthen its management mechanism, Advantech established the Auditing Committee in May 2017. The Auditing Committee is composed of every member of the independent directors, and at least one of them should specialize in accounting or finance. The term for the independent directors in the Auditing Committee is 3 years, and they are eligible for consecutive re-election. For the authority, composition, and selection method of the members of the Auditing Committee, please refer to the Annual Report. In 2019, the Auditing Committee held five meetings, and the attendance rate was 100%.

## Internal audit system

The purpose of internal auditing is to review and assess the effectiveness of the internal control system design and implementation. Auditors must be independent and objective when they audit the company's daily operations and its compliance with relevant laws and regulations. This is aimed at assisting the board of directors and management to achieve the goals of company operating profit, performance, and asset preservation and to ensure financial reliability and law abidance. Advantech established the report email [audit.direct@advantech.com.tw](mailto:audit.direct@advantech.com.tw) on its official website, employee website, and supplier meeting as a channel for stakeholders to report illegal activities. After a report is submitted and accepted, the auditing unit will report it to the CEO and assign special project investigators to conduct an independent investigation. The identity of the whistleblower and content will be kept confidential and protected. When an employee needs to consult

the legitimacy regarding their tasks, they may go to the company's legal policy platform.

Under the lead of the board of directors and the Auditing Committee, Advantech's internal auditing holds the operational audit objective of gaining a profound understanding of company operations and identifying operational improvement opportunities. Based on the discoveries in daily operations auditing, risk assessment results, and key items in company operational strategies, the auditing team implements special project auditing. The actual practices may vary based on different functions to conduct themed auditing, adopting one theme to inspect the operation of all business units worldwide, or using regions or departments as the subject of auditing to thoroughly inspect their individual operations. The ultimate goal is to establish a sound organizational operation mechanism as the basis for the company's stable, long-term development.

▼ Fig. 2.2 Advantech internal auditing system implementation principles





## 1. Auditing organization and position

The Audit Office is an independent unit that directly reports to the board of directors and the Auditing Committee. When conducting auditing, internal auditing is positioned as a partner of each unit in the company to assist each unit in improving their procedures and efficiency, eliminating operational bottlenecks, introducing required resources, and sharing optimal practices from other units, thereby improving the company's overall operational efficiency.

## 2. Operation of internal auditing

- Draft and implement annual auditing plans
- Review the implementation of self-inspection conducted by each unit and subsidiaries
- Promote the amendment and compliance of internal control systems
- Other matters to be implemented in accordance with laws and regulations
- Follow-up on the improvement of deficient items and review the improvement effectiveness
- Report to the board of directors and the Auditing Committee

In light of the global trend of Internal Audit 3.0, the operation of internal auditing must involve conducting essential improvements and transformation. This includes enhancing the understanding of overall operational strategies and management topics, closely following management reports and operation indices, focus on high-risk or high-influence topics, and introduce big data analysis platforms and AI models to substantially increase auditing coverage and auditing efficiency. When needed, personnel with different professional backgrounds are arranged to participate in auditing so as to propose more profound discoveries and suggestions. In addition, the content and communication models of the auditing report are also adjusted to highlight the key points and promote management improvement.

The auditing items of 2019 focused on sales, procurement, production, costs, and expenses, concentrating on high-risk trade audits. By means of data analysis, a continual monitoring platform was constructed to instantly discover abnormal situations or latent risks for further follow-up analysis. In 2019, we were also dedicated to providing more valuable auditing insights in operations management and operation decisions. In 2019, the regions for inspection included not only the headquarters but also major areas of North America, Europe, and China and some minor regional subsidiaries. During the auditing process, internal auditing personnel inspected the operating procedures of domestic and foreign subsidiaries and inspected the control point design of each procedure. They discovered that the subsidiaries mostly satisfied internal control system regulations, and any deficiencies have been improved.

In addition to continual operating procedure auditing and special project auditing, the Auditing Office and each unit continue to establish internal control self-assessment mechanisms to strengthen key control points in order to consolidate operating procedures, discover items for improvement, and discover latent risks.

Advantech continues to implement the internal auditing and internal control system. As of the date when this report is issued, neither this company nor its employees have been punished due to corruption, monopoly, or violation of fair trade. Moreover, Advantech provides new employees the Employee Code of Conduct management principles, asking them to abide and sign relevant contracts during education training. As of the date when this report is issued, Advantech has not violated relevant regulations in internal control, now have employees had complaints filed against them due to violating customer privacy or loss of customer data. Should complaints be issued due to such matters and be deemed valid through the company's internal investigation, Advantech will follow the law and protect the customer's lawful rights.







## Risk management

### Risk management in internal auditing and internal control

The role of internal auditing in corporate risk management is to provide objective observations on the effectiveness of corporate risk management activities to the board of directors, thereby ensuring proper management of key operation risks and effective operation of the internal control system.

**1. The annual auditing plan should be based on risk assessment and consider the following factors:**

- Risk of financial fraud
- Risk of other latent loss and risks
- Demands from the management level or by law
- Major changes in operations, special project plans, systems, and control
- Feasibility in achieving operational efficiency

**2. During the process of internal auditing risk assessment, relevant information shall be considered. The sources of information include the following:**

- Opinions from the board of directors
- Discussions with management
- Discussions with personnel in the internal auditing unit
- Opinions from external auditing personnel
- Relevant laws and regulations
- Analysis of financial and operations data

As Advantech established the Auditing Committee in 2017, corporate management further expanded from the existing financial report, operations auditing, and overseas subsidiary inspections to enterprise risk management. Via the Auditing Committee, internal function supervisors, and external partners, we have established a risk management system that includes

adequate risk assessment, management, and control, making the corporate governance structure more comprehensive, ensuring the sustainable operation of Advantech, and establishing a favorable governance example.

### Risk management and strategies on material procurement

Material management is key in Advantech's smooth operation. To achieve effective procurement management, starting with the stage of acknowledging new suppliers, Advantech requires them to sign a procurement contract to ensure delivery dates, quality, and warranty regulations. Among them, suppliers are obligated to immediately inform Advantech when they encounter natural disasters or humanmade difficulties that will result in delay in delivery. As for electronic components with high commonalities, Advantech has established a second source management mechanism. For major materials, a safety stock is established to prevent the risk of material shortages or quality problems. Strategically, Advantech is divided by materials and designates specific procurement personnel to monitor market information, which is reviewed in weekly and monthly supervisor meetings. To centralize procurement, a preferred vendor list (PVL) is established that consists of outstanding suppliers. By convergence and concentration, high-efficiency cooperation management is achieved, thereby obtaining high-quality and stable delivery to reduce risks. Based on procurement procedures, each year, Advantech conducts on-site inspections on high-risk PVL suppliers. For more detail, please refer to Chapter 3.2.

### Financial risk management and strategies

**1. Exchange rate risk:** Advantech's operational activities and the net investment of foreign operating organizations are primarily conducted in foreign currency. To avoid the reduction of the value of foreign currency assets and to avoid fluctuations in future cash flow, Advantech uses pre-sale of foreign currency hedging contracts to reduce risk. In 2019, due to changes in exchange rates, Advantech profited from the hedging contracts, which accounted for approximately 0.6% of the company's overall profit.

**2. Interest rate risk:** Advantech holds bank savings under floating interest rate. Advantech regularly monitors the interest rate risk, which is reviewed by management. When needed, we will consider conducting essential measures toward significant interest rate risks in response to market interest rate changes.

**3. Other price risks:** Advantech holds listed and OTC equity securities investments as well as beneficial certificates of open-end funds. Management manages the risk by holding portfolios of varying risk. Also, because the price risks for Advantech primarily center on the equity instruments and beneficial certificates open-end funds in Taiwan, the risk is relatively low.

**4. Credit risk:** To reduce financial loss due to trading partners delaying the fulfillment of contractual obligations, Advantech has a designated team responsible for determining credit limits, approving credit, and other monitoring procedures to ensure that appropriate action is taken on overdue receivables. In addition, on the balance sheet day, Advantech reviews the amount of money that can be retrieved under the receivables to ensure that those receivables that cannot be received have been recognized as impairment losses.

**5. Liquidity risk:** By management and by maintaining sufficient cash and cash equivalents, Advantech can support operations and reduce the impact on cash flow fluctuations. Management supervises the bank financing limits and ensures that the company complies with the terms of loan contracts. The ultimate responsibility of liquidity risk management lies with the board of directors. Advantech has established an adequate liquidity risk management framework to respond to short-, mid-, and long-term demands in financing and liquidity management.

double loop. When electricity outages occur, a diesel generator is able to provide electricity for the machine room for at least 3 days. We regularly inspect the UPS and replace its batteries. We conduct drills on electricity outage and actually cut off the electricity to practice switching to different systems. In June 2017, we added a second UPS so that if the first UPS should malfunction, the second UPS will provide electricity.

- The machine room has two sets of air conditioners that operate in alternation. A hot channel is established to provide uninterrupted air conditioning. The filter screens and belts of the main engine of the air conditioners are replaced regularly.
- Regarding fire protection, smoke detectors are installed and linked to an HFC-23 Halon fire distinguishing device. The fire distinguishing facilities and their functions are regularly inspected.
- A unified platform monitors the electricity, temperature, humidity, and smoke condition of the machine room. Should an abnormality occur, the central control room in the first floor in the basement will send out a warning by means of alarms and lights. The guards on duty will report the need for handling in the first instance, and IT personnel on duty will also receive a text notification on their cellphone.

## 2. Server stability:

- The hard disks of the server are protected by Raid 5 or Raid 1. Critical servers adopt multiple fault tolerance and load balance mechanisms.
- The data on the servers are backed up daily. The backup system also sends a daily notification to administrators regarding whether the backup is successful.
- A backup host server of the enterprise resource planning (SAP) software is set up in a subsidiary in the United States. Via a designated line, data on the SAP are simultaneously copied over. Should the SAP host server in the headquarters be unable to resume its service in a short period of time, the backup server in the US will be used to provide service. Each year, a drill is conducted on operating the backup ERP server in the US.



## 1. Machine room stability:

- An uninterruptable power system (UPS) provides stable electricity. Each server uses a different

- Backup host servers are planned to be installed at Advantech's Linkou Campus to provide critical IT services such as customer relationship management (CRM) and product lifecycle management (PLM).

### 3. Network and security:

- The internet and the company's internal network both adopt a multi-circuit mechanism to prevent impacts resulting from disconnection.
- A monitoring platform is established to monitor network traffic volume and connection so as to perform instant troubleshooting when situations occur.
- A firewall is established to protect the network's external connections. Abnormal records from the firewall are analyzed to reinforce protection.
- All internal employees' computers are equipped with anti-virus software. When the anti-virus central control platform detects a virus incident, it emails relevant IT personnel to remove the virus from the computer.

- The IT department sends out email safety reminder promotion messages to all employees every season to remind them that they should always be cautious about opening emails they receive. This measure is to prevent malicious phishing scams via mails.

- Network connection inspections have been conducted since February 2018. A computer that has not been connected to a local area network and have anti-virus software installed will not be able to access the internet.
- To consolidate the removal of access of workers who have left Advantech and to reinforce the safety of each system, in October 2019, we completed a Windows log-in password change for all workers worldwide. New passwords must be at least 8 digits and meet the principle of a complex password.
- Each system administrator will immediately receive a notification to remove the accounts of workers who have left Advantech.

## Climate change risk management

Under the trend of global warming and climate change topics, risk management on climate change has become an essential move for corporate sustainable development. In 2009, Advantech joined the Carbon Disclosure Project (CDP) and has been regularly announcing its greenhouse gas inventory data on the project website as references for clients and stakeholders. In 2018, Advantech referenced the Task Force on Climate-related Financial Disclosures (TCFD) and the new version of CDP questionnaire. Advantech's 2018 CDP questionnaire results were assessed as B Level, which is the equivalent of those achieved by leading enterprises in the technology industry. Table 2.5 further assesses possible risks and opportunities.

Advantech considers corporate risk management as the responsibility of every member in the organization. Department heads fully promote risk management policies and procedure education, comprehensively managing possible risks within their scope of responsibilities. Using the New Employee Code of

Conduct and education training, all employees are required to understand the company's risk management policy and to incorporate the concept of risk management into their daily work, instantly reporting all risk factors that may lead to a crisis. We hope that through several levels of top-down education and management, we can internalize risk management into a critical part of organizational culture, thereby minimizing the probability of risk occurrence. Table 2.6 summarizes other aforementioned response plans.



▼ Table 2.5 Advantech climate change risk assessment table

Risk item	Caused risks or impacts	Opportunities
Legal risks	Government units are exploring the possibilities of charging carbon and energy taxes, which may increase corporate operating costs, such as higher raw material prices.	1. Including CSR in supplier management guidelines. 2. Promote green buildings and introduce energy-conservation projects at the Advantech Linkou office.
	Regulations on product energy efficiency may increase the verification costs during the process of product development.	1. Adopt energy-conservation designs and ensure products meet Energy Star regulations. 2. Establish green product design guidelines and green product mark certifications.
Tangible risks	Extreme climate may lead to drought, severe typhoons, and increases in electricity consumption, resulting in a direct impact on production and operations.	1. Establish emergency evacuation plans and drills for training. 2. Explore business opportunities for Advantech's Smart Building Team Energy Conservation Plan.

▼ Table 2.6 Advantech's plans for corporate continual operational management

Emergency event		Preventive measures	Corrective measure	Point of contact	Within-factory correspondence	Internal monitoring
1	Primary equipment malfunction/interruption	1. Equipment preventive maintenance and daily inspection 2. Establish a system of having a backup for critical parts 3. Establish a safe inventory for regularly shipped products	1. Have industry competitors conduct OEM 2. Flexibly adjust bottlenecks by expanding labor allocation and working hours for affected equipment or stations 3. Establish maintenance resources	Sales reps	Manufacturing unit Production management and material management of each plant	Manufacturing unit
2	Raw material shortage	1. Sign long-term supply contracts 2. Establish a backup for critical materials 3. Purchase materials before a shortage occurs	1. Order materials from industry competitors 2. Require manufacturers to provide emergency shipping	N/A	Production management and material management of each plant	Production management and material management of each plant Warehouse supervisor at each plant
	Water shortage	Store water in a tank as a backup	1. Increase water purchase 2. Adjust working hours	N/A	Plant affairs division	Plant affairs division
	Power outage	1. Establish a safety inventory for regularly shipped products 2. Uninterruptible power system	1. OEM by other internal factories 2. OEM by industry competitors	Sales reps	Plant affairs division	Manufacturing unit
3	Human resource shortage	1. Establish a safety inventory for regularly shipped products 2. Evaluate required manpower each season and establish recruitment goals	1. Plans for working overtime 2. Seek support from relevant department personnel 3. Outsource process services	N/A	Manufacturing unit Production management and material management of each plant	Manufacturing unit Production management and material management of each plant
4	Product return (due to general customer complaint)	Quality control personnel propose improvement procedures	1. Arrange emergency restock or place rush order production 2. Insert an urgent order for the customer and restock inventory 3. Strengthen employee education training	Sales reps	Quality assurance unit Production management and material management of each plant	Quality assurance unit Manufacturing unit
5	Product return (due to the containment of hazardous substances that exceed regulation)	Regular internal spot check using X-ray fluorescence	1. Isolate disqualified materials 2. Arrange emergency restock or place rush order production	Sales reps /QC	Quality assurance unit	Quality assurance unit Manufacturing unit Procurement unit



## Customer Relations and Supply Chain Management

- 3.1 Consumer and product services
- 3.2 Supplier sustainability management

**100%** of new suppliers undergo onsite assessment  
**100%** of critical suppliers signed a CSR promotion letter  
 Local procurement rate was **92%** and **70%**, respectively

Advantech's operations philosophy is to create a win-win situation with its suppliers and consumers while always ensuring its compliance to supply chain and production management principles that are ethical and meet environmental standards. In addition to regularly assessing suppliers' product quality, on-time delivery rate, compliance, work safety management, and CSR management, Advantech also constantly communicates with suppliers and adjusts the amount of annual purchases from affiliated manufacturers with whom it has outstanding cooperation results, thereby achieving the goal of a win-win situation. As a producer, Advantech has the responsibility to generate products that not only meet users' needs but more importantly must not impose any risk to safety or health on users. Therefore, during the critical stages of production and marketing, it considers the health and safety of employees to achieve the sustainable operation of corporate products. It also holds the spirit of quality policy, regularly tracking consumer satisfaction to provide products and services that satisfy clients.

Advantech's supply chain mainly consists of two categories. The first category is suppliers of raw material and packaging. The second category type is contractors for security, cleaning, logistics, and construction. In 2019, the purchase amount spent on the first category was approximately NT\$21.6 billion, whereas that on the second type was approximately NT\$3.73 million.

Because the first category is more substantial to sustainability topics and higher in its amount, we first survey and disclose its details.

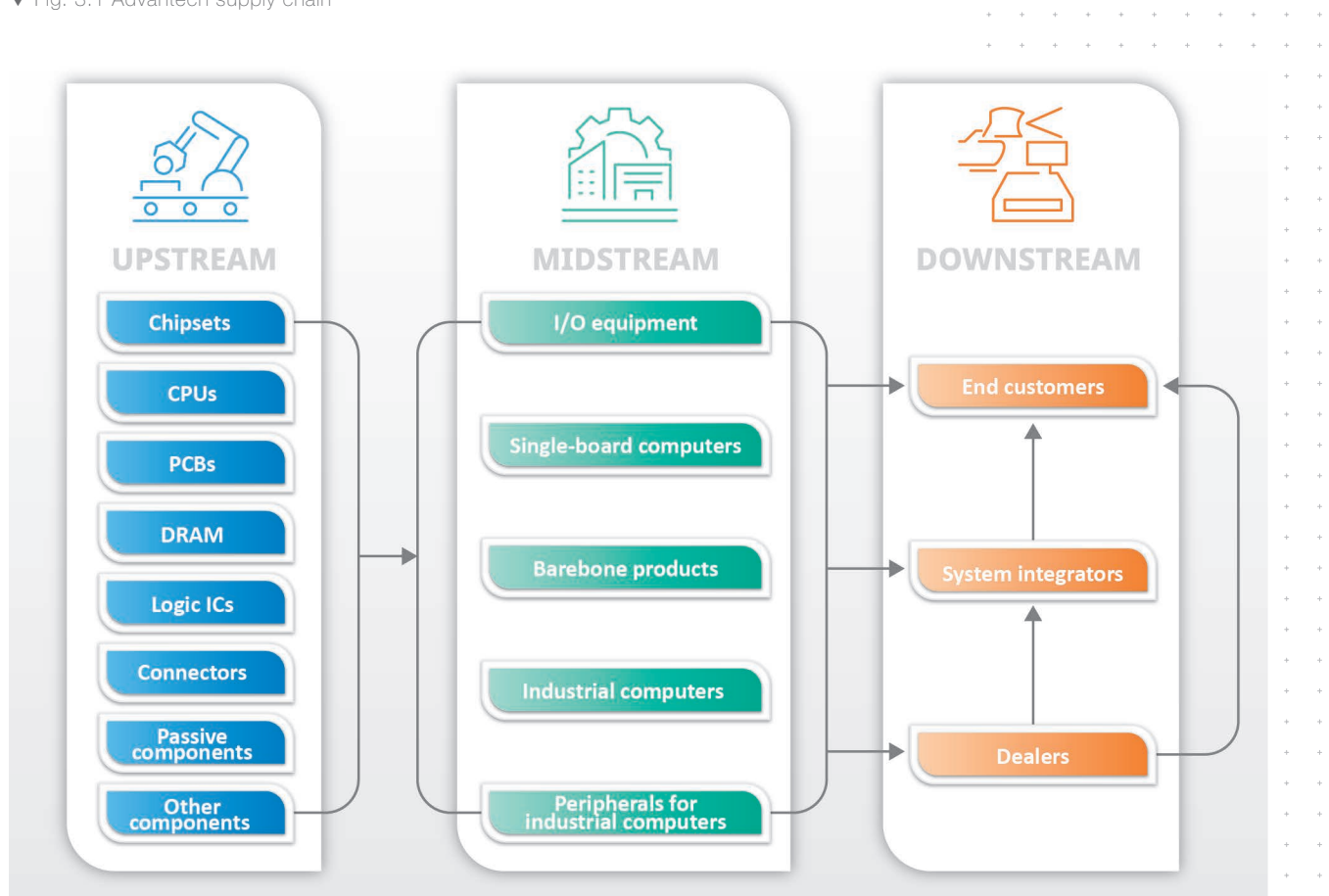
Fig. 3.1 depicts the supply chain of the first category. The upstream consists of the raw materials required for production and assembling. The midstream comprises produced and assembled products. The downstream is composed of Advantech's consumers, including end customers with whom we conduct direct transactions, system integrators, and dealers.

Regarding the selection of suppliers for raw materials and packaging, Advantech's plants in Taiwan and Kunshan have established No Hazardous Substance Management Operation Procedures for suppliers to follow. All raw materials must meet international environmental protection regulations, such as Restriction of Hazardous Substances (RoHS); Registration, Evaluation Authorization and Restriction of Chemicals (REACH) of the European Union; Substances of Very High Concern (SVHC); and Persistent Organic Pollutants (POPs). In addition to establishing the No Hazardous Substance Management Operation Procedures to ensure that consumers are provided with hazardous-substance-free (HSF) products, regarding the management of suppliers' implementation on sustainable topics, on the procurement management level, Advantech also strictly screens and incorporates new suppliers that comply with CSR policies.





▼ Fig. 3.1 Advantech supply chain





## Consumer and product services

Advantech's service goal is to exceed consumer expectations; thus, satisfying consumer needs is a fundamental task. This attitude has led to Advantech's critical core value of consumer-orientation. That is, we adopt consumer perspectives as our starting point to plan the overall product and service solution plan to meet their needs.

Advantech adopts the method of Key Account Quarterly Business Review (KA QBR) to collect consumer opinions. Quality project managers (QPMs) regularly and irregularly meet with KA clients to hold review meetings. In 2019, all nine KA QBR results met client expectations on, for example, product quality, manufacturing quality, sales, technology service, and after-sales service. KA clients are selected by our business groups based on their clients who account for a high percentage of their revenue. In 2019, a total of 57 KA clients visited and audited Advantech, and we left them with a positive impression on our multiple information systems that allowed implementing visual management and on automation and smart procedures adopted in our Phase 2 Smart Manufacturing Center in Linkou. Some clients

suggested that we adopt AI and tools for predictive quality analysis to prevent quality issues at an early stage, and our quality assurance department has planned a special project to address this.

Advantech respects and values its consumers and strives to provide comprehensive consumer services. To ensure that products we provide to clients meet international laws and regulations and consumer demands without impacting their health and safety during the product lifecycle, Advantech regularly conducts inspections on the compliance of environmental safety and health regulations. Moreover, in our CSR Guidelines and Employee Code of Conduct, we regulate fair trade and anti-corruption policies. We strictly require employees to protect consumer privacy and intellectual property. In recent years, no case of violating related regulations on marketing communication or the Employee Code of Conduct have occurred. To ensure that we effectively respond to consumer questions, based on our existing Consumer Service Guidelines, customer service personnel must respond to consumer complaints and provide them with an update within 3 business days.







## Supplier sustainability management

Advantech's operations philosophy is to create a win-win situation with suppliers and consumers while always ensuring suppliers and production management principles are ethical and meet environmental standards. We regularly assess suppliers and communicate with them. For suppliers with whom cooperation results have been outstanding, rewards such as reducing invoice payment time are offered to achieve a win-win goal. In 2010, Advantech established the Green Supply Chain management system. On this Supplier Management Platform, suppliers must promise and guarantee that their products will not contain hazardous substances prohibited by Advantech and they must also provide the following information:

- Collect toxicity and prohibition information (MSDS/MCD) on relevant chemical substances
- Display review results on their green product management system

Regarding supplier management, based on the procurement procedure, each year, Advantech conducts on-site inspections at high-risk suppliers on the Preferred Vendor List (PVL). An inspection table is used to check manufacturers' manufacturing processes, quality, environmental safety and health, labor conditions, and CSR management. Through the Supplier Management Platform, suppliers are reviewed quarterly on the basis of their quality, timely delivery, and cooperation. Measures are taken in response to the assessment results. For suppliers who score lower than 80, our procurement team will immediately search for new suppliers and immediately cease procuring from them once substitutes are found, until their improvement has been proven. Key inspections are conducted at high-risk component manufacturers. Supervision or coaching is provided to high-risk manufacturers regarding any quality problems they had the previous year. For electronic parts with high universality, Advantech has established a second source management mechanism. For major materials, safety inventory is established to prevent risks of materials shortages or quality problems.

In 2019, based on trading amount and quality risk, Advantech selected 74 existing suppliers (49 in Taiwan and 25 in China) and conducted on-site inspections. Coaching was provided to suppliers based on discovered deficiencies, and this was aimed at improving their quality. Suppliers were required to improve within a limited amount of time given and provide evidence of improvement. After further analysis, Advantech discovered that the deficiencies were mostly under the categories of quality and manufacturing processing control, whereas suppliers did not exhibit major deficiencies in their CSR performance. For example, there was no incidence of severely forced labor or child labor, and PCB factories with high risks all followed regulations pertaining to waste liquid treatment.

Regarding our new supplier selection method, suppliers whose products have been widely adopted in the industry and whose quality systems have been proven to be qualified under international standards may be listed as qualified manufacturers by providing sufficient proof for the assessment group to approve. Other suppliers must undergo on-site inspections. Key inspection points include quality, environmental safety and health, and CSR. Statistics showed that in 2019, 41 new suppliers were inspected, and 25 (15 in Taiwan and 10 in China) were approved.

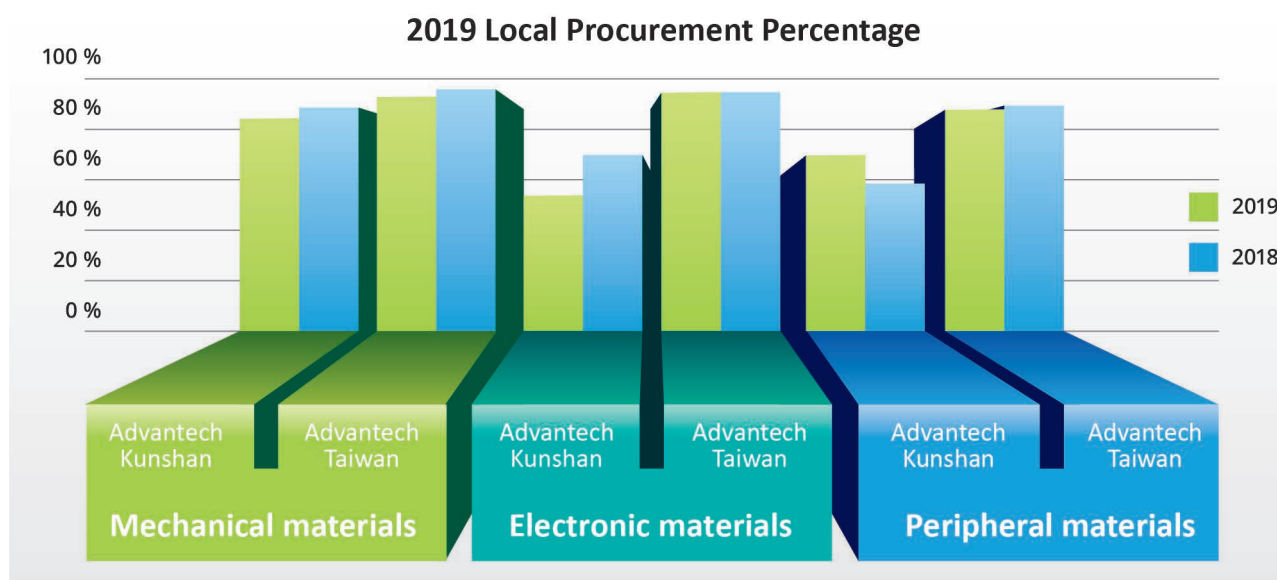
Regarding suppliers' environmental management, Advantech strictly incorporates environmental protection principles in its supplier management mechanism. In addition, in 2010, we incorporated the Responsible Business Alliance (RBA; which was previously the Electronic Industry Citizenship Coalition (EICC)) management system, calling out to suppliers to value and promote CSR (such as Conflict Minerals regulation). To date, Advantech's evaluation index management for all suppliers has included critical CSR indices such as RoHS (HSF), QC080000, ISO14001, OHSAS18001 (ISO 45001), and the supplier localization regulated by the RBA. Advantech requires suppliers to maintain basic human rights and obey labor regulations. The aforementioned indices are also included in the Supplier Inspection Table as essential inspection items for new suppliers.

Moreover, to ensure that suppliers follow the equity principle of the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy by the International Labor Organization, Advantech's procurement unit and general affairs unit have conducted relevant management with regard to suppliers and contractors (including security companies). The overall management situation is listed in Table 3.1. In the future, Advantech will gradually increase the ratio of suppliers that meet CSR-related requirements.

▼ Table 3.1 CSR management situation of suppliers and contractors

Type	Management principle	Implementation percentage	Focus for subsequent management
All critical suppliers on the PVL (248 in total; all 248 have completed signing a contract)	Implement CSR inspection by signing a CSR promotion letter	100%	Clearly state CSR terms in the contract
New suppliers in 2019 (41 in total; on-site inspection was conducted with all 41)	The Supplier Inspection Table was used for assessment (16 items in environmental health and safety, 16 items in labor and ethics regulations, and 13 items in HSF)	100%	Maintain the percentage of on-site inspections
	Adopt environmental principles to assess new suppliers (Environmental assessment items include environmental, safety, and health principles; supports and commitments from high-level managers; solid promotion among employees; compliance with environmental regulations, and external communication)	100%	Maintain the percentage of on-site inspections
In 2019, inspection was conducted to existing suppliers (Among the 248, inspection was conducted with 74 of them)	The Supplier Inspection Table was used for assessment (16 items in environmental health and safety, 16 items in labor and ethics regulations, and 13 items in HSF)	30%	Increase the percentage of on-site inspections
Contractors such as security, cleaning, logistics, and construction	Sign the Contractor Environmental Safety and Health as well as CSR Commitment	100% (excluding data from the Kunshan Plant)	Clearly state human rights terms in the contract

▼ Fig. 3.2 Local procurement statistics of Advantech Taiwan and Kunshan Plant



Advantech has been prioritizing local suppliers for procurement. So long as their products meet RoHS/HSF regulations, we are willing to establish long-term cooperation with them. In 2019, the total amount of procurement was approximately NT\$21.6 billion. The number of major suppliers for Advantech Taiwan and Kunshan was 1,314. The key management point was on PVL suppliers. Supplier types were electronic, mechanical, and peripheral raw materials (such as product accessories). In 2019, the procurement amount decreased by 1.8% relative to 2018. The primary reason for the decrease was that although the overall business grew and required more raw material, the procurement cost had been optimized and thus decreased. In

response to the production needs, overall, regarding Advantech's annual procurement, local procurement by Advantech in Taiwan accounted for approximately 92%. As for the Kunshan site, because part of the electronic and peripheral raw materials was procured by Advantech Taiwan, its local procurement percentage accounted for 70% of total procurement.\* Figure 3.2 illustrates the local procurement amount and percentage in 2018 and 2019.

*\* Local procurement is defined as trading with manufactures with a uniform number of Taiwan's business for Advantech Taiwan and trading with manufacturers in China for Advantech Kunshan.*







## Vision for Green Operations

- 4.1 Green product management
- 4.2 Greenhouse gas management
- 4.3 Advantech and caring for nature

Advantech Taiwan's electricity consumption per unit of production was reduced by **10.4%**

Advantech Kunshan's annual mean water consumption per capita was reduced by **6.75** m<sup>3</sup>/person-year

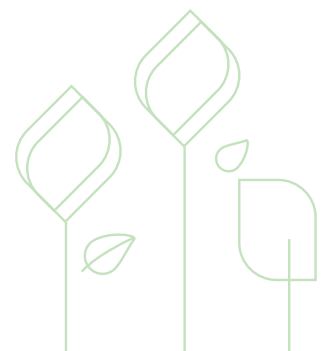
In the international Carbon Disclosure Project, Advantech was rated as Level B

As part of guiding people to be Earth citizens and being a corporation that leads people to live happy lives, Advantech strives to improve the environment and maintain labor safety. In 1996, we introduced the ISO 14001 Environmental Management System standard, followed by the OHSAS 18001 Occupational Safety and Health Management System standard in 2005. Through complying with governmental regulations on environmental protection and labor safety and health, Advantech strives in activities such as greenhouse gas management and product design, use, and disposal to reduce the impact on overall environmental safety and health. Through the participation and commitment of all members, Advantech achieves the goal of environmental protection and corporate sustainable development.

Advantech adheres to ISO 14001. Each year, we identify critical environmental concerns and verify external units, look ahead for operational activities that may have a critical negative influence to reduce and even prevent major potential or actual negative impacts. These efforts are aimed at ensuring that we do not cause incidents involving major contaminant leaks and highlighting major environmental care topics related to Advantech. Environmental concerns also include risk

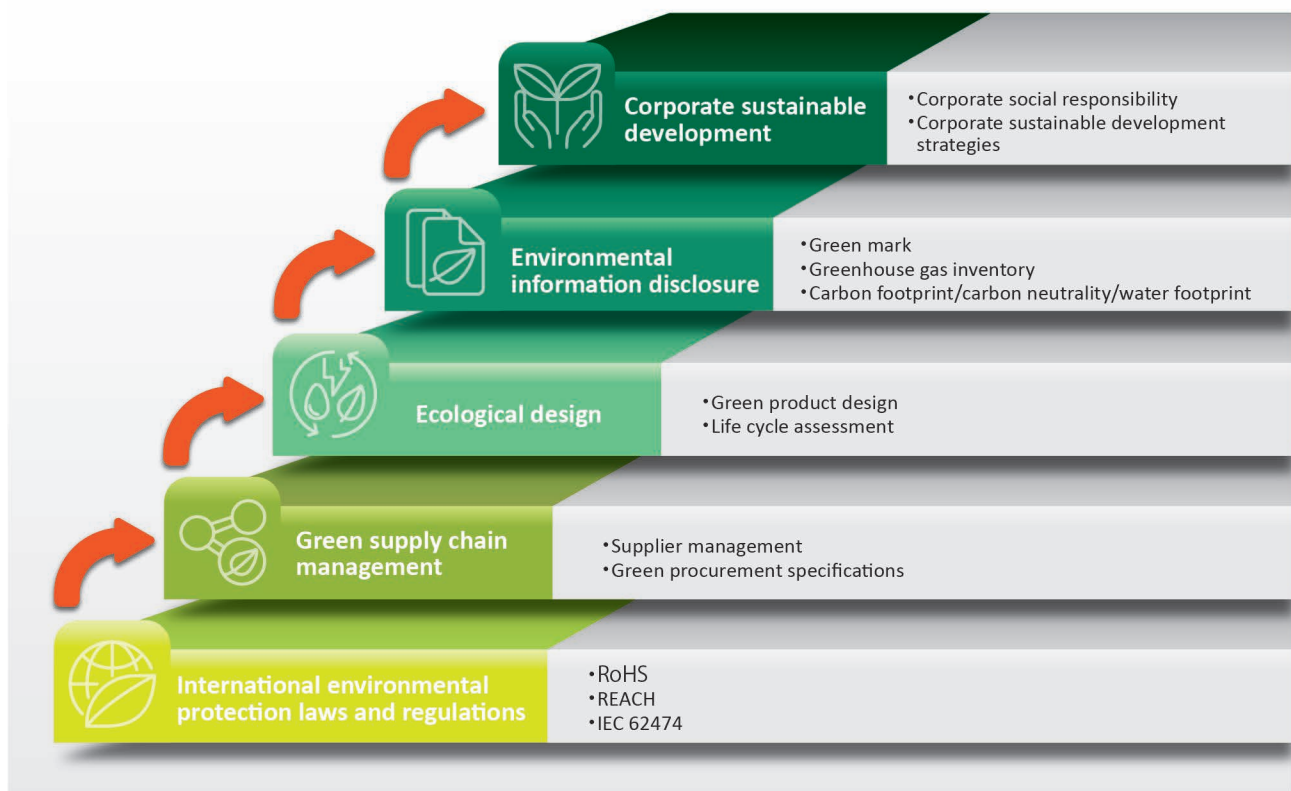
assessment on product safety and health. Inspections showed that in 2019, Advantech products do not violate any related regulations.

Since 2008, Advantech adopted the life cycle assessment concept and established goals for corporate sustainable development (Fig. 4.1). Subsequently, we have completed identifications and declarations that we comply with the law, green supply chain management standards, and green product design principles, and we have certified green product marks, checked greenhouse gas levels, and disclosed CSR reports. In the future, we plan to expand the scope of disclosure from organizational inventory to the investigation of our product carbon footprint and water footprint, hoping to discover more opportunities in the supply chain for improving greenhouse gas and water resource management and to develop low-carbon, water-conservation products, thereby achieving corporate sustainable development.





▼ Fig. 4.1 Advantech's sustainable development goals



# 4.1 Green product management

## Environmentally friendly product design

Advantech's environmental protection ideals include contamination prevention, using less energy and fewer materials, reducing waste, and maintaining clean production. We emphasize changing the production process to reduce pollution instead of adopting only end-of-pipe solutions to resolve pollution problems. During the process of promoting waste reduction, we practice waste package recycling and reuse. In addition, during product design and production technology selection, we strive to minimize the use of materials and energy. Using energy-conservation designs, we achieve the goal of recycling and reuse. Complying with ISO 14000, we exercise pollution prevention and life cycle assessment, enabling us to improve performance in environmental protection while also increasing profit.

The ENERGY STAR label is a government plan co-promoted by the United States Department of Energy and Environmental Protection Agency, and it has been adopted by numerous countries, including Canada, Japan, Taiwan, Australia, New Zealand, and those in the EU. The ENERGY STAR is an international standard of energy efficiency of office equipment (such as computers, printers, photocopiers, monitors, and scanners). Qualified computer equipment must meet the regulations of ENERGY STAR, and its power supply must meet the ENERGY STAR EPS 2.0 specification. According to statistics, from 2009 to 2019, Advantech has had 29 products that received the ENERGY STAR mark (Table 4.1). Our qualified computer equipment and power supplies meet the ENERGY STAR specification, reflecting Advantech's contribution to the development of environmentally friendly products.

▼ Table 4.1 Advantech products with the ENERGY STAR mark\*

No.	Product model	Product type	Date of certification
1	APAX-5343E, APAX-5343, PWR-343	Power supply modules	08/26/2009
2	FPM-3121G-R3AE, FPM-8121H-R3AE, FPM-3121G-X0AE		05/20/2011
3	FPM-3151G-R3AE, FOM-3151G-X0AE, FPM-8151H-R3AE		04/18/2011
4	PC-1250H, TPC-1251H		05/05/2010
5	TPC-650H, TPC-651H		05/05/2010
6	POC-W18		01/08/2014
7	POC-W211		01/08/2014
8	POC-W242		10/02/2014
9	ESY15B, ESY17B		01/13/2015
10	POS System 1) ABOX-120, 2) PPC-1500 II, 3) CM-5200, 4) ZL-1510, ZL-1530, ZL-1511, ZL-1531, ZL-1210, ZL-1211, 5) EP-5500, 6) HP-8210, HP-8510, 7) DP-6500, 8) AP-9900, AP-9230, AP-9530, 9) POS-400 II, POS-400 II 12"	Automation panel computers / Industrial computers with monitors	06/18/2015
11	CM-5200, ZL-1510, ABOX-120		06/18/2015
12	ESY20X2, ESY20X3, ESY20X5, ESY20X7		03/15/2016
13	ESY152, ESY15i5, ESY22i2, EY22i5		02/28/2017
14	AIM8I*		06/15/2017
15	AIM8Q*		06/15/2017
16	TPC-1551H		06/23/2017
17	AIM-37AT		12/26/2017
18	AIM-37AC		07/05/2018
19	AIM 10W		07/05/2018
20	DSDM-055FD-45NE-V, DSDM-155FD-45NE-V*	Embedded automation computers for manufacturing executing systems, and facilities / Industrial computers without monitors	08/06/2018
21	DSDW-049FD-45NE-V*		08/13/2018
22	AIM8IAC <sup>†</sup>		08/30/2018
23	UNO-1172A, UNO-1172AE, UNO-1172AH		09/02/2011
24	UNO-2173A, UNO-2171		09/08/2009
25	UNO-2174A		05/16/2011
26	UNO-2178A		05/16/2011
27	UNO-3072LA		07/05/2011
28	UNO-3074A		07/05/2011
29	ABOX-122, ABOX-122-S, ABOX-122-DV, PPC-1510, ZL-1221, ZL-1521, POS-410, CM-5220, P-1000 D, DP-6520, AP-9020, AP-9220, AP-9521		06/18/2015

\* In 2019, we did not newly apply for ENERGY STAR marks for our products. The marked items are products that have been certified but were not registered in the past.



In recent years, climate change, environmentally hazardous substances in products, labor safety and health, and human rights have become critical topics in CSR. Advantech has incorporated these topics into its focus on green supply chain management (see Chapter 3.2). Take the management of environmentally hazardous substances as an example. In response to each environmental policy (e.g., EU RoHS 2.0, including the newly implemented directions in 2019:EU 2015/863; REACH; and POPs), Advantech amends its internal management standards accordingly. In 2009, the company introduced the IECQ HSPM QC080000 Hazardous Substance Process Management system. Risk control is performed through our Supplier Management Platform and Green Supplier Chain Information Management Platform. When selecting materials for our products, we ensure that all of them comply 100% with the RoHS 2.0 Green Environmental Protection Specifications. The materials also meet relevant environmental protection regulations in each country where they are sold (Table 4.2.)

In addition to the aforementioned green design regulations, all Advantech products have undergone relevant safety regulation operation verifications during their design and development stage in order to ensure that they meet the requirements of CE/FCC/CCC safety regulation labels. Advantech adheres to environmental protection regulations and green product regulations issued by countries worldwide, from the effective use of natural resources to the ban of hazardous substances and the Life Cycle Assessment (LCA) of comprehensive waste management. Advantech promotes products based on safety, energy-conservation, and environmental friendliness, and it follows ISO 14001 to conduct product analysis regarding usage safety, health, and hazard risk. Relevant information is announced on Advantech's official website (<http://www.advantech.tw/>) under the product catalog description (Fig. 4.2).

## Raw material usage and management

Regarding raw material usage, because Advantech is in the industrial computer industry, its procurement policy is to select nonrenewable raw materials to provide its consumers with reliable products. The raw materials Advantech uses in its production consist of three major categories: electronic materials, mechanical materials, and peripheral materials. Based on material recognition processes, Advantech complies with environmental protection regulations, international product recycling regulations, and waste packaging regulations. A summary of the 2019 raw material procurement shows that Advantech's raw materials are primarily electronic materials (87%), followed by mechanical materials (11%) and peripheral materials (2%).

▼ Table 4.2 Environmental protection specifications for Advantech products

1	China Administrative Measure on the Control of Pollution Caused by Electronic Information Products (China RoHS)
2	EU's REACH for SVHC
3	Regulations for product recycling
3.1	EU's Waste Electrical and Electronic Equipment (WEEE) Directive
3.2	International standard: ISO 11469 (marking of products fabricated from plastics materials)
4	Regulations for battery recycling
4.1	The EU's Battery Directive
4.2	China's regulations for battery energy consumption
4.3	US/Canada's battery regulations
4.4	Japan's battery regulations
4.5	Taiwan's battery regulations
5	South Korea's e-Standby program and requirements for minimum energy consumption of display products
6	Regulations on waste packaging materials
6.1	EU's Directive on Packaging and Packaging Waste
6.2	China's RoHS- SJ/T 11364-2006 (marks for packaging recycling)
6.3	Taiwan's regulations on waste management
6.4	Japan's regulations on containers and packaging recycling
6.5	South Korea's regulations on packaging
7	Other regulations on energy conservation
7.1	EU's 1275/2008/EC (energy consumption requirements for standby and off modes)
7.2	Mexico's new energy law
7.3	EU's 278/2009/EC (requirements for efficiency of external power supplies)
7.4	California Energy Commission (CEC)
7.5	South Korea's Minimum Efficiency Performance Standards (MEPS)
7.6	Australia's MEPS

▼ Fig. 4.2 Example of the environmental protection declaration from Advantech's product marketing website

### DSD-3055

55" FHD Industrial Digital Signage Monitor & Touch



#### Main Features

- Superior Resolution FHD 1080p (1920 x 1080)
- Ultra-Wide Viewing Angle (178°)
- True Color Experience (10bit, 1G colors)
- Dynamic Motion Enhancement
- Customized Image Calibration
- Advanced Connectivity
- Image Noise Reduction Technology
- IRFM™
- Energy Saving Control
- Player Mounting Space reserved (8.7 x 8.7 x 2.3 inch)
- Optical Touch with Multi Touch Support

#### Certification



[Datasheet \(PDF\)](#) [Manual/ Driver/ BIOS/ FAQ](#)

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## Environmental protection management

To ensure the continuation of human life and forever protect the green environment on Earth, during activities such as product design, use, and disposal, Advantech strives to reduce the impact of products on overall environmental safety and health. In addition to complying with relevant regulations, we also involve the participation and commitment of all employees to achieve the goals of environmental protection and corporate sustainable development. To achieve this goal, each year, Advantech establishes environmental protection management goals such as through special projects aimed at energy conservation, carbon reduction, and waste reduction. The results for 2019 are organized in Table 4.3.



For carbon reduction, Advantech Taiwan has achieved its goal of reducing electricity consumption per

production unit by 5%. In 2019, this was reduced by 10.04% relative to 2018. As for hazardous industrial waste reduction, our goal was not achieved; rather, waste per production unit increased substantially. This increase, the total of which was approximately 230 kg, was due to the Donghu Plant production capacity being transferred and the cleaning up of old jig samples. In future, we will require immediate scrapping and not allow waste to accumulate.

Although the goal for overall hazardous industrial waste reduction was not achieved, the amount of hazardous industrial waste per production unit at the Linkou Plant was reduced by 18.9%. This was because in 2019, a special project for tin dross recycling optimization was introduced to the DIP tin furnace. Tin dross recycling equipment was purchased and provided for the DIP production line to use. After introduction, the tin dross recycling rate reached 65%, according to on-site measurements. In addition, working hours spent on cleaning operations were also reduced from 60 min per day to 15 min per day.

*\*Waste reduction index: (hazardous industrial waste per production unit in the previous year – hazardous industrial waste per production unit in the current year) / hazardous industrial waste per production unit in the previous year*

▼ Table 4.3 List of 2019 Advantech Taiwan environmental protection management special projects\*

Environmental protection management project	Environmental management goals	Results of 2019
 <p>Energy conservation and carbon reduction</p>	Compared to 2018, the electricity consumption per production unit in 2019 was reduced by 5%.	The electricity consumption per production unit was reduced by 10.04%
 <p>Hazardous industrial waste reduction</p>	Compared to 2018, the hazardous industrial waste per production unit in 2019 was reduced by 3%.	The hazardous industrial waste per production unit increased by 30%.

Looking to the future, Advantech plans to integrate its factories in Taiwan to its Linkou 2 Phase Smart Factory for concentrated production. Through our Energy Management System and Production Line Optimization System, we aim to achieve the goals of reduced energy consumption and reduced electricity consumption, thus consolidating the effectiveness of energy conservation. During activities such as product design, use, and waste, Advantech will continue to reduce its impact on environmental health and safety, to comply with relevant regulations, and encourage all employees

to adhere to our goals centered on environmental protection and corporate sustainable development.

Advantech's environmental declaration and environmental policies are as follows:

**1.Reduce environmental impact:** We will adopt adequate technology for production or pollution prevention, introduce designs for product energy conservation and waste reduction.

**2. Take environmental protection responsibility:**

We will continue to satisfy consumer demands for green products by abolishing and/or reducing environmentally restricted substances in raw materials, parts, adjuvants, and packaging materials.

**3. Conduct recycling:** We will conduct energy and resource recycling and provide education for all employees.

**4. Promote waste reduction in the industry:**

We will seek to introduce environmental protection design concepts.

**5. Comply with environmental protection regulations:**

We will comply with all environmental protection laws, regulations, and other demands from the government, and also respond to international environmental protection trends.

**6. Consolidate environmental management:**

We will seek to popularize environmental protection education by having all Advantech employees participate in promoting environmental management systems, and by conducting continuous auditing activities and environmental management inspections.



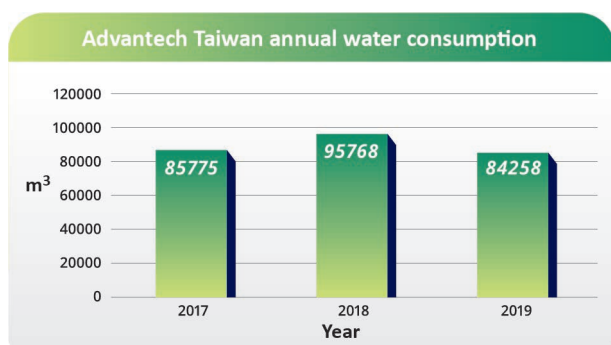
## Water resource use and management



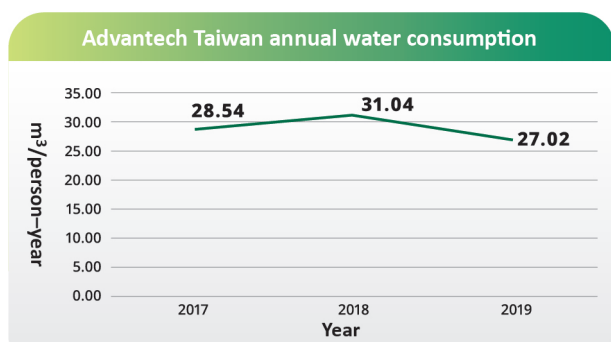
In each Advantech plant, conservation methods such as installing water-saving faucets and toilets and promoting water-saving measures are adopted to reduce water consumption per capita. All Advantech factories and offices are located in developed industrial zones or parks in urban areas. We use only tap water at all locations; no underground water or well water is pumped or used.

The annual total water consumption of Advantech Taiwan from 2017 to 2019 is illustrated in Fig. 4.3. The figure shows

▼ Fig. 4.3 Total water consumption of Advantech Taiwan from 2017 to 2019 (m<sup>3</sup>)

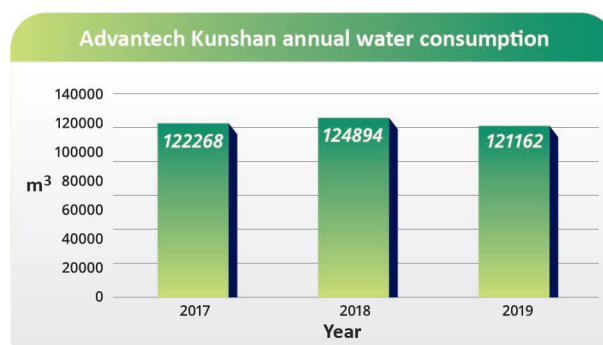


▼ Fig. 4.4 Trend of mean annual water consumption per capita of Advantech Taiwan from 2017 to 2019 (Unit: m<sup>3</sup>/person-year)

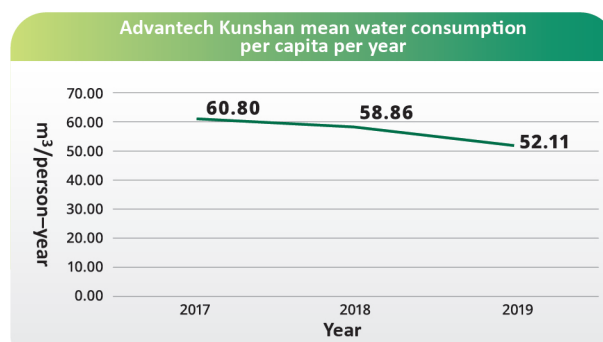


that annual total water consumption for 2019 was 84,258 m<sup>3</sup>. Further analysis of the mean water consumption per capita of Advantech Taiwan from 2017 to 2019 is shown in Fig. 4.4. Compared to 2018, the annual mean water consumption per capita in 2019 was reduced by 4.02 m<sup>3</sup>/person-year. The reduction in total water consumption was mainly due to water conservation projects such as recycling and reusing rain water for daily use, smart irrigation water conservation, smart air conditioning cooling water, and ice water system monitoring and control.

▼ Fig. 4.5 Advantech Kunshan annual total water use from 2017 to 2019 (m<sup>3</sup>)



▼ Fig. 4.6 Trend of mean annual water consumption per capita of Advantech Kunshan from 2017 to 2019 (Unit: m<sup>3</sup>/person-year)






## Waste management and recycle management

Advantech's ultimate waste management goal is to achieve zero waste. Therefore, strategies for reducing total waste and turning waste into resources have been adopted. In addition to strategies for managing source materials, such as raw material reduction to minimize the amount generated waste, Advantech proactively promotes turning waste into resources, such as the reuse of packaging. By adopting recycling and reuse to replace the original end-of-pipe treatment model, waste materials can be turned into useful resources. This

achieves resource recycling and reduces both energy consumption and handling cost. Each year, Advantech checks its waste contractors. Should they violate their contract or any government regulation, Advantech will adopt appropriate measures to either provide coaching or cease cooperation. In 2019, there were no major violations or illegal activities by waste contractors.


Advantech's waste management models are shown in Table 4.4.

▼ Table 4.4 Advantech Taiwan and Kunshan waste management models

General waste	Waste type	Content description	Treatment method	Final treatment method
	Iron and aluminum cans	PET bottles/Styrofoam/iron and aluminum cans	Recycled by designated persons	Reuse
	Paper	Newspapers/magazines/photocopy paper/printing paper/cartons/paper boxes	Recycled by designated persons	Reuse
	General glass	Drink bottles	Recycled by designated persons	Recycle
	General plastic	Drink bottles/waste containers	Recycled by designated persons	Recycle
	Other recyclables	Batteries/toner cartridge/fluorescent tubes	Headquarters/ photocopier vendor	Recycle
	Food waste	Compost food waste/food waste for pig feed	Recycled by the building management committee	Fertilizer
	General waste	General office waste	Recycled by management committee	Incineration (Taiwan) Sanitary landfill (Kunshan)
	General industrial waste	Solder waste/ waste sponge/tape waste	Recycled by designated persons	Incineration (Taiwan) Sanitary landfill (Kunshan)
Hazardous industrial waste	Hazardous industrial waste	PCB scrap/tin dross waste/ electronic component waste / liquid chemical waste	Outsourced to qualified treatment companies	Cement solidification and landfill/incineration /reuse

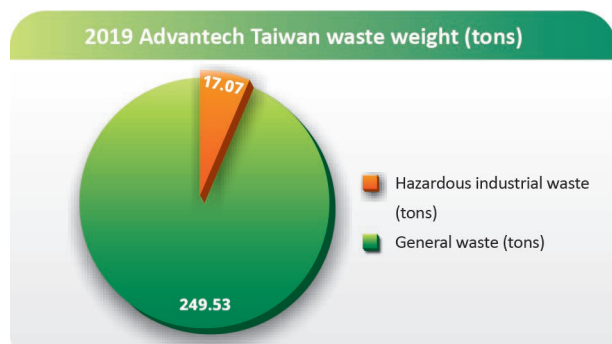
Regarding the weight of the waste undergoing final treatment methods in Advantech Taiwan and Kunshan, because the weight of general waste was estimated based on our waste collection and disposal contract, weight information under further treatment categories cannot be obtained. Thus, we only disclose treatment information of hazardous industrial waste (Table 4.5).

▼ Table 4.5 Treatment information of Advantech Taiwan and Kunshan hazardous industrial waste

Hazardous industrial waste	Region	Final treatment method	Weight (ton)
	Taiwan	Physical treatment before reuse	15.81
		Chemical treatment before landfill	0.59
		Incineration before landfill	0.67
	Kunshan	Physical treatment before reuse	511.24
		Chemical treatment before landfill	0.42
		Incineration before landfill	1.52



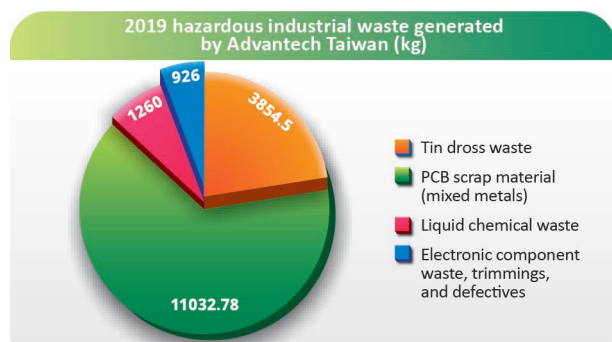
In 2019, the total amount of waste generated by Advantech Taiwan was approximately 266.60 tons (Fig. 4.7). Because Advantech's operation is primarily assembly, its hazardous industrial waste was only 17.07 tons, which accounted for a small portion (6.4%) of total waste, whereas general waste was 249.53 tons, accounting for 93.6% of total waste.



▲ Fig. 4.7 Overall waste production of Advantech Taiwan in 2019\*

\* The source of hazardous industrial waste data is from our online declaration to the Department of Environmental Protection, whereas the source of general waste is based on our waste collection and disposal contract with our waste disposal company.

Regarding raw material use, electronic materials accounted for approximately 90% of materials. The remaining 10% comprised mechanical materials, packaging materials, and plastic. Total hazardous industrial waste generated during production at Advantech Taiwan was 17.07 tons, comprising PCB scrap material, tin dross waste, liquid chemical waste, electronic component waste, and trimmings and defectives. PCB scrap materials accounted for the majority of waste (Fig. 4.8). In future, we will continue to increase process yield and reduce electronic waste and trimmings so as to reduce the total industrial waste.



▲ Fig. 4.8 2019 hazardous industrial waste generated by Advantech Taiwan

In 2019, the total waste generated by Advantech Kunshan was 747.1 tons. General waste accounted for 230 tons (30.78%). Based on declared data on the hazardous industrial waste website, the total amount of industrial waste was 517.1 tons, which included waste from circuit boards, organic solvents, and stamped iron boards produced by mechanic factories, accounting for 69.22% of total waste. Advantech Kunshan's industrial waste reduction plans include establishing a designated storage region for paint-stripped waste, giving paint-stripped waste that has been dried up to a qualified recycling company for treatment, and exchanging tin dross waste with the original company for tin wire while having the company recycle and reuse tin dross waste.

## 4.2 Greenhouse gas management

Since 2015, Advantech has been participating in the Carbon Disclosure Project (CDP). The CDP is the largest existing database that keeps data related to climate change around the world. Each year, it issues a questionnaire to survey each corporation's responses to climate change and their greenhouse gas emission reduction. This is aimed at evaluating the risks and opportunities brought to these corporations by climate change. By annually disclosing its information through the CDP, Advantech reviews the risks that climate regulations, climate disasters, and other climate-related topics have on operations management, and we then take effective measures to reduce and eliminate risks in order to meet international clients' demand for greenhouse gas management. In 2009, Advantech was rated as Level B.

Advantech Taiwan refers to ISO 14064-1:2006 and the Greenhouse Gas (GHG) Protocol to self-examine its greenhouse gas emissions. Starting 2019, the company has relied on SGS Taiwan Ltd. to conduct third-party on-site inspections. CNS 14064-1:2006 standards as well as the suggestions and requirements by the World Business Council for Sustainable Development and World Resources Institute (WBCSD/WRI) in the GHG Protocol are referred to, and operational control is used to set organizational boundaries. Domestic and foreign subsidiaries are not included. Greenhouse Gas Inventory Management Procedures as well as the company's Inventory Report have been established to reidentify emission sources. Organizational boundaries include the Headquarters and Sunny Building in Neihu as well as the

Dunghu Plant and Linkou Park. The scope of inventory consists of the qualitative and quantitative inventory of Scope 1 (direct greenhouse gas emissions), Scope 2 (indirect greenhouse gas emissions from energy), and the inventory on items in part of Scope 3 (other indirect greenhouse gas emissions).

Scope 1 (direct greenhouse gas emissions) in Advantech Taiwan mainly consists of refrigerant leaks from equipment such as drinking fountains, air conditioners, chillers, and constant temperature and humidity machines, and the use of natural gas in the restaurant in Linkou Park. Total emissions were 504.0697 tons CO<sub>2</sub>e. The emission amount of each region is listed in Table 4.6. Advantech Taiwan only used diesel in diesel generators. In 2019, diesel generators were only used in monthly tests and during high-voltage substation maintenance. No emergency called for the use of our diesel generators. In response to ISO 14064-1:2006 on greenhouse gas quantification and reporting, the quantifying method for diesel was adjusted to the amount of annual purchase. In 2019, no diesel was purchased, so the value for this year was zero. Advantech Taiwan plant used natural gas in the employee restaurant at Linkou Park. The amount used is shown in Fig. 4.9.

▼ Table 4.6 Advantech Taiwan 2019 Greenhouse gas Scope 1 emission amount\*

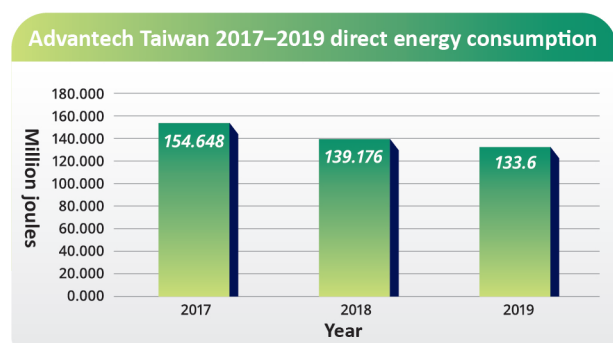
Region	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs	PFCs	SF <sub>6</sub>	NF <sub>3</sub>	Total (tons CO <sub>2</sub> e)
Ruiguang Headquarter	-	-	-	5.9644	-	-	-	5.9644
Sunny Building	-	-	-	113.9862	-	-	-	113.9862
Dunghu Plant	-	-	-	-	-	-	-	0
Linkou Park	31.3799	0.0168	0.0265	352.6959	-	-	-	384.1191
Total	31.3799	0.0168	0.0265	472.6465	-	-	-	504.0697

\* Donghu Plant had no direct combustion source, and its facilities that used refrigerant were mostly R22 refrigerant (which is regulated by the Montreal Protocol on Substances that Deplete the Ozone Layer, not in this inventory), so the emission amount for this year was zero.

Advantech Taiwan Scope 2 (indirect greenhouse gas emissions from energy) only involved the use of purchased electricity. Carbon emissions are calculated using the electric power emission coefficient, 0.533 kg CO<sub>2</sub>e, announced by Taiwan's Bureau of Energy of the Ministry of Economic Affairs in 2018. The amount of emissions in each region is listed in Table 4.7.

Advantech Taiwan's greenhouse gas Scope 1 and Scope 2 emission amounts are listed in Table 4.8. In 2019, the total emissions amount for Scope 1 and Scope 2 were 10421.153 tons CO<sub>2</sub>e.

▼ Fig. 4.9 Advantech Taiwan 2017–2019 direct energy consumption (natural gas, unit: million joules)



▼ Table 4.7 Advantech Taiwan 2019 greenhouse gas Scope 2 emission amount

Site	GHG Source	CO <sub>2</sub> (tons CO <sub>2</sub> e)
Ruiguang Headquarter	Electricity	1428.6670
Sunny Building	Electricity	1,569.3938
Dunghu Plant	Electricity	933.8586
Linkou Park	Electricity	5985.1636
Total		9917.0830

▼ Table 4.8 Scope 1 and Scope 2 greenhouse gas emission amounts for Advantech Taiwan\*

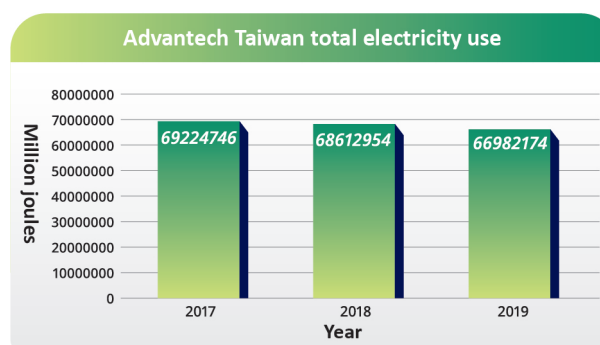
Site	Scope 1 Direct greenhouse gas emissions	Scope 2 Indirect greenhouse gas emissions from energy	Total (ton CO <sub>2</sub> e)
Ruiguang Headquarter	5.9644	1428.6670	1434.631
Sunny Building	113.9862	1569.3938	1683.380
Dunghu Plant	0.0000	933.8586	933.859
Linkou Park	384.1191	5985.1636	6369.283
Taiwan area total emission amount	504.0697	9917.0830	10421.153

\* The amount of greenhouse gas emissions by Advantech Taiwan was calculated using the latest version of the Greenhouse Gas Parameter Management Table released by Taiwan's Environmental Protection Administration (Version 6.0.4 was released in June 2019), and using also the global warming potential (GWP) parameter of each greenhouse gas announced by the IPCC in 2013.

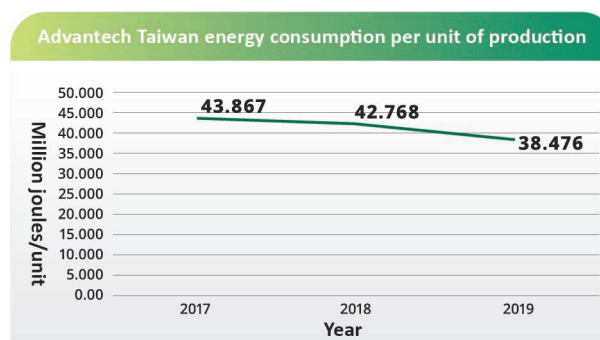
Advantech Taiwan's greenhouse gas emissions were primarily CO<sub>2</sub> generated during the process of power generation of the purchased electricity required for company operations. This source of emissions accounted for at least 95% of Advantech Taiwan's total annual emissions for 2019. Advantech Taiwan will use 2019 as the base year for compiling a greenhouse gas inventory, using it as the basis for evaluating the effectiveness of future reduction. In 2019, the mean greenhouse gas emissions per production unit (Scope 1 and Scope 2) was 5.99 kg CO<sub>2</sub>e/unit.

In 2019, Advantech Taiwan consumed a total of 18,606,159 kWh of electricity, which is the equivalent of 66,982,174 million joules (Fig. 4.10). Data analysis of annual electricity consumption shows that compared to 2018, Advantech Taiwan's electricity consumption for 2019 was reduced by the equivalent of 1,630,780 million joules. When electricity consumption per unit of production was calculated, we discovered that the electricity consumption per unit of production for 2019 was 38.476 million joules/unit, which was a 10.4% reduction relative to 2018, which was 42.768 million joules/unit (Fig. 4.11). The main reason for this reduction was that Advantech integrated production systems at the Linkou Plant and Donghu Plant, increased production efficiency and utilized the Linkou Energy Conservation System. For the future, we have set the goal to reduce 5% of electricity consumption per unit of production every year. The philosophy of energy-saving has been deeply planted in the mind of each employee and has become a critical part of our company culture.

▼ Fig. 4.10 Advantech Taiwan 2017–2019 indirect energy consumption (total electricity consumption, unit: million joules)



▼ Fig. 4.11 Advantech Taiwan 2017–2019 energy saving trend graph of energy consumption per unit of production (unit: million joules/unit)



## Advantech's major smart energy-saving measures are as follows:

- The Linkou Intelligent Park includes building energy management and human-sensing energy-saving measures. Human-sensing energy-saving measures refer to making buildings more intelligent, including the applications of smart air conditioning, smart parking, and iPASS. Through the steps taken for comprehensive sensing, reliable transmission, and smart operations as well as cloud-convenient life experience, intelligent buildings are achieved to utilize smart management in order to achieve effect energy saving and to avoid waste.
- Smart power management has involved adopting a one-key setting to control lighting and projectors in meeting rooms (e.g., presentation mode and discussion mode) to prevent people from forgetting to turn off any power and causing unnecessary waste.
- Advantech Kunshan adopts an air compressor pipeline system in parallel. In public areas, LED lighting has been installed to integrate with human-sensing switches in order to save energy.



## Advantech Linkou Park

Advantech Linkou Park officially started operations in 2014. It occupies 34,470 m<sup>2</sup> and its construction as divided into three phases. In Phase 1, it occupied 9,983 m<sup>2</sup> and mainly comprised the R&D Center, Manufacturing Center, and Office Area. In Phases 2 and 3, the Office Area, Manufacturing Center, and Living Areas were expanded and integrated with the original Linkou Plant to form Advantech's second headquarters, comprising R&D, manufacturing, warehousing, and logistics. Advantech constructed the Linkou Park as an innovative smart building demonstration site to realize two major smart building solution plans: smart building energy management and smart contextual space management. By cooperating with industrial partners related to smart buildings, we have established a tight smart building collaboration system. In the duration disclosed in this report, Phase 2 of the Advantech Linkou Park received Gold Level EEWB Certification for new constructions.

For partners in the construction industry, the Linkou Park has been an experimental site for coordinated research and development. For clients, it is an experimental park for smart building solution plans. When clients visit the Linkou Park site, they have the opportunity to experience various smart building solutions through this coordination, including the smart central control room, smart parking, smart reception, and smart meeting rooms.

The Linkou Park site has developed several smart fields, all of which are smart and energy-saving. In addition, Advantech continues to innovate and develop, making the smart green buildings increasingly smarter. Relevant designs are described as follows:





### 1. Smart parking



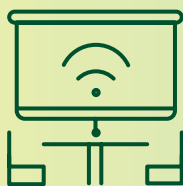
This smart service system integrates parking space reservation, license plate recognition, eTags, guest welcome messaging, parking navigation, parking lot control and management, and vehicle tracking. In addition, via smart automation, lighting is used to guide vehicles and control air quality, ensuring an outstanding and energy-saving smart parking service and parking lot environment.

### 2. Smart reception



Cloud-based multimedia interactive signage is installed in all regions, with a central control function that allows staff in different regions to easily manage and unify the distribution of company messages. Through the interactive e-Catalog system, visitors can freely browse the product catalog and view advertisements, sending emails, and use their cellphones to access QR codes for personal collection. The signage automatically becomes dormant at night and automatically wakes up the next day, further demonstrating our emphasis on energy-saving designs.

### 3. Smart conference room



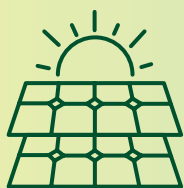
Multimedia signage in the lobby area displays reservation information for each meeting room. Signage also displays meeting information at the doors of each meeting room. The usage of meeting room facilities is left to individual users; they may use one-key touch control to switch between meeting room settings based on their needs. Meeting rooms are also equipped with air quality sampling, where the system automatically adjusts the inlet of fresh air to improve indoor air quality. When the system detects that the room has been empty for 15 min, it automatically shuts down all electricity use and air conditioning in order to save energy.

### 4. Smart office area



In addition to having an air conditioning system that automatically detects and adjusts air quality, the smart office area is fitted with a human-sensing system that divides the office into several zones and follows the office schedule to determine when zones need to become active. During off hours, the system acts with the access control system, so that when people enter the door using an access card, the system automatically turns on the lighting of the relevant zone while relevant signage and the entry touch screen begin operating. The system also responds to how people behave; when a zone is absent of people for a certain amount of time, it automatically turns off lighting and air conditioning in that zone.

### 5. Solar power



Solar panels have been installed at the Linkou Park site since June 2019. Each month, they generate approximately 57,080 kWh of electricity, which is connected in parallel to the electricity service from Taiwan Power Company.

### 6. Smart factory situation room



In recent years, Advantech has been proactive in transforming its Manufacturing Center into a smart center. With sensors installed at operation sites, information is collected in real time and then uploaded to the cloud for analysis. All information from factories is visualized in the situation room in real time so that managers can grasp the current situation regarding production lines. For its outstanding real-time monitoring of facilities and resources, Advantech was awarded the ROI Industry 4.0 Award China in October 2017.



### The five major management items of the smart situation room:

- **Factory Information Management Dashboard:** Information that supervisors need to know, such as the number of people, production value, and productivity.
- **Manufacturing Execution System:** Information on the production progress, scheduling, and yield.
- **Equipment Monitoring and Optimization:** Monitoring equipment information including processing rate, rejection rate, temperature, humidity, and CO<sub>2</sub> levels.
- **Predictive Maintenance Solution:** Information for assessing equipment health status and preventive maintenance.
- **Energy Management Solution**

## Other energy-saving measures

In addition to introducing smart plans to reduce energy consumption, Advantech also continues to promote the following energy-saving measures:

- Holding video conferences over on-site meetings when possible
- Prioritizing office equipment and electronic product procurement with energy-saving labels
- Setting the indoor air conditioning temperature to 25°C
- Reminding employees to switch off any lights when they leave a room

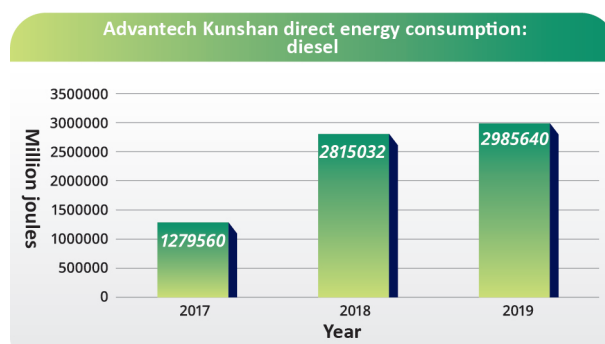
To identify key factors to slow down climate change, Advantech Taiwan seeks to identify not only greenhouse gas emissions from its own operations, but also other emission sources. In 2019, the company adopted the GHG Protocol Evaluator Tool to conduct emissions identification for Scope 3. We also established relevant inventory methods to identify emission hot points, set goals for reducing emissions, and implement reduction measures incrementally. Identification for Scope 3 and the relevant emissions amounts are listed in Table 4.9.

In 2015, Advantech Kunshan first conducted the 2014 ISO14064-1: 2006 Greenhouse Gas Emission Inventory. On March 20, the China Quality Certification Centre




conducted third-party on-site inspections, the results of which identified Scope 1 direct greenhouse emissions to be 1,557 tons CO<sub>2</sub>e and Scope 2 to be 17,715 tons CO<sub>2</sub>e. Thus, 2014 was set as the base year for greenhouse gas emissions.

The self-inspection results of 2019 revealed that in Advantech Kunshan, the major emission sources of Scope 1 (direct greenhouse gas emissions) were greenhouse gas leaks from equipment such as drinking fountains, air conditioners, chillers, constant temperature and humidity machines, septic tanks, and gas exhaust treatment, as well as official vehicles (petrol), diesel generators, and paint line burners (natural gas). A total of 1653.3 tons CO<sub>2</sub>e was generated. The situation of direct energy use is shown in Figs. 4.12–4.14.

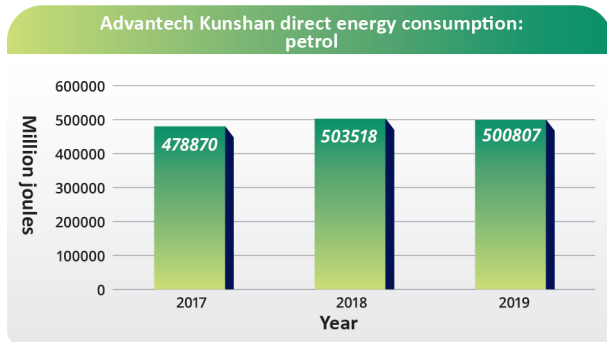
▼ Fig. 4.12 Advantech Kunshan 2017–2019 direct energy consumption (diesel, unit: Million joules)



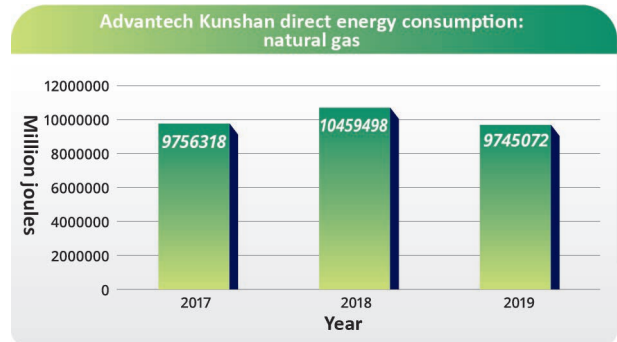
▼ Table 4.9 Advantech Taiwan greenhouse gas Scope 3 identification and emissions amount

Category	Verification category description	Emission amount (tons CO <sub>2</sub> e)
 <b>Employee travel</b>	Employee travel by air	398.4450
 <b>Waste transport</b>	Waste declared according to the Department of Environmental Protection via the Industrial Waste Declaration and Management Information System (does not include general waste)	1.8864
 <b>Employee commute</b>	Linkou Park shuttle	992.0636
<b>Total</b>		1392.3950

▼ Fig. 4.13 Advantech Kunshan 2017–2019 direct energy consumption (petrol, unit: Million joules)



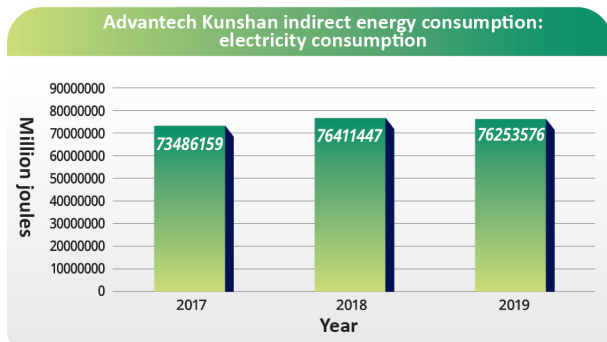
▼ Fig. 4.14 Advantech Kunshan 2017–2019 direct energy consumption (natural gas, unit: Million joules)



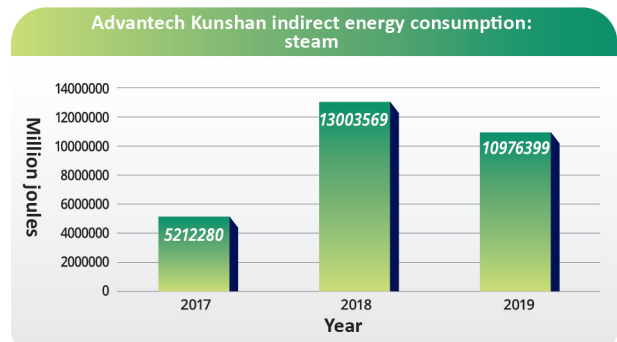
Advantech Kunshan Scope 2 (energy indirect greenhouse gas emissions), including the use of purchased electricity and purchased steam, totaled 18,250.1 tons CO<sub>2e</sub>. Electricity carbon emissions was calculated to be 0.8046 Kg CO<sub>2e</sub>, which is based on the IV Emission factor value, 2012 East China Regional Power Supply Network (see p. 4 of 2017 China Regional Power Supply Network Average

CO<sub>2</sub> Emission Factor). Carbon emissions from steam were 110 Kg CO<sub>2</sub>/GJ, which was based on *Guidelines for Accounting Methods and Report of Corporate Greenhouse Gas Emissions in Other Industrial Industries (for Trial Implementation)*. The situation of indirect energy use is shown in Figs. 4.15–4.16.

▼ Fig. 4.15 Advantech Kunshan 2017–2019 indirect energy consumption (electricity consumption, unit: Million joules)



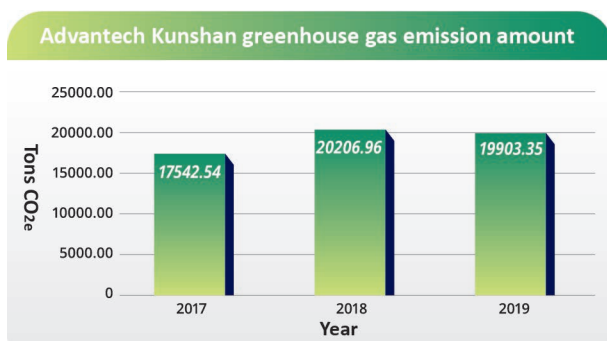
▼ Fig. 4.16 Advantech Kunshan 2017–2019 indirect energy consumption (steam, unit: Million joules)



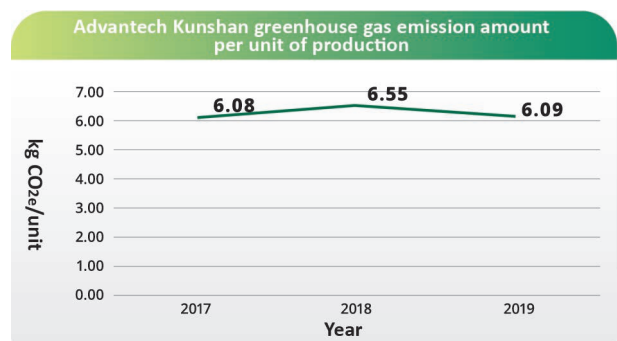
Total emissions from Advantech Kunshan for 2019 in Scope 1 and Scope 2 were 19,903.35 tons CO<sub>2e</sub>. Emissions in recent years are shown in Fig. 4.17. Regarding Scope 3, because various transportation activities cannot be assessed, we currently do not consider conducting inventory. Fig. 4.18 analyzes the

annual greenhouse gas emissions per unit product produced. In 2019, greenhouse gas emissions per unit product produced at Advantech Kunshan was 6.09 kg CO<sub>2e</sub>/unit, which was a 6.94% decrease compared to the 6.55 kg CO<sub>2e</sub>/unit for 2018.

▼ Fig. 4.17 Advantech Kunshan 2017–2019 greenhouse gas emissions amount (unit: tons CO<sub>2e</sub>)



▼ Fig. 4.18 Trend of Advantech Kunshan 2017–2019 greenhouse gas emission amount per unit of production (unit: kg CO<sub>2e</sub>/unit)





In 2019, Advantech Kunshan initiated various energy-saving special projects, including mechanisms for comparing the energy-saving efficiency of each unit, assessing and verifying the energy-saving performance of electrical equipment, and reducing the cost of general electricity use (Table 4.10).

▼ Table 4.10 Advantech Kunshan energy-saving special projects



**Optimize the Energy Management System**

This project established rules for comparing the energy-saving efficiency of each unit (energy consumption/output value, energy consumption/working hours, and peak–middle–valley ratio), providing real-time energy-consumption sharing data, and assisting each factory in analyzing their energy-saving effectiveness and drawing up improvement plans.



**Reduce Electricity Costs in Living Areas**

This project involved taking advice from the power company to divide the electricity use by living-area use and production use as an effective approach for analyzing and reducing electricity costs.



**Evaluate Energy-Saving of Electric Machines (Wind turbines and Water Pumps)**

In this project, the first test was conducted with the northern air handling unit on the fourth floor of Phase 4 at Kunshan. The preliminary assessment showed 20–30% in energy-saving. Further assessments will be conducted. If it is proven effective, we will assess the possibility of introducing it to other parts of the factory.



**Water-Saving Management**

For this project, water meters were installed in each production unit at each factory. A three-level measurement management approach for water use was conducted. Water use was divided into Phase 1, Phase 2, Phases 3–4, dormitory, kitchen, and equipment use to analyze and determine a reasonable amount of water use.



**Transform Plant-Wide Air-Conditioning into Automatic Systems**

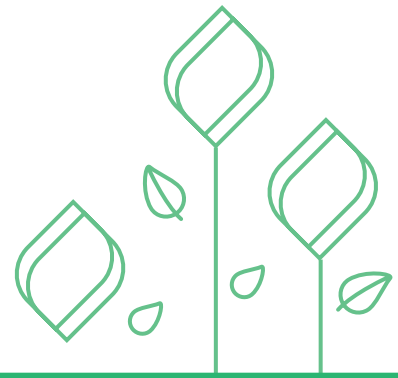
This project involved connecting all air-conditioning systems in all rooms to a monitoring system in order to achieve most effective use of electricity. The system conducts environmental monitoring (temperature and humidity) to maintain the environment under optimal conditions.





## 4.3

## Advantech and caring for nature



### Organic farm

Organic, natural, environmental protection, and loving the Earth have always been the goals of Advantech. Getting close to the land and forests and experiencing the vitality of life are sources of energy for people of Advantech. Since 2011, the Advantech Organic Farm has been open to Advantech employees to adopt plots on a half-year basis. Advantech provides the adopting family with subsidies for organic fertilizers and seedlings. For employees who are exceptionally diligent in managing and caring for the farmland, the company offers special awards such as organic food and environmentally friendly family daily necessities. Each year, over 100 groups of people adopt organic farmland. In 2019, the annual operation fee was approximately NT\$940,000. Fig. 4.19 displays highlights of the organic farm activities.

▼ Fig. 4.19 Advantech Taiwan's Organic Farm activity highlights



Advantech Organic Farm located in Shenkeng, Taipei



People sharing a meal after harvest





The goal of establishing the Advantech Organic Farm is to enable employees and their families to experience organic farming and to promote a healthy diet. Advantech hopes that employees will love themselves, their families, and the land, and this is aimed at helping people love the land so that it may continue to flourish and be developed sustainably. Referring to the experience of Advantech Taiwan, Advantech Kunshan has also established a farm, giving more Advantech employees the opportunity to experience the joy of farming. In 2019, the subsidy of Kunshan organic farm was NT\$36,000. Two farms were established: one at the R&D Center and one at the Manufacturing Park. A total of 155 plots were opened for adoption, and 583 people participated.

▼ Fig. 4.20 Activity highlights at Advantech Kunshan's Organic Farm



Advantech Organic Farm in Kunshan, China

▼ Table 4.11 Advantech Organic Farm implementation results

Item	Information disclosure
 <b>2017–2019 Advantech Taiwan's Organic Farm plots/participants</b>	2017: 54 plots/1,486 people 2018: 56 plots/1,577 people 2019: 52 plots/1,660 people
 <b>2017–2019 Advantech Kunshan's Organic Farm plots/participants</b>	2017: 74 plots/31 people 2018: 140 plots/558 people 2019: 155 plots/583 people





## Visit and experience organic farms

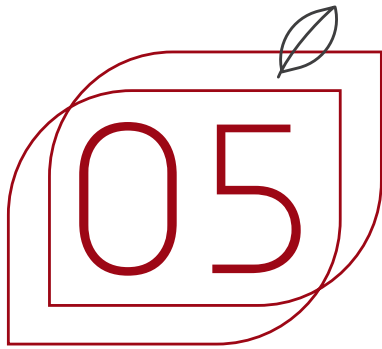
In addition to encouraging employees to be “holiday farmers,” Advantech also encourages them to bring their family to experience organic life during their holiday. Since 2017, the company has cooperated with Qianjia Farm in Hsinchu, Taiwan, to host organic eco-trips. By integrating seasonal harvest at the farm and hands-on experience, children growing up in urban areas may experience the joy of farming, and parents have an opportunity to relive the fun from their childhood. In 2019, three trips were held, and a total of 78 people participated.



Fishing for golden apple snails to feed to chickens



Taking a black goat for a walk at the farm



## A Beautiful Life with Work, Learning, and Love

Retention rate of people resuming their work after taking parental leaves and having been working for over 1 year was **81.3%**

Total training time for employee education was **281,363 hours**

The budget for annual large-scale employee activities exceeded **NT\$11.8 million**

-  **5.1 Harmonious workplace**
-  **5.2 Advantech Institute**
-  **5.3 Beautiful life**
-  **5.4 Occupational safety and health**

### Accomplish a beautiful life together with employees and create a corporate of happiness

Talent is our most critical asset. Since Advantech's founding in 1983, it has been the hard work and dedication of employees and partners that has enabled the company to maintain stable growth and to keep expanding. On this basis, our promise has been to use "work, learning, and love" as a starting point to shape Advantech into an open development platform.

Advantech offers interdisciplinary, cross-national, and diverse job opportunities as a stage for employees' career development. We encourage employees to proactively discover their potential. Through job rotation, employees may expand their global perspective and experience, thereby improving their competitiveness in the job market. In addition to focusing on the improvement of career competency, Advantech also offers comprehensive learning courses, ranging from basic training to the inheritance and sharing of operational philosophy and mid- and high-level management cultivation. Through internal training mechanisms, we hope to cultivate outstanding talents for the company to carry on our corporate culture and philosophy, establishing a sustainable foundation for the company.




In addition, we firmly believe that the balance between work and the mind, body, and soul is the foundation for employee happiness and health and the driver for any corporation to achieve success and keep moving forward. The ABLE (Advantech Beautiful Life) Club promotes activities such as exercise, charity work, LOHAS (Lifestyles of Health and Sustainability), arts and culture, and spiritual growth to promote healthy emotional exchange among employees, their families, and within the company. This also promotes cohesion at work, creating a beautiful life in which employees are happy at work and have sufficient mind-body balance.







▼ Table 5.1 Advantech social management policies and concrete implementation methods

	Corresponding topic/item	Implementation content
<b>Work</b> 	Human rights	Equity in employment opportunities, no forced labor, no human rights complaints cases, all employees are under the protection of labor safety regulations
	Labor-management communication	Labor-management meetings, internal publications and internal platforms, suggestions box, and opinion surveys
	Salary and welfare	Above-minimum wages regulated by the Labor Standards Act, contributions to various insurance and welfare retirement funds, regular performance assessment
	Occupational health and safety	Certified Occupational Health and Safety Management System, a ratio of labor representatives in the Environmental Safety Committee that meets the basic requirements for labor safety regulations, and employee annual health checks to ensure no work injuries and no occupational hazards
	Employee Code of Conduct	Prohibition of inappropriate gifting and insider trading, obeying employee labor and environmental laws, self-examining and obeying the spirit of the Code of Conduct in the electronics industry, ensuring labor equity requirements are met
	Happy workplace	Employee restaurants, tea breaks, sufficient notice to employees for job transfers in accordance with the Labor Standards Act
<b>Learning</b> 	Talent cultivation	Advantech Institute, cultivation lectures, study groups, job rotation and opportunities to work abroad
	Industry-academia cooperation	TiC100 Competition, EDC, EACC special projects, campus visits and lectures
<b>Love</b> 	ABLE Club	Sports, arts and culture, charity, LOHAS activities
	Employee relations	Sports days, talent competitions, year-end party
	Employees' Welfare Committee	Sports days, talent competitions, year-end party
	Social welfare	Arts and culture sponsorship, volunteer story-telling, volunteer services

## 5.1 Harmonious workplace

Advantech holds a respectable, fair, and objective attitude toward employees. We widely invite job applicants who identify with our corporate operational philosophies and culture and are willing to work hard to grow to co-create positive results for themselves and for the company. Although Advantech does not have a labor union, it strictly abides by labor regulations. The company reinforces communication with employees through our Employees' Welfare Committee, satisfaction surveys, a complaints mailbox, and labor-management negotiation meetings. We consider the guarantee of employee equity as well as reasonable salaries and benefits as critical criteria for our

sustainability. As a reference for stakeholders, this report discloses the company's employee composition, the ratio of discontinuing employees, the ratio of employees who resumed work after taking parental leave, and those who were retained.

If Advantech encounters major operational changes and needs to lay off employees, the company will comply with relevant laws for shortest notice durations: For employees whose seniority is 3 months to less than 1 year, 1 year to less than 3 years, and 3 years or above, the notice given will be at least 10 days, 20 days, and 30 days, respectively.

### Employee structure

As of the end of December 2019, the number of Advantech's employees worldwide exceeded 8,000, which was similar to 2018. Among them, a total of 3,165 are employed at Advantech Taiwan (including Neihsu, Donghu, Linkou, Taichung, Kaohsiung, and Hsinchu branches). All higher-level managers are of Taiwanese nationality. Table 5.2 details the employees' work region, occupation age, and gender.

▼ Table 5.2 Advantech Taiwan human resources\*

	Item	Men %		Women %		Total
Hired employees	Total	1,872	59.1%	1,293	40.9%	3,165
High-end managers	Mangers, deputy managers, or above	400	79.7%	102	20.3%	502
Age	≤30 years	251	51.8%	234	48.2%	485
	31–49 years	1,459	62.5%	875	37.5%	2,334
	≥50 years	162	46.8%	184	53.2%	346
Employment type**	Full-time	1,839	58.9%	1,282	41.1%	3,121
	Contractor	17	60.7%	11	39.3%	28
	Intern	16	100.0%	0	0.0%	16
Job function	R&D	1,094	79.2%	287	20.8%	1,381
	Marketing and sales	105	42.9%	140	57.1%	245
	Administration	114	40.1%	170	59.9%	284
	Manufacturing	559	44.5%	696	55.5%	1,255

\* Percentages are relative to the total number of employees.

\*\* Full-time: workers on a non-fixed term contract; contractors: workers on a fixed term contract.



▼ Table 5.3 Advantech Taiwan new and discontinuing employees\*

	Item	Men %		Women %		Total
Ratio of new employees (excluding those who leave during probation): 13.0%						
New employees	≤30 years	106	42.2%	81	34.6%	187
	31–49 years	140	9.6%	79	9.0%	219
	≥50 years	5	3.1%	1	0.5%	6
Ratio of discontinuing employees (excluding those who leave during probation): 11.7%						
Discontinuing employees	≤30 years	63	25.1%	43	18.4%	106
	31–49 years	150	10.3%	97	11.1%	247
	≥50 years	10	6.2%	10	5.4%	20

\* Percentages are relative to the total number of new employees and total number of discontinuing employees, respectively.

According to Article 16 in the Act of Gender Equality in Employment, after being in service for 6 months, employees may apply for parental leave without pay before any of their children reach the age of 3 years. The period of this leave is until their children reach the age of 3 years but may not exceed a period of 2 years. Advantech Taiwan employees are allowed parental leave under Taiwan law, but China does not have relevant laws for parental leave. In 2019, the parental leave application rate in Advantech was 8.3%, and the percentage of people resuming their work after parental leave was 57.7%. In 2018, the retainment rate for people who had been working for Advantech for over 1 year since resuming work after parental leave was 81.3%.



▼ Table 5.4 Parental leave statistics for Advantech Taiwan

	Men	Women	Total
(a) Number of people qualified to take parental leave in 2019	258	126	384
(b) Number of people who applied for parental leave in 2019	10	22	32
(c) Number of people who planned to resume work after taking parental leave in 2019	8	18	26
(d) Number of people who actually resumed work in 2019 after taking parental leave	4	11	15
(e) Number of people who actually resumed work in 2018 after taking parental leave	0	16	16
(f) Number of people who resumed work after taking parental leave and had been working for 1 year in 2018	0	13	13
Parental leave application rate: b/a	3.9%	17.5%	8.3%
Rate of people resuming work after taking parental leave: d/c	50.0%	61.1%	57.7%
Retainment rate of people resuming their work after taking parental leaves and having been working for over 1 year: f/e	0.0%	81.3%	81.3%

The number of employees at Advantech Kunshan was 2,323. High-end managers there were all of Taiwanese nationality. Table 5.4 details the employees' work region, department, age, and gender. Note that China does not have regulations on parental leave.



▼ Table 5.5 Advantech Kunshan human resources\*

	Item	Men %		Women %		Total
Hired employees	Total	1,217	54.23%	1,027	45.77%	2,244
High-end managers	Mangers, deputy managers, or above	35	1.56%	19	0.85%	54
Age	≤30 years	416	18.54%	347	15.46%	763
	31–49 years	780	34.76%	674	30.04%	1,454
	≥50 years	21	0.94%	6	0.27%	27
Employment type	Full-time	1,217	54.23%	1,027	45.77%	2,244
	Contractor	0	0.00%	0	0.00%	0
Job function	R&D	0	0.00%	0	0.00%	0
	Marketing and sales	0	0.00%	0	0.00%	0
	Administration	129	5.75%	158	7.04%	287
	Manufacturing	1,088	48.48%	869	38.73%	1,957

\* Percentages are relative to the total number of employees.



▼ Table 5.6 Advantech Kunshan new and discontinuing employees\*

	Item	Men %		Women %		Total
Ratio of new employees (excluding those who leave during probation): 25.0%						
New employees	≤30 years	188	45.19%	132	38.04%	320
	31–49 years	131	16.79%	110	16.32%	241
	≥50 years	0	0.00%	1	16.67%	1
Ratio of discontinuing employees (excluding those who leave during probation): 33.9%						
Discontinuing employees	≤30 years	268	64.42%	136	39.19%	404
	31–49 years	215	27.56%	140	20.77%	355
	≥50 years	0	0.00%	1	16.67%	1

\* Percentages are relative to the total number of new employees and the total number of discontinuing employees, respectively.



## Salary and benefits

Employees are the most valued assets at Advantech. It is due to their hard work that Advantech may grow steadily. The company is therefore happy to share what it harvests with its employees. By offering an overall salary that is competitive on the market, Advantech attracts, retains, cultivates, and inspires talents from around the world.

### Advantech's salary and benefits management policy:

Advantech ensures that salaries are set according to employees' academic and job experience, performance, and market conditions. Salaries are not influenced by gender, race, religion, political orientation, or marital status. The company complies with relevant laws and provides various insurances and benefits as well as retirement funds. In addition, it offers group insurance and overseas travel insurance for business trips to ensure the employee safety during and away from work. Advantech conducts annual performance assessments for all employees in order to achieve overall operation plans, department goals, and personal goals and to solidly understand employees' work performance. This assessment involves considerations pertaining to personnel promotion, personnel training and development, and salary. It consists of reviewing past

work, establishing future goals, and co-establishing development plans between supervisors and employees.

Regarding retirement fund contribution, please refer to p.87 of the 2019 Annual Report. The retirement fund contribution system has two types. Advantech complies with the law and contributes the full amount each month. According to the old retirement fund system, Advantech contributes 2% of the total monthly salary to a special account for retirement funds at the Bank of Taiwan. The contribution amount is NT\$8,471,237. According to the new retirement fund system, Advantech contributes 6% of the monthly salary to each employee's personal special account at the Bureau of Labor Insurance. In 2019, the total annual contribution amount was NT\$128,366,444.

Advantech employees who have reported to work for over 3 months must receive a performance assessment. Table 5.7 shows the percentage of employees who received an assessment in 2019. (Note that the percentage is less than 100% because it does not consider new employees who had worked for less than 3 months; these employees were instead required to submit a work reflection report). In addition, the CEO of the company as well as three general managers (a total of three men and one woman) did not undergo performance assessments.



▼ Table 5.7 Employee performance assessment percentages by job function\*

	Work role	Men %	Women %
Advantech Taiwan	R&D	95.80%	90.59%
	Marketing and sales	92.38%	98.57%
	Administration	77.19%	92.94%
	Manufacturing	94.99%	95.55%
	Total ratio	94.23%	94.51%
Advantech Kunshan	Administration	100.00%	100.00%
	Manufacturing	97.30%	96.73%
	Total ratio	97.58%	97.22%

\* Percentages are calculated as the total number of employees who received an assessment in each category, divided by the total number of employees in that category. Genders are calculated separately.



▼ Table 5.8 Employee performance assessment percentages by job level\*

	Job level	Men %	Women %
Advantech Taiwan	High-level managers	99.00%	100.00%
	General employees	93.00%	94.04%
Advantech Kunshan	High-level managers	100.00%	100.00%
	General employees	97.51%	97.16%

\* Percentages are calculated as the total number of employees who received an assessment in each category, divided by the total number of employees in that category. Genders are calculated separately.

Moreover, Advantech believes that offering employees stable and equal opportunities and welfare is conducive to employee cohesiveness and corporate sustainable operation. After calculation, the 2019 Advantech male and female salary ratios are disclosed as follows:



▼ Table 5.9 Advantech male and female employee salary ratios\*

	Ratio of men's actual minimum salary vs. legal minimum wage <sup>1</sup>	Ratio of women's actual minimum salary vs. legal minimum wage <sup>1</sup>	Minimum salary ratio for women vs. men	Ratio of men's average salary for the lowest job grade vs. legal minimum wage	Ratio of women's average salary for the lowest job grade vs. legal minimum wage	Average salary ratio for the lowest job grade for women vs. men
Taiwan	1.08	1.07	0.99	1.28	1.32	1.03
Kunshan	1.05	1.05	1.00	1.14	1.09	0.96

\* The minimum salary is defined as the actual payment. In 2019, the minimum wages by law in Taiwan was NT\$23,100, and that in Kunshan was RMB2,020.

## Labor-management communication

To date, Advantech does not have a labor union. However, to enable smooth and barrierless communication with employees and to effectively solve problems that arise, Advantech holds labor-management negotiation meetings regularly as a channel for employees to be heard. In addition, we regularly issue MyAdvantech magazine to disclose information related to the company's industry planning and management directions. We have also established a suggestions box on the employee website, through which employees may promptly communicate problems and get answers to questions they have about

the company. Statistics for 2019 show that the suggestions box received 33 suggestions, and all of them have been closed. None of them were related to employee discrimination or human rights issues. To address employee discrimination at any level, we have announced appeal methods and related mechanisms on our employee internal website. All employees may raise an appeal via the Advantech CSR email (csr@advantech.com.tw) to root out any discrimination, thereby ensuring that labor conditions meet employees' needs and do not infringe upon their right to work, enabling each employee to fulfill their role at ease.

## 5.2 Advantech Institute

Advantech values the individual characteristics and potential of each employee, hoping that each of them can realize their dreams at Advantech and maximize their potential.

Advantech established the Advantech Institute with the ideal of cultivating elites. The institute offers a series elite cultivation education training programs, including the e-Learning platform (Learning@Advantech), ten core programs, an annual strategy workshop, technology workshops, study groups, and the Executive Talks event.

Among these programs, the total hours logged by employees for e-learning in 2019 was 234,789 hours. Table 5.10 shows the hours logged by employees in each job function. The number of participants of each type of workshop, LEAP Camp, study groups, and Executive Talk was approximately 13,650, and the total training hours was approximately 46,574. In 2019, the total training hours was 281,363 hours (On average, each employee received 92.22 hour of training), and among them, 2,274 hours were courses related to CSR and human rights. (The information of Advantech Kunshan is planned to be disclosed in 2021.)



▼ Table 5.10 Employee e-Learning training hours by job function

Job function	No. of participants	Total hours	Average e-Learning hours logged by men	Average e-Learning hours logged by women
R&D	1,387	120,702	82.0	106.1
Marketing and sales	249	14,825	65.2	55.4
Administration	288	20,607	83.6	63.4
Manufacturing	1,127	78,655	84.5	55.2
Total number of employees	3,051	234,789	81.9	66.3



The course content covers ten core programs, case studies, study groups, the e-Learning platform, the Champion Program, the LEAP Camp, and T-Cap. Advantech Institute offers a global growth platform for focused study, enabling all Advantech elites to continue to grow and make progress.



▼ Table 5.11 List of courses offered at Advantech Institute

Item	Course content summary	Participants
<b>Ten core programs</b>	To pass down Advantech's systems and norms, Advantech's higher-level managers researched and identified the most basic key knowledge and skills in Advantech, including five major categories: quality guarantee, sales and marketing, talent capital, research and development management, and financial value creation.	General employees
<b>Case studies</b>	Advantech operations management decision-makers have selected topics that are critical to Advantech's overall future development, for which experts and scholars are invited to hold discussions. Suggestion plans are proposed and written up as corporate case studies and used as references for strategy integration.	Related operations managers
<b>E-Learning platform</b>	Employees worldwide may use online learning to understand Advantech's management philosophy and corporate culture. Through this, they are given the opportunity to acquire the latest learning information based on their personal needs. This is aimed at helping them learn to overcome spatial and temporal restrictions while letting them exchange knowledge with coworkers around the world. This knowledge platform lets employees acquire information from global sources and expands their global vision and understanding of other employees.	General employees
<b>Champion Program</b>	The Champion Program elite project was first established in July 2011. Through group-themed discussions and paper writing, Advantech's management philosophy and practical operations are passed down. Innovative approaches to each topic are developed, facilitating the cultivation of central elites and leadership talents.	Mid-level managers
<b>LEAP Camp</b>	The term "LEAP" is derived from four words: Learn, Experience, Alignment, and Partnership. The term also reflects the achievement derived from the idea of participants taking a sudden and decisive increase in ability and understanding. The LEAP Camp invites coworkers from around the world who have specific job responsibilities to Advantech Headquarters to offer courses and training aimed at increasing employees' knowledge and skills in special projects. It also gives them the opportunity to experience Advantech's culture and core values. Through interaction and connection with global partners, global collaboration is achieved. Based on the job responsibilities of participants, the LEAP Camp course design is separated into a sales, marketing, and AE tracks, each of which focuses on specific content in each field.	New employees with 6 years' experience or less.
<b>Study groups</b>	Advantech believes that by having all team members read the same book, team consensus can be consolidated. Therefore, employees are asked to regularly read selected books and come together for group study sessions. Experts, scholars, or middle to higher-level management levels of affiliated enterprises are invited to develop concepts and to introduce innovative management concepts to form key management operation strategies. For example, Advantech's supreme guiding principle on talents, "Getting the right people on the bus" was taken from Good to Great by Jim Collins.	Suitable employees and supervisors are selected based on topics.
<b>T-Cap</b>	To expand the global vision and experience of Advantech elites with regard to major or emerging markets and emerging opportunities, Advantech offers short-term global special projects for employees to be sent abroad (expatriate rotation for 3–6 months) so that they have the chance to face different challenges and grow. By changing their working environment and posts, talents can expand their worldview and acquire valuable experiences through the achievement of short-term tasks.	Advantech employees worldwide/employees who need to be sent abroad for 3–6 months



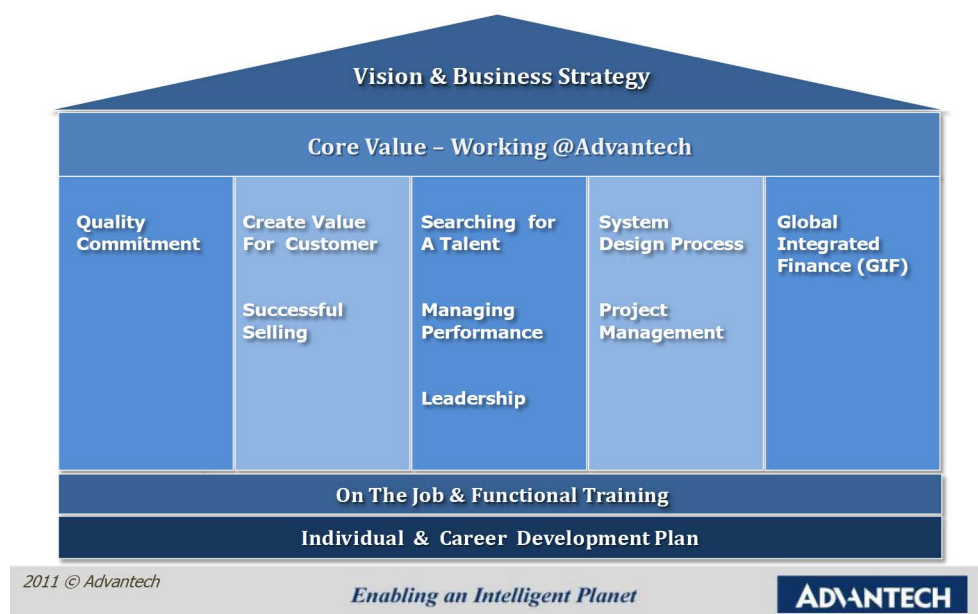
## ADVANTECH'S ELITE CULTIVATION MODEL

Generate an open management stage for talents to exercise their specialties



▲ Fig. 5.1 Advantech Institute courses

## ADVANTECH 10-CORE PROGRAM



▲ Fig. 5.2 The ten core programs

## Advantech Executive Talks

To ensure that policies established by the company are clearly delivered to employees worldwide in a timely manner, Advantech started preparing an internal platform, Advantech Executive Talks, in 2015. The idea behind this program is that delivering concise video messages would reduce information asymmetry due to temporospatial differences between the headquarters and frontline workers. The platform was launched in February 2016 and started officially delivering videos to Advantech employees worldwide. Internal higher-level managers are invited to deliver essential information on specific topics in Chinese or English in 5–10 min. The topics range from annual strategy development and financial direction to descriptions before and after mergers and industry trend explanations. Advantech hopes that in the future, more focused videos can be developed specific to individual regions, units, or even employees. As of the end of 2019, 198 videos have been uploaded to the platform (106 in Chinese and 92 in English). As of March 12, 2020, the videos have received over 30,000 views.

▼ Fig. 5.3 Advantech E-Learning website



## Advantech Family (facebook)

On Facebook, Advantech established a closed group, Advantech Family. Advantech employees from around the world are invited to join. It is hoped that through a relaxed and informal channel, employees can receive information and get a feeling of the implementation and application of global strategies as soon as they are conceived. Group administrators are situated at Advantech Headquarters. Employees of each region and business unit are often connected. Entertaining live broadcast, games, videos, or photos are posted by employees from different units and regions. Employees are encouraged to leave comments and interact on posts in order to help create an atmosphere of global interaction and sharing. The platform was established in late 2018. At the time of this report being issues, more than 400 employees have joined.

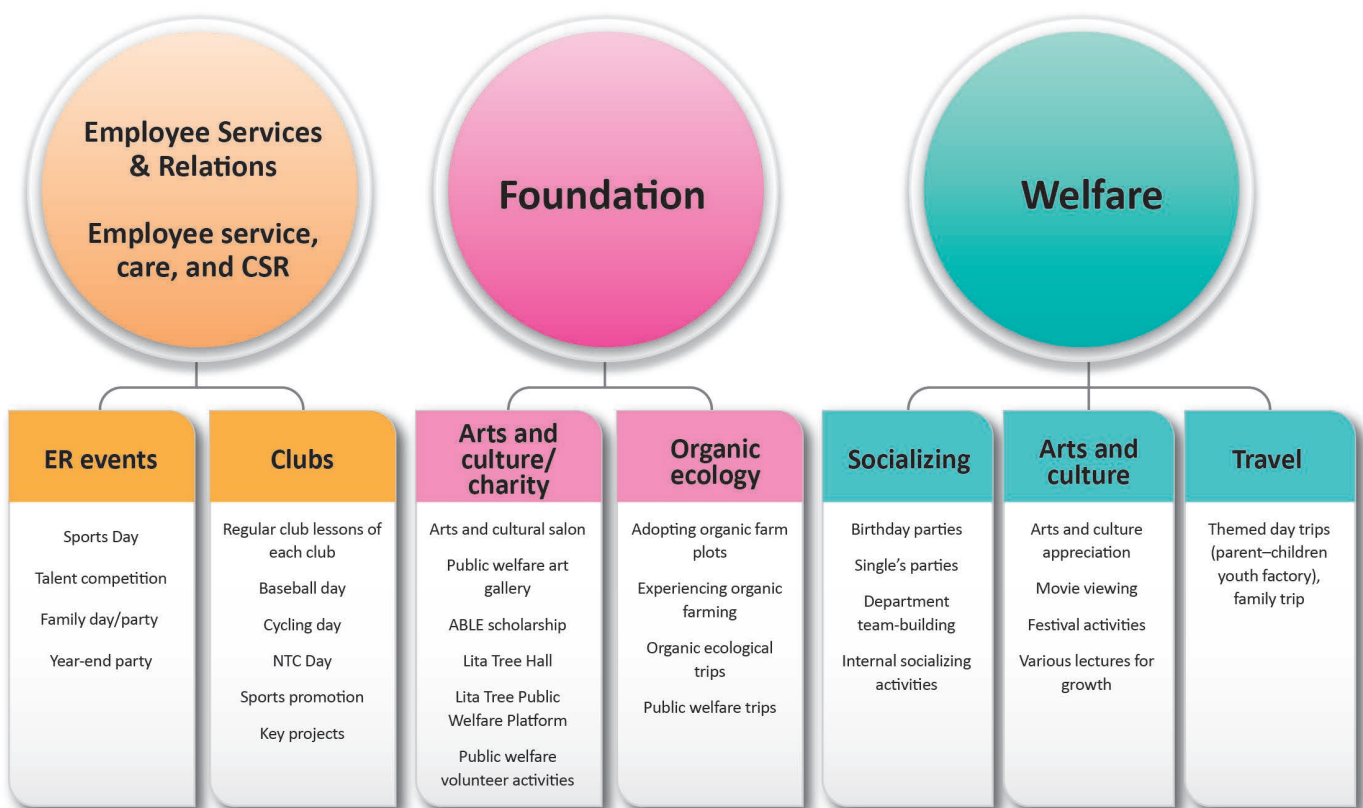




## 5.3 Beautiful life

We firmly believe that only physically and mentally healthy employees who enjoy their work can drive the corporation to grow and move forward. With the human-centered Lita spirit, Advantech proactively promotes the ABLE Club Beautiful Life program inside the company. Through organizations such as the CSR Department on employee relations management, Advantech Foundation, and Employees' Welfare Committee, a series of ABLE Club Beautiful Life special projects are planned and hosted. The hosting of diverse and rich activities is hoped to initiate exchanges and interactions among Advantech employees, their families, and society. Fig. 5.4 shows the structure of the ABLE Beautiful Life Club.

▼ Fig. 5.4 Advantech employee ABLE Beautiful Life Club





## Employee services and care

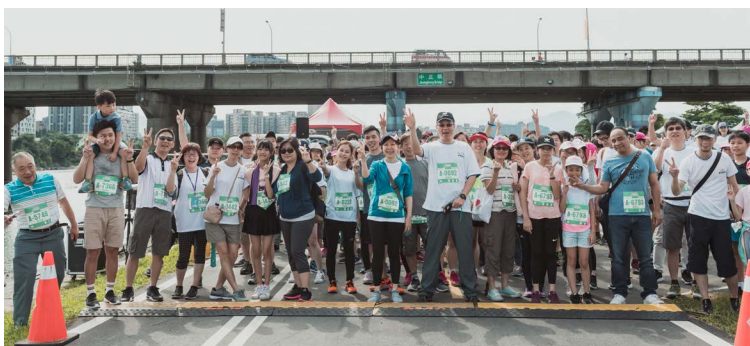
Because talents are Advantech's most critical asset and we recognize that it is the hard work and dedication from employee partners that we have been able to grow and continue expanding, we proactively consolidate employee communication and cultivating employee relations. Our promise is to use "work, learning, and love" as our starting point to shape Advantech into an open development platform. We believe that the various employee relations activities we offer will help all employees live a beautiful life.

We proactively hold various innovative employee activities and encourage employees to participate with enthusiasm. Through these diverse and rich employee events, we provide a stage for Advantech employees to shine and show their self-value. In 2019, a brand-new planned Advantech competition was launched: Internet Celebrity Competition. Employees with special talents or wishing to express themselves via video were welcomed to submit a short film for competition. A total of 12 teams submitted their films, and over 2,300 people participated in online voting. As social media has become the new mainstream for promotion, we used these videos to advertise on Facebook so that employees could more clearly understand information about the company's internal activities. Every Friday, we regularly premiere the ABLE Editor's Talk Show; using laidback and humorous

videos, we provide the latest information on activities for that week, which helps employees quickly understand the company's featured activities. In 2019, a total of 48 videos were uploaded, and they have been viewed more than 76,000 times.

We hope that through promoting various activities, we can encourage exchanges and increase cohesiveness between coworkers and thereby foster a stronger sense of team spirit. In May 2019, we held the Advantech LOHAS Festival. A total of 2,041 employees and their families participated. As an example, we had employees form teams for running activities in order to help them achieve a healthy and happy family life outside their work, cultivating the Lita spirit with all employees. In addition, the ABLE Baseball Day is held in August or September each year and has become a tradition in Advantech. The company purchases 1,000 tickets to a professional baseball game and invites clients of affiliated companies and employees and their families to attend and show their support. This experience is a rare moment of excitement and contributes to increasing a sense of identity and connection between the company and its employees and their families. In 2019, the budget for annual large-scale employee activities exceeded NT\$11.8 million, and the total number of participants exceeded 6,500. Fig. 5.5 shows some activity highlights.

▼ Advantech LOHAS Festival



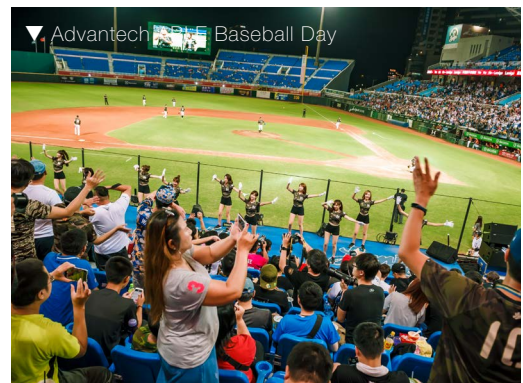
▼ BIG GAME Extreme Obstacle Race



▼ 2019 New Year Party



▼ Advantech Baseball Day





▼ Fig. 5.5 2019 Advantech ER activity highlights/ABLE activity highlights



## ABLE Club club activities

The ABLE Club stands for Advantech Beautiful Life, and it strives to enable every member of Advantech to have a beautiful life. We encourage coworkers to develop a diverse range of interests in their spare time in order to enrich themselves and live healthy lives. We proactively provide funding and encourage coworkers to spontaneously establish clubs. To date, approximately 20 clubs under the categories of sports, LOHAS, arts and culture, and small clubs have been established. Fig. 5.6 lists the clubs. Through participation in various types of clubs, communication and exchange channels between employees, families, and society are established, thus fulfilling the core value of “work, learning, and love.”

▼ Fig. 5.6 List of Advantech clubs

 Sports Clubs	 LOHAS Club	 Arts and Culture Clubs	 Small Clubs
<ul style="list-style-type: none"> <li>Basketball club</li> <li>Badminton club</li> <li>Softball club</li> <li>Golf club</li> <li>NTC club</li> <li>Dynamic Zumba club</li> </ul>	<ul style="list-style-type: none"> <li>Hiking club</li> <li>Biking club</li> <li>Running club</li> </ul>	<ul style="list-style-type: none"> <li>Aesthetics club</li> <li>Photography club</li> <li>Music club</li> </ul>	<ul style="list-style-type: none"> <li>Boardgame club</li> <li>Scuba diving club</li> <li>Linkou bowling club</li> <li>Women's basketball club</li> <li>Free wheel club</li> <li>Taichung badminton Club</li> <li>Yoga club</li> <li>Rock climbing club</li> <li>Volunteer club</li> </ul>

After years of active promotion, club activities have become the most beloved recreational activities for Advantech employees. Competitive and sweaty sports clubs, such as outdoor biking, hiking, or running, bring people together in the mountains and down by the sea, giving them the opportunity to explore unknown beautiful spots. There are also photography, aesthetics of the arts, and culture clubs that cultivate artistic and humanistic sentiment, as well as a volunteer club that organizes blood donations and various volunteer services. Together, these clubs make the life of Advantech employees more fulfilling and colorful. In 2019, Advantech contributed approximately NT\$6.31 million to various ABLE Club activities. Throughout the year, a total of 1,220 employees signed up to a club. Fig. 5.7 shows some of the activity content and highlights, and these are a true representation of Advantech's Lita spirit. (For more ABLE Club activities, please refer to the website <http://ableclub.advantech.com.tw/> ).

▼ Scuba diving club



▼ Running club







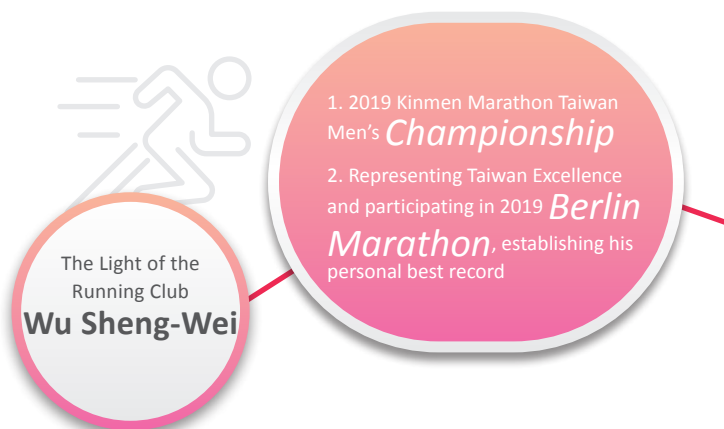
▲ Aesthetics club



▲ NTC club



▲ Hiking club cleaning a beach



▲ Fig. 5.7 Advantech ABLE Club photos/activity highlights

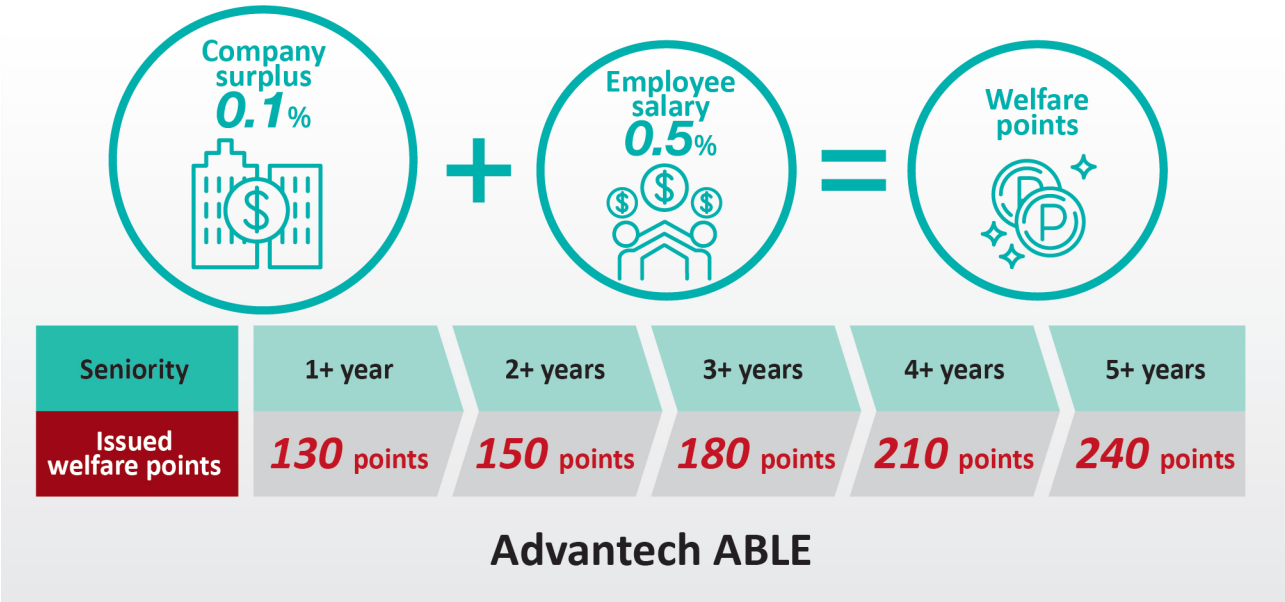


# Employees' Welfare Committee

Advantech offers comprehensive and diverse welfare packages under four major categories: growth, socializing, travel, and arts and culture. Employees may freely select them based on their preferences. In 2019, Advantech spent approximately NT\$55.61 million on the Advantech Employee Welfare Committee. To ensure more flexible use of the welfare budget, we established an extremely creative welfare points usage guideline. Fig. 5.8 illustrates the conversion of cash into welfare points. We offer

various activities for employees to allocate their welfare points in order to participate, and this helps them plan a rich recreational life. In addition, the Employee Welfare Committee proactively invites lecturers specializing in various fields to help employees enrich their life. In 2019, lectures held by the Employee Welfare Committee were attended by approximately 670 people. Fig. 5.9 illustrates some activity content and highlights.

Fig. 5.8 Advantech ABLE welfare point calculation method



▼ Canoeing in Dongao



▼ Fig. 5.9 2019 Advantech Employee Welfare Committee photos/highlight activities

### Paper plane competition

1. First held in 2019
2. A total of **119** employees participated



### Lectures for growth

1. List of lecturers invited:  
 Baby-Raising Experience: Dr. Huang Tsung-Ning  
 Life as an Internet Celebrity: Ray Du English  
 Buying Houses as a Youth: Internet Celebrity Icebonla  
 Strategies for Deposit Stocks and Growth Stocks: Akoli  
 Travel Planning: Brian the Plane Ticket Expert
2. Number of people who participated in the lectures: **677**

Huang  
Tsung-Ning



Ray Du  
English



Internet  
Celebrity  
Icebonla







## Occupational safety and health

To prevent occupational hazards, Advantech introduced OHSAS18001 Occupational Health and Safety Management System in 2006, with plans to convert to ISO45000 in 2020. Advantech has clearly established standard operational procedures for each workplace emergency operation, and the company consolidates facility self-inspection and reinforces employee health and safety as well as fire prevention education training to prevent occupational accidents. To ensure that the operational environment meets the standards for healthy and safety, Advantech regularly tests the quality of drinking water, noise, temperature, humidity, and illumination in employee environments. Also, every 6 months, it commissions professional inspections to measure CO2 concentrations in central air-conditioning facilities to further ensure the quality of the work environment, protect the health of employees, and prevent workplace diseases.

In addition to workplace safety, Advantech is primarily concerned about employee health. To promote the

Advantech Labor Health Management Plan, the company offers annual employee health checks that go beyond the requirements of the Labor Standards Act. We also hold health promotion activities such as running, implement a no-smoking work environment, and regularly conduct environmental inspections to ensure employee health. We also offer private space for breastfeeding, facilities and locations for sports and recreation, and a safe and sanitary dining environment.

In addition to conducting education training to reinforce employee health and safety concepts, Advantech Taiwan also abides by relevant laws and has formed the Labor Safety and Health Committee, which consists of one chairperson, one representative from management, and, in accordance with relevant labor laws, 15 labor representatives, which account for 1/3 of the total representatives. Meetings are held by the supervisor of the Department of Labor Safety and Health.



▼ Table 5.12 Relevant statistics on occupational health and safety#

	Disabling injury frequency rate*	Instances of occupational disease**	Severity rate†	Number of workplace deaths	Absence rate††
Advantech Taiwan (men)	3.96	0	40	0	0.93%
Advantech Taiwan (women)	2.65	0	56	0	0.74%
Advantech Kunshan (men)	1.23	0	43	0	2.11%
Advantech Kunshan (women)	0	0	0	0	1.72%

\* Disabling injury frequency rate = number of disabling injury cases / total working hours × 1,000,000 (rounded to two decimal places)

\*\* Occupational disease rate = total cases of occupational disease / total working hours × 1,000,000

† Severity rate = (missed work days / total working hours) × 1,000,000 (rounded to two decimal places)

†† Absence rate = (personal leave days + sick leave days + work injury days) / total work days × 100% (Missed work days are calculated from the day of incident, and the number of work days excludes weekends.)

# The work injury records of Advantech Taiwan contractors and Advantech Kunshan contractors will be disclosed in 2021.









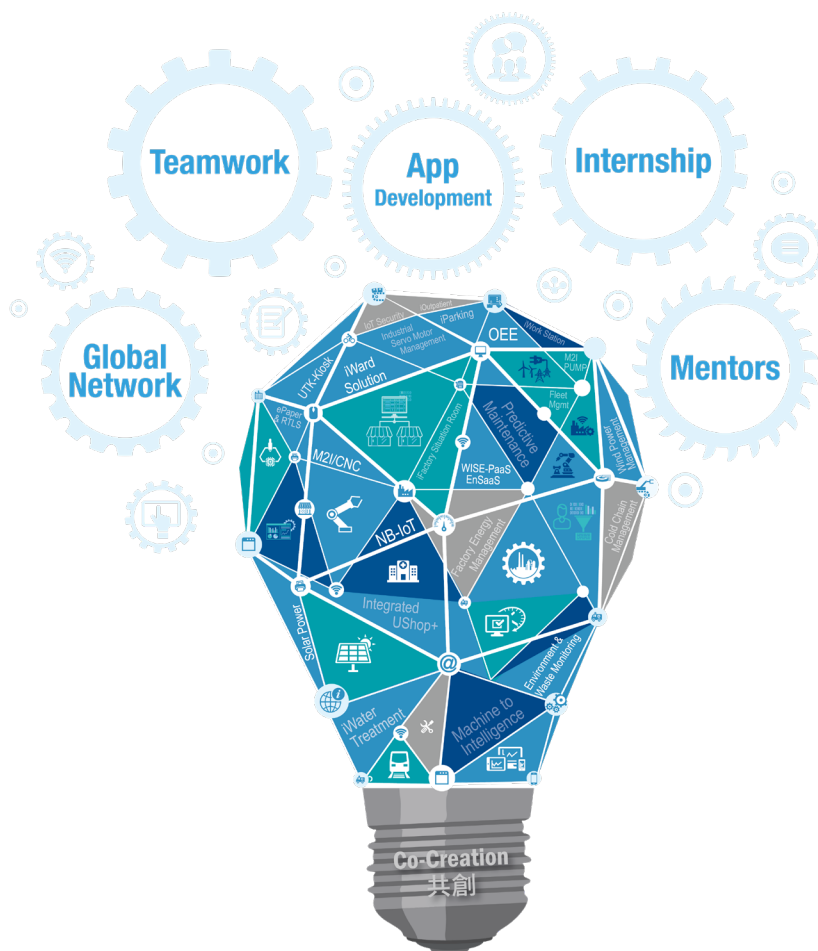
# Innovative Technology and Sustainable Co-Enrichment



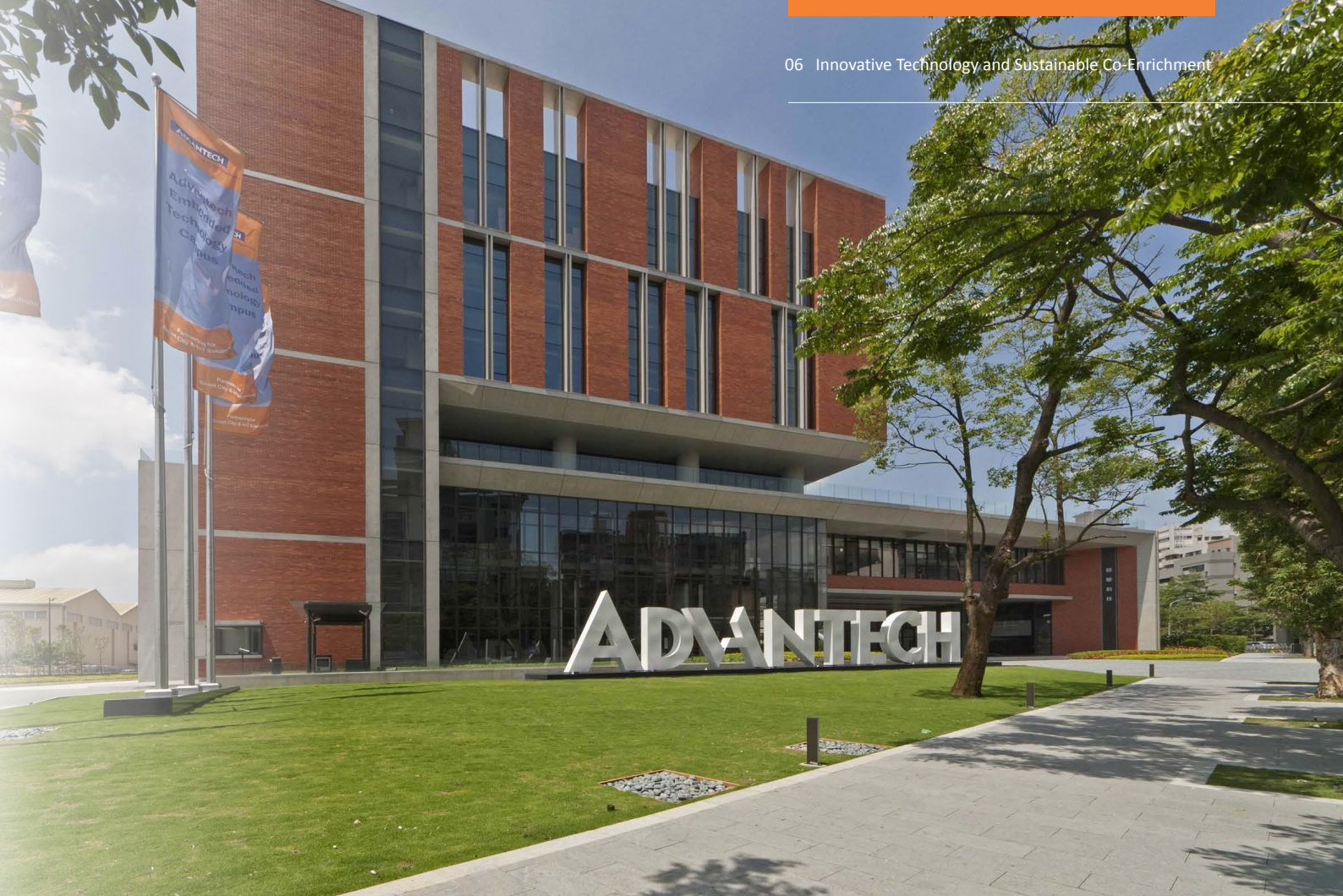
Developing IoT core capacity to realize CSR

The Advantech Foundation was founded in 1997. Upon its founding, it centered on two major themes: industry-academia cooperation and beautiful life. From this, a series of social welfare and pay-back special projects have been developed. In recent years, to fulfill its CSR goals and consolidate the Lita spirit, the core businesses of the foundation have been refocused on two major policies: ESG Powered by AIoT Competency and ESG(CSR) Aimed at Employee and Community Enrichment. In 2019, the total cash expenditure on social welfare was NT\$46.33 million, and the total amount the foundation spent, including industry-academia input, exceeded NT\$86.35 million.

We believe that industry-academia cooperation can allow us to utilize our core capacity to effectively generate and contribute value to society. Therefore, the company proactively promotes various industry-academia cooperation special projects aimed at utilizing Industrial IoT as its core technology to drive employees, eco-chain partners, and industry-academia research units to co-create smart city and Industry 4.0 solution plans. The ultimate goal of these initiatives is to generate sustainable new values for society, environment, and the Earth. This concept was called the ESG Powered by AIoT Competency, meaning that the company leverages its core competencies to actualize CSR and develop corporate sustainability.







## AIoT Developer InnoWorks

Provide free industrial-level IoT platforms and free online training resources to encourage students to improve their program-developing ability and to develop skills to make the world cleaner, safer, more environmentally friendly, and more convenient.

Held an international competition for the first time.

A total of **35** schools and **117** teams participated.





## Elite100 Internship

This is a unique special project internship program. Stanford University's d.school "Design Thinking" methodology was introduced, and Advantech product managers, sales, and external corporate mentor resources have been incorporated to assist students in experiencing the complete process of innovative design.

Over **15** universities  
in Taiwan and China  
participated.

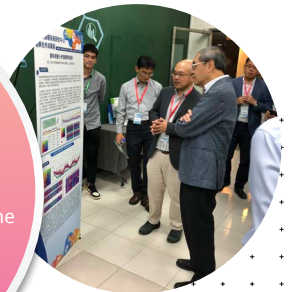


## National Chiao Tung University IoT & Intelligent Systems Research Center

This project is aimed at establishing a long-term industry-academia cooperation platform. It involves integrating the core capacities of industry and academia to effectively lead the overall industry transformation in Taiwan. It adopts the model of "industry presents problems, and academia provides solutions" to connect academia and industry in order to solve key topics and cultivate innovative talents in industry.

Four cooperative research special projects, one of which is now in the process of being commercialized.

Over **300** people signed up for the joint result presentation in 2019.



## EACC-Case Study (\*Note)

This project uses real corporate cases to cultivate Taiwanese teachers for case-study writing and teaching. At the same time, new perspectives on the difficulties faced in corporate management are introduced. EACC is divided into two major items:

1. National Chengchi University EACC.
2. Project M (inter-school EACC), which produces content for publication in the traditional Chinese version of Harvard Business Review. They were the first batch of Chinese special topic articles in that magazine that were generated in Taiwan.

### 1. National Chengchi University EACC:

- 7 professors received sponsorship
- Four special topics (or cases) were produced

### 2. Project M:

- 16 professors received sponsorship
- Six short cases and six special topic articles were written and published

## IoT Accelerator

This special project invites startup talents who intend to enter IoT to be linked to Advantech's internal products, market, and business industrial teachers, as well as external accelerator and venture capital. The model of the experienced leading the inexperienced was adopted to increase the ability of commercializing IoT talents and market application.

14 groups of domestic and foreign startup teams participated  
Three Accelerator Day projects have been held  
Four IoT startup teams were cultivated  
Three domestic or foreign IoT accelerators were sponsored

Contributed to one IoT startup team receiving  
**NT\$1 million** in external investment  
(Clouded Leopard Incubation)







## Words from partners benefiting from industry-academia cooperation

**Name** 조광희 (Kevin Cho)

**Affiliation/Job title** Advantech Korea/ Corporate Marketing

**Special project** AIoT InnoWorks

### What I want to say

I entered this competition as a requirement under his professor. However, after I participated, I was very involved and active in asking questions. Although the Advantech engineer was very busy with his own work, he was willing to spend time and effort to answer my questions.

Winged Lion, the champion Korean team, wanted to solve the problem of cattle getting sick on large farms and minimize the danger cattle often face when giving birth. I found a farm that was willing to cooperate in the tests. Together with Advantech engineers, we developed a Health Warning Solution Plan for Farm Cattle. We installed wearable devices on cattle to collect data, upload it to the cloud, analyze the data, and monitor the health of the cattle. This smart animal husbandry project is highly likely to be commercialized. I helped produce a prototype of the wearable device by using AI-related technology services in WISE-PaaS. Successful development is expected to improve the health of cattle and their living environment. This project has profound social meaning. During the competition process, Advantech, the professor, and myself interacted well and developed a practical model that goes beyond theory, which benefited me as a student.



**Name** Yu Hui-Sheng

**Affiliation/Job title** Oneworktech Co., Ltd. /CEO&Founder

**Special project** IoT Accelerator

### What I want to say

Oneworktech focuses on application realms that few people are involved, such as construction sites and BIM. It was our honor to have the opportunity to cooperate with Advantech. During this cooperation, a smart construction site management system was developed on WISE-PaaS. In the competition and implementation process in the POC realm, the case officer provided comprehensive suggestions and assistance. I was lucky to be selected for coaching. On the development of WISE-PaaS, its structure was relatively complex and required comprehensive consideration. In the earlier state, much time was spent adjusting to the frameworks such as OpenStack, communication and coordination at the actual site in Zhuhai, and connecting to IoT. Subsequent adjustments were based on WISE-PaaS. Oneworktech's application development focused on the front-end design structure. In future, cooperation in this field is hoped to have more on-site application and promotion. Regarding the exploration of business models with the Advantech team, both parties learned from exchanging information in BIM. Multiple items of cooperation were initiated for the future, such as device data management, architecture design operation, and construction site engineering project management.

**Name** Li Yu-Ting

**Affiliation/Job title** PhD student at the College of Electrical and Computer Engineering, National Chiao Tung University

**Special project** National Chiao Tung University IoT & Intelligent Systems Research Center

### What I want to say

My original major was biomedical engineering. After I entered the job market, however, I crossed into the domain of software research and development. Without a foundation in computer engineering, although my supervisor gave me the opportunity to learn from work, I still deeply felt my skills were lacking. After working for 6 years, I decided to go back to school. When Advantech launched this project, I submitted my application. I succeeded in joining and have entered the internship stage. The method the industry uses to cultivate talents is learning by doing. However, the advantage of this project is that it enabled me to go back to school to learn in a systematic way, to see the big picture, and to be more confident about the knowledge I learned.

The greatest help I received from this project is the accessibility to data. In academia, it is extremely difficult to find suitable or enough data to experiment with and try out suitable models. Advantech provided me with a bounty of information. At a paper presentation, everyone was curious about the source of my data because they all had trouble obtaining rich data. Moreover, Advantech offered channels to verify my research, making my research process even easier.

**ADVANTECH**







## Articles sponsored by Advantech and published in the *Harvard Business Review* (Traditional Chinese edition)

### 2019 cases/articles published by the Feature Article Team

Organized on March 9, 2020

#### Case Studies

Issue number	Author	Title
January 2019 Issue	Hsieh Ming-Huei	<i>Harvard Case Study: Must Profit and Public Welfare Be Incompatible? A Fight in Corporate Management Routes Caused by a NT\$50 Million Income</i>
March 2019 Issue	Sonic Wu	<i>Harvard Case Study: Introducing Danger or Co-creating a New Situation? How to Reach a Balance between Management Philosophy and Funding Gap</i>
May 2019 Issue	Lo Shih-Min	<i>Harvard Case Study: How to Enter the Long-Term Care Industry? Through Physical Shop Operation or Online Platform Service?</i>
July 2019 Issue	Chiu Hung-Chang, Apple Tsao, Hsieh Yi-Ching, Tang Yun-Chia	<i>Harvard Case Study: Should an IoT Knowledge Platform be Established? The Struggle between the Education Market and Client Cultivation</i>
September 2019 Issue	Lee Ji-Ren, Sean Huang	<i>Harvard Case Study: To Seek Promotion or a New Position? Achieving the Rotation System vs. Maintaining Department Competitiveness</i>
December 2019 Issue	Hsieh Ming-Huei, Tung Chee-Hwa	<i>Harvard Case Study: A Long Way to Transforming to Customer-Oriented</i>

#### Feature Articles

Issue number	Author	Title
April 2019 Issue	Lee Ji-Ren	<i>Triggering Transformation as an Opportunity Four Keys in Corporate Transformation to Achieve a Future that Generates Values</i>
May 2019 Issue	Chiu Hung-Chang, Hsieh Yi-Ching, Yin Chin-Ching, Tang Yun-Chia	<i>Five Key Points to Design Optimal Brand Stories Weapons to Strengthen Corporate Image and Increase Customers' Impression</i>
June 2019 Issue	Kuo Chia-Wei, Cheng An-Chi	<i>Using Revenue Management to Create Advantages in Competition Team Establishment, Data Analysis, and Utilizing Consumer Psychology</i>
July 2019 Issue	Chang Shao-Chi, Wong Ying-Jiuan, Chen Wei-Sheng	<i>Turn Passing-down into the New Opportunity for SME Innovation Select a Good Timing, Establish Variations, Construct the Environment, and Demonstrate Performance</i>
August 2019 Issue	Hsieh Ming-Huei	<i>Smiling Curve 2.0 under Customer-Driven Logic Co-create Values with Customers</i>
September 2019 Issue	Sonic Wu	<i>Co-create a Future between Entrepreneurs and Angelic Investors Three Methods to Resolve Conflicts</i>



## Lita and Co-Enriching Society

Common Good for the Employee and  
Community: Spreading the Lita Spirit

At Advantech, we believe that society is like the land that nourishes corporations. It is the foundation for corporations to grow roots and flourish. We are only able to have the results we have today because of the endless resources provided by society and the greater environment. It is our firm belief that as a member of social citizens, our company should serve its duties and obligations and contribute its power to give back to society.

We have adopted the Lita concept as the starting point to invite our employees to use real actions to give back to society. It is our sincere hope that through the participation of our employees and their families, they can grow together with the community. Advantech Foundation uses its core ability to fulfill our CSR goals and give resources to focus on arts and culture, adolescence and children education, and social corporate development. We genuinely hope to grow with the community and to create a more beautiful society!





In 2000, the United Nations adopted the "Millennium Declaration." The Declaration committed nations to a new global partnership to reduce extreme poverty, and set out a series of eight time-bound targets - with a deadline of 2015 - that have become known as the Millennium Development Goals (MDGs). They are: to eradicate extreme poverty and hunger; to achieve universal primary education; to promote gender equality and empower women; to reduce child mortality; to improve maternal health; to combat HIV/AIDS, malaria, and other diseases; to ensure environmental sustainability; to develop a global partnership for development. After 15 years of hard work and implementation by all countries, the global poverty population has been greatly reduced, the primary education rate has increased, and 6 million people have been prevented from dying from malaria. We have seen so many good progresses, yet the main reason is the rapid economic growth of China and India. However, there are still many problems that have yet to be resolved. For example, gender equality - women's poverty is higher than men's, women's school attendance are less than men's, and only two-thirds of the literate population are women. Climate change, plastic pollution and other environmental problems have demonstrated the shortcomings of MDGs.

Therefore, on the occasion of the 70th anniversary of the United Nations in 2015, world leaders decided to review MDGs and further discussed and planned for the goals that MDGs have failed to achieve. Thus 17 Sustainable Development Goals (SDGs) were unveiled. The SDGs cover the three dimensions of sustainable development: "economic growth," "social progress" and "environmental protection." They emphasize the enhancement of social well-being and economic growth while being able to incorporate environmental protection at the same time, hoping to enable humanity and the planet to prosper forever.

# SUSTAINABLE DEVELOPMENT GOALS



你的城市面臨了哪些問題？  
What Challenges are Your City Facing?



## 永續發展目標的三大重要關鍵突破

How are the Sustainable Development Goals different from the MDGs?

### 目標的普遍性

永續發展目標不再只針對低發展程度國家，而是針對全人類。同時也將對已開發國家所面臨的問題，例如「SDG4 良好工作與經濟成長」、「SDG9 工業創新及基礎建設」、「SDG11 永續城市與社區」等經濟層面的議題，逐一提出具體建議以平等的角色共同參與其中。

### The Agenda is universal

It applies to all countries, regardless of their level of development and irrespective of their political or socioeconomic status. The 2030 Agenda sees every country as a developing country, in that every country needs to change the way it operates, considering the wider impact of its policies and actions beyond its own national borders, to contribute toward a sustainable future for the world.

### The Agenda is transformative

Seeking to end poverty and hunger once and for all, while safeguarding the planet, is its determination to leave no one behind. The Agenda is people-centered, putting human rights and social justice at its core. It emphasizes that the needs of people who are missed out because they are hard to reach or displaced or because they cannot easily participate in development activities must be specifically targeted.

### The Agenda is also integrated and indivisible

As it recognizes that people do not live in discrete silos or sectors but in a continuum of interrelated communities and ecosystems, it therefore demands a complete revolution in the way we organize ourselves and in the way we work. It is not acceptable that one or other of the SDGs is treated in isolation. Without addressing all of the goals in an integrated manner, we will not be able to achieve the transformation foreseen by all states.



## Lita Tree Public Welfare Platform

Starting in 2019, to gather innovative public welfare projects and exercise the Lita spirit and have a positive influence on society, the Advantech Foundation used two themes and invited the public and stakeholders to make proposals on this platform. These themes were Children and Adolescents Education and Culture, and Smart Community and Environment..

Proposals were reviewed by four internal judges and three external judges. After professional assessments of such as written documents and on-site briefings, finally, in this year, Advantech has sponsored 11 teams to implement their public welfare projects. The teams are listed as follows:

### ◆ Shortlisted teams from the first round of calling for submission:

1. Azure Ocean Alliance: "Fight for an Azure Ocean"
2. The Carpenter Association: "Special Project to Promote a Friendly Working Environment for the Employment for the Disadvantaged"
3. Impact Hub: "Action for Sustainable Taiwan—Taoyuan Airport Taiwan SDGs Hall"
4. Adolescence Performance Arts Alliance: "The Kite Project"

Received **38** proposals

Sponsored **11** teams

Sponsorship was over NT\$10 million



### 5. The Play School: "The Play School Colearning Camp in 319 Township"

### ◆ Shortlisted teams from the second round of calling for submission:

6. Fruit and Dining of Happiness: "Kavalan Driftwood Art School"
7. Agoood: "Agoood City Light Project"
8. Dragon Millennium Youth Foundation: "Embracing Light—Lost Youth Career Development Project"
9. If Kids Theater Group "Up the Mountains Down the Sea to Tell Stories: Bringing Arts to Children"
10. Chiu Yeh Mang Cultural and Creativity Association: "Remote Area Theater Education Tour"
11. Yingguang Education Association: "Project to Assist Schools Lacking Resources"



## Scholarship and Grants for Remote Areas in Hsinchu and Miaoli

Advantech Foundation cares about education. Seeing that remote areas still have many disadvantaged children who cannot receive education due to financial difficulties, starting decades ago, the wife of the CEO of Advantech has been offering scholarships and grants for students in remote areas via the help of volunteers in Miaoli. Starting in 2012, the Advantech Foundation has established a special project of scholarships and grants for students in remote areas in Hsinchu and Miaoli. This has involved cooperation with schools in remote, mountainous areas and in disadvantaged areas in Hsinchu and Miaoli, and has since established guidelines for scholarships and grants. The schools put together selection committees to select outstanding and diligent students to receive this aid, which is put toward student tuition and fees as well as after-class coaching.

In recent years, the number of schools and students receiving aid has been increasing. We hope that with the scholarships and grants, students will be able to study hard and create a cycle of giving back to the community, carrying forward the power of love.

A total of **1498** students at **36** schools were benefitted.  
The total amount of donation was **NT\$3 million**.



## Junyi Academy Miaoli Promotion Project

In addition to donating to the Scholarship and Grants for Students in Remote Areas in Hsinchu and Miaoli, the Advantech Foundation also integrates resources from society. From 2016 to 2019, the foundation has cooperated with the Junyi Academy Foundation and launched a 3-year Junyi Academy Cultivating Miaoli Remote Areas Promotion Project to provide equal and first-rate education opportunities for everyone. This initiative is aimed at eliminating the gap between urban and rural education and leading an autonomous studying atmosphere.

After 3 years of in-depth promotion, the project was concluded in 2019. The mean monthly active user (MAU) in Miaoli County increased from 328 in the 2015 academic year to 1,546 in the 2018 academic year, an approximately fivefold increase. The second semester of the 2018 academic year saw the highest MAU, with over 2,111 students using the online platform.

Looking into the cooperation with Advantech in 2020, Junyi Academy will shift its focus to northern Taiwan. It will launch the New Taipei City Technological Learning Support Teaching Center Project and focus on cultivating teacher talents. It hopes that with the lead of core potential teachers, more heavy users will be created, thereby having a positive influence on the education system.

In 3 years, a total of **NT\$4 million** was invested.  
MAU increased nearly fivefold (from the academic years of 2015 to 2018)  
Heavy user teachers increased **40%** (from the academic years of 2017 to 2018)



## Active and Creative Teaching

When the Advantech Foundation was established in 1997, it created ACT100 Active and Creative Teaching. By using the innovative thoughts and learning model of integrating theatrical elements into teaching, it set the goals of creative smart development and active learning, initiating updates to education workers' thoughts and progress in teaching practice.

ACT utilizes structuralized volunteer cultivation study courses that are coupled with comprehensive volunteer service campus tour activities. After volunteers have completed their training, they serve on campus, such as, telling stories, leading book groups, and performing stories and drama. Through continual participation and lifelong learning, they bring in new energy to promote reading and education.

In the more than 20 years from 1997 until now, and over NT\$10 million has been spent on cultivating thousands of volunteers for storytelling, with them serving at more than 100 schools.

Served **15** schools / **one** education and nursing institute / **148** classes

A total of **506** volunteers participated, benefitting **3708** people.





## iLab Cultivation Project

To support implementors of social innovation in Taiwan, since 2016, Advantech has been cooperating with iLab. Each year, Advantech sponsors the iLab Cultivation Project with NT\$1 million, hoping to co-create a new leaf for the promotion of positive societal change.

From 2016 to 2018, iLab hatched a total of 64 social corporate entrepreneur teams. During their projects, iLab entrepreneurs have influenced over 180,000 people. In 2019, the iLab Cultivation Project launched three new directions, namely thematic advocacy, incubators, and accelerators. It also reinforces exchange and interaction with Advantech employees. In 2019, it held four social corporate lectures and shared activities such as Startup Night, inviting social enterprise entrepreneurs and Advantech employees to share social enterprise concepts with the public. By acquiring the identification of the participants, it has expanded its influence to their families and the greater community.

### Four Advantech social enterprise lectures

A total of **234** employees participated.

A total of **45** teams were supported.

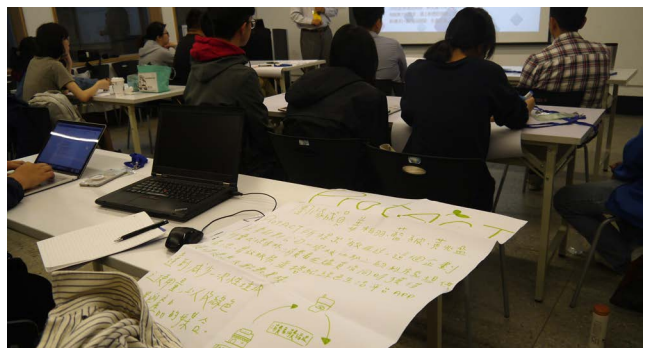
A total of **740** hours were spent on cultivation.











## TiC100 Social Entrepreneurship Competition

TiC100 Social Entrepreneurship Competition integrates solutions to social problems with the action of entrepreneurship and engaging people with the same mindset to propose innovative thoughts and solutions. From 2015 to 2019, this included topics such as community, social issues, and technology. In 6 years, over 500 teams of social entrepreneurs were cultivated on campus and in society. Together with social innovative teams, they have moved toward implementing their ideas and exercised their capacity, connecting to multiple Sustainable Development Goals of the United Nations.

In the 2020 TiC100 Social Entrepreneurship Competition, we planned to use Local Innovation, Social Topics, and Technological Social Innovation as the three major realms to call for submissions. Through platform establishment, activity design, spatial design, and product research and development, teams realize their social entrepreneurship projects, fulfilling team cultivation, entrepreneurship support, and outcome exchange, becoming the best partners for every innovative entrepreneur.

A total of **110** teams entered the competition

**Six** teams received resources for entrepreneurship





## Inheriting and Expanding Traditional Arts

- National Taiwan College of Performance Arts Talent Cultivation Project
- Guo Guang Opera Company “Successor of Taiwan Peking Opera—Youth Talent Cultivation Project”

Advantech firmly believes that innovation must be based on tradition, and the inheritance and expansion of traditional arts and culture is our mission. To pass down this culture and create more future stars in local traditional arts, from 2016 to 2018, the Advantech Foundation sponsored National Taiwan College of Performance Arts in their “Hua Ching Miao Chien Cultivation” and “Hua Hsiang Concert Tour” projects. In the 3 years, the Advantech Foundation sponsored NT\$9.03 million. A total of 26 performances were viewed by 15,250 people.

In 2019, a system that received special project applications was adopted to select and sponsor outstanding students at the National Taiwan College of Performance Arts and graduation productions to continue to support the cultivation of traditional arts talents.



Input over **NT\$2 million**  
Received the Arts and Culture  
Talent Cultivation Award under  
the Arts and Business Awards of  
the Ministry of Culture

Following the two major projects of Hua Hsiang and Hua Ching, to assist young Peking Opera talents to advance their skills, Advantech again cooperated with the Guo Guang Opera Company and launched the Successor of Taiwan Peking Opera—Youth Talent Cultivation Project. From 2018 to 2020, each year, Advantech has sponsored the Guo Guang Opera Company NT\$1 million as youth talent cultivation and development fund to provide cultivation resources to young talents who have left school to become superstars in the future.





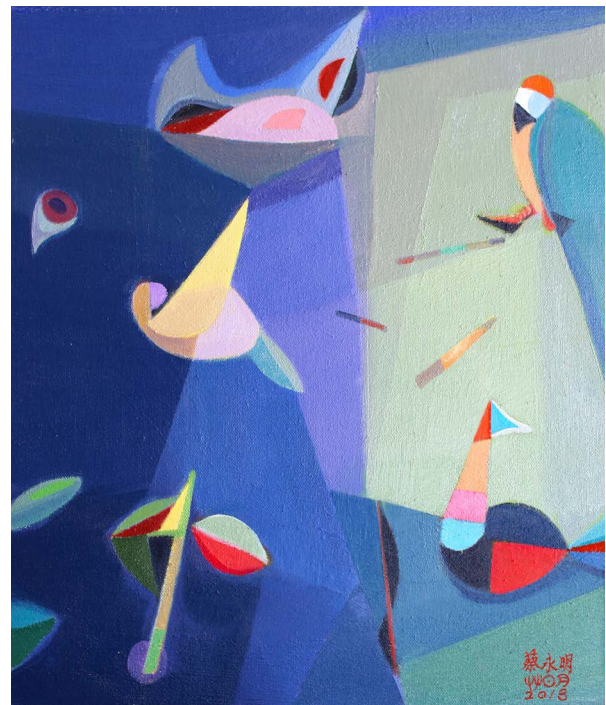
## Arts and Culture Salon and other arts and culture events

To encourage employees to appreciate performance arts and to provide actual support to arts and culture groups, starting from 2011, the Advantech Foundation launched the Arts and Culture Salon special project. Arts and culture groups were invited to submit their proposals for funding, which is given out based on a voting system. Stakeholders are invited to appreciate their performances. In 2019, over NT\$4 million was spent on sponsorship, with nearly 60 performances held and over 1,600 employees attending.

Nearly **60** performances were held.  
Over **1,600** employees participated.







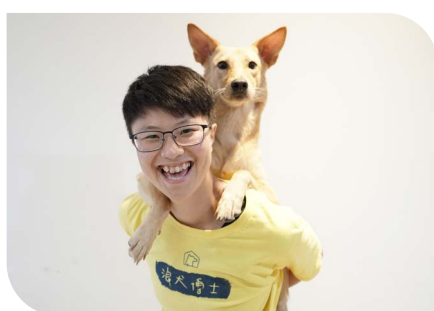
## Public Service Art Gallery

The Advantech Public Service Art Gallery was founded in 2000. The Advantech Foundation released the public space in the Neihu Headquarters and Sunny Building, inviting various types of artists to hold exhibitions. The exhibitions change every 2 months, with at least six artists of varying style having their works exhibited in a year. This provides artists with a stage to demonstrate their hard work, giving the community, Advantech guests, corporate partners, and employees an opportunity to enjoy their art during working hours.

A total of *six*  
exhibitions

## Words from social cobeneficiaries

Name	Shen "Ama" Yi-Yu
Affiliation/Job title	Cofounder of inBloom
Participated special project	Third iLab Cultivation Project: The first batch of incubators
What I want to say	I had the honor to become part of the first batch of the iLab incubator cultivation team. In half a year, I received diagnosis, coaching, and challenges from seniors and teachers in the industry. They blew off my redundant career and helped me discover from the relics methods to build taller, stronger walls. One of the methods for building a tall wall is to work on my leadership. The courses in the incubator have enabled me to more clearly realize the leadership I long for.



Name	Lin "Lucy" Tzu-Hsin
Affiliation/Job title	Founder of Dogtor Stray Edu
Participated special project	Third iLab Cultivation Project: The first batch of incubators
What I want to say	Each lesson has helped me quickly realize the direction my organization wants to move in. Individual counseling provided me with great encouragement and help, enabling me to take my first step in marketing. Thank you for all your effort in helping social entrepreneurs. I am happy and proud to be part of the iLab. Thank you for your company, encouragement, and spur.

Name	Lai Chih-Ming
Affiliation/Job title	Unobstructed Players / Founder
Participated special project	2019 TIC100 Social Entrepreneurship Competition "Resources Integration Award"
What I want to say	<p>Through the TIC100 Social Entrepreneurship Competition, we passed test after test, finding the right direction on social topics, business models, and operation methods. After our project underwent actual trials, it was effective beyond our expectation.</p> <p>The matching mentor and entrepreneurship partners in this event enabled us to reach nearly NT\$0.9 million of revenue in our first year, and 42 people with rare diseases or physical disabilities joined our platform, using our e-commerce platform to make a living and achieve independence. We will keep working hard.</p> <p>We are grateful to the Advantech Foundation for their continuous support and sponsorship on social entrepreneurship and innovative entrepreneurship. It has enabled Unobstructed Players to have the opportunity and stage to demonstrate the resilience of our life.</p>



Name	Wu Shu-Nuan
Affiliation/Job title	ACT100 Story Drama Volunteer Group / Administrator
Participated special project	ACT100 Story Drama Volunteer Group
What I want to say	<p>Wishing for a life with common good.</p> <p>In 2001, I participated in the ACT100 Story Volunteer Entry Level Cultivation, and in 2002, I completed the training of ACT100 Story Volunteer Advanced Level Cultivation. Looking back over the past 18 years, Advantech's ACT story volunteer cultivation initiated me, and I keep working on Advantech ACT story campuses. I have improved as a result of Advantech ACT growth classes and proposal projects. This is a life story of sharing and giving back. As Hans Christian Andersen said, "Life itself is the most wonderful fairy tale because we are in it."</p> <p>I hope that in the future, the traces of ACT100 Story Volunteer promoting story reading will not only be found in campuses and communities but will expand to various exhibition halls and outdoors. Utilizing cooperation mechanisms and education resources of strategic alliance, will cultivate more community seed volunteers with knowledge and ability in storytelling and reading. This will increase the quality and quantity of volunteers, helping them to co-create projects they want to participate in, making service more meaningful, attractive, and of greater value. Only through the common good can society be sustainable.</p>



<b>Name</b>	Chu Kai-Chi
<b>Affiliation/Job title</b>	Juguang Elementary School / Storytelling volunteer
<b>Participated special project</b>	ACT100 Story Drama Volunteer Group (the 55th batch of the Entry Level training)
<b>What I want to say</b>	<p>I am grateful that Juguang Elementary School invited the Advantech Foundation to hold the Story Drama Volunteer Group Entry Level Training. During this training, I learned that stories can not only be told but can also be acted. Through the practices in the entry level class, we combined opinions from teachers with our own reflections and were able to evolve from simply reading stories to acting out story plots with voice and emotion.</p> <p>We could not have made such progress without Shih-Jung's patient coaching, Ming-Yu's creative teaching, and the active participation of all students in our group. During this 3-month training, I learned a lot and experienced a lot of happiness.</p> <p>In the future, I hope to keep making progress. By storytelling, children encounter different horizons and open their eyes and ears. They fall in love with reading. Through picture books, they learn compassion.</p>



<b>Name</b>	Ou Yang Ting
<b>Affiliation/Job title</b>	National Center for Traditional Arts Guo Guang Opera Company / Youth member Jing role
<b>Participated special project</b>	Successor of Taiwan Peking Opera—Youth Talent Cultivation Project

#### What I want to say

I am grateful to Advantech for the Successor of Taiwan Peking Opera—Youth Talent Cultivation Project in the past 2 years. It has enabled me to keep learning without worry. As a youth actor of Guo Guang, I am fortunate to have the opportunity to continue to receive coaching from teachers after graduation and entering the job market. I was even more fortunate that Guo Guang invited Ms. Yang Yen-Yi, a famous Jing role of the Chiu School, from Toronto to coach me. Ms. Yang often says, "You cannot rush on the road of learning. To walk on the right path, you cannot shun difficulties. You should keep practicing to overcome them." Because Ms. Yang lives abroad and we had a time difference, I privately sent videos of me in training or in performance to her for guidance. Ms. Yang always selflessly gave me detailed guidance on the recordings. She also used the proverb "Having good reputations both in art and in virtue" to remind me of the way to get along with people. The current me must keep working hard and learning to demonstrate my most direct gratitude for the support from Guo Guang, art corporates, and art friends.

<b>Name</b>	Li Chia-Te
<b>Affiliation/Job title</b>	National Center for Traditional Arts Guo Guang Opera Company / Youth member Wusheng role
<b>Participated special project</b>	Successor of Taiwan Peking Opera—Youth Talent Cultivation Project

#### What I want to say

I was honored to receive the Best Individual Performance for the New Talent Award at the 2019 Golden Melody Awards for Traditional Arts and Music. I am grateful for the coaching from the Guo Guang Opera Company and my teachers. I was twice selected for the Hua Ching Miao Chien Cultivation project, cooperated between Advantech and National Taiwan College of Performance Arts, going to Tianjin to study "Centipede Ridge" with Mr. Yen Pang-Chien and to Beijing to study "Fighting at Four City Gates" with Mr. Wang Hao-Chiang. Later, I joined the Guo Guang Opera Company, and the Successor of Taiwan Peking Opera—Youth Talent Cultivation Project ensured ongoing support from Advantech. Guo Guang arranged for me to study the opera "Sun Wukong" with Mr. Chu Lu-Hao in Taiwan. At the end of 2019, Guo Guan arranged for my visit to Shanghai to study "Changban Slope" with Mr. Sung Chieh of the Ju School. I realized I still have room for improvement. I would like to thank Advantech for its support and cultivation projects, which have enabled me to focus on learning opera. I am truly grateful. I hope to continue to receive your support on the path of arts.





## List of results of the Advantech Foundation in 2019

Focus	Name of special project	Results in 2019	Goals for 2020
Programming talent cultivation	AIoT Developer InnoWorks	<ul style="list-style-type: none"> <li>Investment amount: <b>NT\$9,589,692</b></li> <li>Six participating countries: Taiwan, South Korea, Vietnam, China, Poland, and Russia</li> </ul>	<ul style="list-style-type: none"> <li>Investment amount: <b>NT\$15,971,000</b></li> <li>Expected new cooperation countries: Japan, Malaysia, United States, the Netherlands, and Italy</li> </ul>
Innovative talent cultivation	Elite100 Internship	<ul style="list-style-type: none"> <li>Investment amount: <b>NT\$3,941,306</b></li> <li>Number of participants: <b>43</b></li> </ul>	<ul style="list-style-type: none"> <li>Investment amount: <b>NT\$1,070,000</b></li> <li>Number of participants: <b>20</b></li> </ul>
Industry talent cultivation	National Chiao Tung University IoT & Intelligent Systems Research Center	<ul style="list-style-type: none"> <li>Investment amount: <b>NT\$10,516,810</b> (NT\$3.8 million was funded by the Lita Tree Public Welfare Platform)</li> <li>Cooperated in four research special projects</li> <li>Sponsored six IoT industry-academia elite PhDs.</li> <li>Held one joint results presentation</li> </ul>	<ul style="list-style-type: none"> <li>Investment amount: <b>NT\$10 million</b></li> <li>Cooperate in six research special projects</li> <li>Sponsor eight IoT industry-academia elite PhDs and four industry-academia master's students.</li> <li>Hold one joint results presentation</li> </ul>
Taiwan case teacher talent cultivation	EACC Case Study	<ul style="list-style-type: none"> <li>Investment amount: <b>NT\$2,762,770</b></li> <li>Sponsored <b>23</b> professors</li> </ul>	<ul style="list-style-type: none"> <li>Investment amount: <b>NT\$1,020,000</b></li> <li>In 2019, we sponsored 23 professors to write 16 short case studies, seven feature articles, and four long case studies. A total of six short case studies and six featured articles were published in the traditional Chinese version of <i>Harvard Business Review</i>.</li> </ul>
Incubate IoT industry application entrepreneurs and talents	IoT Accelerator	<ul style="list-style-type: none"> <li>Held three <b>Accelerator Days</b></li> <li>14 Startup companies participated</li> <li>Incubated four startup teams</li> <li>Assisted one startup team to obtain NT\$1 million in external investment (Clouded Leopard Incubation)</li> </ul>	<ul style="list-style-type: none"> <li>Hold <b>two Demo Days</b></li> <li>Use the Advantech IoT Ecosystem to engender three or more startup teams and industry application talents</li> </ul>

Focus	Name of special project	Results in 2019	Goals for 2020
Public welfare and education concerns	Lita Tree Public Welfare Platform	<ul style="list-style-type: none"> <li>Invested nearly NT\$10 million</li> <li>Sponsored <b>11</b> teams</li> <li>(The actual impact benefit was not assessed)</li> </ul>	<ul style="list-style-type: none"> <li>Sponsor at least <b>11</b> teams</li> <li>(The goal of 2020 is to be able to assess the social impact of special projects)</li> </ul>
	Scholarship and Grands for Students in Remote Areas in Hsinchu and Miaoli	<ul style="list-style-type: none"> <li>Invested <b>NT\$3 million</b></li> <li>Benefitted <b>36</b> schools, <b>1498</b> people</li> </ul>	<ul style="list-style-type: none"> <li>Continue to invest <b>NT\$3 million</b></li> </ul>
	Junyi Academy Miaoli Promotion Project (2016–2019)	<ul style="list-style-type: none"> <li>Invested <b>NT\$4 million</b> in 3 years.</li> <li>The number of monthly active users increased nearly <b>fivefold</b>.</li> <li>Heavy user teachers increased <b>40%</b> (from the academic years of 2017 to 2018)</li> </ul>	<ul style="list-style-type: none"> <li>Cooperate in the New Taipei City Technological Learning Support Teaching Center Project</li> <li>Estimated to complete 30 workshops</li> <li>Cultivate 20 potential core teachers</li> <li>160 New Taipei City LV1 teachers</li> </ul>
	ACT 100 Active and Creative Teaching	<ul style="list-style-type: none"> <li>Invested <b>NT\$1.4 million</b></li> <li>Served 148 classes in 15 schools and one education and nursing institute.</li> <li>506 volunteers participated, benefitting 3708 people.</li> </ul>	<ul style="list-style-type: none"> <li>Invest <b>NT\$2 million</b></li> <li>Involve 665 volunteers and 520 parents</li> <li>Benefit 2420 students</li> </ul>
Social enterprise innovation and incubation	iLab Incubation Project	<ul style="list-style-type: none"> <li>Sponsored <b>NT\$2 million</b></li> <li>Four Advantech social enterprise lectures</li> <li>Supported 45 teams</li> <li>Conducted 45 customized consultations</li> <li>Total service hours were 50 hours</li> <li>Held 15 classes and activities</li> <li>Reached out to over 350 people</li> <li>Invested 740 hours in incubation</li> </ul> <p>(A total of 54 and 41 people applied for the first and second batch of incubator, respectively, and 25 and 20 were accepted, respectively. A total of 15 people applied for the first batch of accelerator, and three were accepted.)</p>	<ul style="list-style-type: none"> <li>Sponsor <b>NT\$1 million</b>.</li> <li>Accept 25 groups for the third and fourth batches of incubators each.</li> <li>Accept three groups for the second and third batches of accelerators each.</li> <li>Conduct customized consultation 60 times.</li> <li>Hold 25 classes and activities</li> <li>Invest 800 hours in incubation</li> </ul>
	Tic100 Social Entrepreneurship Competition	<ul style="list-style-type: none"> <li>Sponsored <b>NT\$2 million</b></li> <li>A total of 110 teams signed up, and six were awarded.</li> <li>Held one incubation course/workshop, and <b>365</b> people participated</li> </ul>	<ul style="list-style-type: none"> <li>Sponsored <b>NT\$1 million</b></li> <li>A total of 110 teams signed up, and six were awarded.</li> <li>Held two incubation courses or workshops</li> <li>Held two enterprise-matching events</li> <li><b>425</b> people participated</li> </ul>
Art and humanity development	Inheriting and Expanding Traditional Arts - National Taiwan College of Performance Arts Talents Cultivation Project - Guo Guang Opera Company "Successor of Taiwan Peking Opera—Youth Talent Cultivation Project"	<ul style="list-style-type: none"> <li>Invested over <b>NT\$2 million</b></li> <li>Received the 2019 Arts and Culture Talent Cultivation Award under the Arts and Business Awards of the Ministry of Culture</li> </ul>	
	Arts and Culture Salon and other arts and culture events	<ul style="list-style-type: none"> <li>Invested over <b>NT\$4 million</b></li> <li>Received the Golden Award, a standing award, under the Arts and Business Awards of the Ministry of Culture in 2019</li> <li>Over <b>1600</b> employees participated</li> </ul>	<ul style="list-style-type: none"> <li>Over <b>1800</b> employees participated</li> </ul>
	Public Service Art Gallery	<ul style="list-style-type: none"> <li>Invested <b>NT\$250,000</b></li> <li>Invited six exhibitions</li> </ul>	<ul style="list-style-type: none"> <li>At least hold <b>six</b> exhibitions each year</li> </ul>





## GRI Standards (2016 version) Table

General guidelines		Chapter	Page number
General disclosure			
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102-45	All entities included in the consolidated financial statements	Report boundary and scope 2.1 Corporate introduction	1 14
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102-47	List of major topics	1.2 Stakeholders and sustainability topic management	7
102-48	Reorganize information	No change	
102-49	Change in report	No change	
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102-52	Report cycle	Table of content	3
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	103-3	Assessment of management policies	5.1 Harmonious workplace	53
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## ASSURANCE STATEMENT

### **SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE ADVANTECH CO., LTD.'s CORPORATE SOCIAL RESPONSIBILITY REPORT FOR 2019**

#### **NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION**

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by Advantech CO., LTD. (hereinafter referred to as Advantech) to conduct an independent assurance of the Corporate Social Responsibility Report for 2019 (hereinafter referred to as CSR Report). The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the sampled text, and data in accompanying tables, contained in the report presented during on-site verification (2020.03.23~2020.04.24). SGS reserves the right to update the assurance statement from time to time depending on the level of report content discrepancy of the published version from the agreed standards requirements.

The information in the Advantech's CSR Report of 2019 and its presentation are the responsibility of the management of Advantech. SGS has not been involved in the preparation of any of the material included in Advantech's CSR Report of 2019.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all Advantech's stakeholders.

The SGS protocols are based upon internationally recognized guidance, including the Principles contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) 101: Foundation 2016 for accuracy and reliability and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Providers.

This report has been assured using our protocols for:

- evaluation of content veracity of the sustainability performance information based on the materiality determination at a high level of scrutiny for Advantech and moderate level of scrutiny for applicable aspect boundaries outside of the organization covered by this report;
- AA1000 Assurance Standard (2008) Type 2 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2008); and
- evaluation of the report against the requirements of Global Reporting Initiative Sustainability Reporting Standards (100, 200, 300 and 400 series) claimed in the GRI content index as material and in accordance with.

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, CSR committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant. Financial data drawn directly from independently audited financial accounts and Task Force on Climate-Related Financial Disclosures have not been checked back to source as part of this assurance process.

#### **STATEMENT OF INDEPENDENCE AND COMPETENCE**

The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from Advantech, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.



The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, ISO 50001, SA8000, RBA, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

#### **VERIFICATION/ ASSURANCE OPINION**

On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within Advantech's CSR Report of 2019 verified is accurate, reliable and provides a fair and balanced representation of Advantech sustainability activities in 01/01/2019 to 12/31/2019.

The assurance team is of the opinion that the Report can be used by the Reporting Organisation's Stakeholders. We believe that the organisation has chosen an appropriate level of assurance for this stage in their reporting. In our opinion, the contents of the report meet the requirements of GRI Standards in accordance with Core Option and AA1000 Assurance Standard (2008) Type 2, High level assurance.

#### **AA1000 ACCOUNTABILITY PRINCIPLES (2008) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS**

##### **Inclusivity**

Advantech has demonstrated a good commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, CSR experts, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, Advantech may proactively consider having more direct two-ways involvement of stakeholders during future engagement.

##### **Materiality**

Advantech has established effective processes for determining issues that are material to the business. Formal review has identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

##### **Responsiveness**

The report includes coverage given to stakeholder engagement and channels for stakeholder feedback.

#### **GLOBAL REPORTING INITIATIVE REPORTING STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS**

The report, Advantech's CSR Report of 2019, is adequately in line with the GRI Standards in accordance with Core Option. The material topics and their boundaries within and outside of the organization are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. Disclosures of identified material topics and boundaries, and stakeholder engagement, GRI 102-40 to GRI 102-47, are correctly located in content index and report. For future reporting, it is recommended to have more descriptions of Advantech's involvement with the impacts for each material topic (103-1), and how efforts were given to mitigate the impacts. When reporting on goals and targets for each material topic, the expected results are suggested to be set, if applicable, with quantitative objectives (103-2). It is proposed to explain the mechanisms for evaluating the effectiveness of the management approach specifically in the future (GRI 103-3).

**Signed:**

For and on behalf of SGS Taiwan Ltd.



David Huang  
Senior Director  
Taipei, Taiwan  
22 May, 2020  
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