

2018 Advantech Co., Ltd.

Corporate Social Responsibility Report

Altruistic Management
Social Contribution
Advantech Beautiful Life



About Advantech's 2018 Corporate Social Responsibility Report

Editorial Principles

Advantech's 2018 Corporate Social Responsibility (CSR) report is aimed at transparently presenting the company's CSR-related practices, outcomes, managerial guidelines, and strategies for public and stakeholder review, as well as outlining and extending our environmental and social care activities. Published in 2019, Advantech's 2018 CSR report was edited according to the Global Reporting Initiative (GRI) Standards to ensure effective communication with our various stakeholders.

Report Boundary and Scope

The boundary of Advantech's CSR report is the performance of Advantech's branch offices in Taiwan (Neihu, Donghu, and Linkou), as well as its Kunshan office in China. The scope of information disclosed in this report encompasses Advantech's financial, environmental, and social performance. Depending on future circumstances, the company will successively disclose information of subsidiaries with production and operation control, and their CSR performance. Advantech's other branch companies are primarily involved in marketing and sales activities, and are therefore excluded from this CSR report.

Reporting Period

This CSR report presents performance data for the year 2018. Relevant information from previous periods, and any strategies, objectives, and plans to be implemented after this period, will also be discussed in this report.

Reporting Criteria

This CSR report has been compiled in accordance with the Core option of the GRI Standards guidelines for disclosing CSR-related strategies, concepts, measures, and performance. The financial values included in this report are expressed in TWD, and environmental protection, safety, and health management performance are measured using internationally recognized indicators. Any estimations or assumptions will be noted in the respective chapter. Compared with Advantech's CSR report for 2017, this report does not revise misleading data from previous reports.

Report Verification

To ensure the provision of reliable and transparent information, this report was independently verified by SGS Taiwan Ltd. and found to conform to the AA1000AS¹ Type 2 High level of assurance. The verification statement is provided in the Appendix section of this report.

¹ AA1000AS: AA1000 Assurance Standard for sustainable development and accountability developed by UK's Accountability is now used as the international standard for verifying CSR reports.

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Report Release Date (expected annual reports)

Current issue: November 2019
Previous issue: November 2018
Next issue: Scheduled for November 2020

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 Expectations and Sustainability Management

- 1.1 Organization of the CSR Committee
- 1.2 Stakeholder Identification

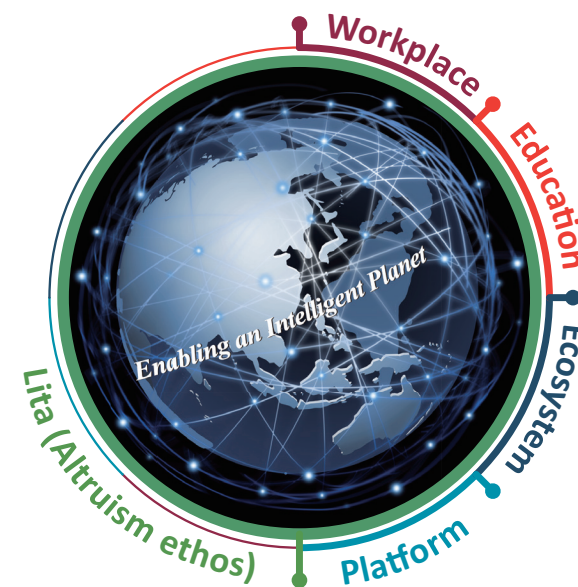


Promoting Corporate Sustainability Through Altruism and Shared Prosperity

Since its founding in 1983, Advantech Co., Ltd. has been guided by three main principles: the “Good to Great” philosophy, stakeholder balance as a foundation for management, and altruistic sustainable enterprise development. These are the principles with which Advantech establishes its internal corporate governance and operating guidelines, as well as its standards for communicating with external customers and social groups. Advantech also continues to leverage its advantages and innovations in Internet of Things (IoT) technology to overcome challenges faced by global society.

In recent years, Advantech has begun considering how to leverage its core competencies in order to realize the company’s corporate social responsibility. Doing so will maximize the effect and efficiency of Advantech’s overall social resource usage, while simultaneously benefiting both the company and industrial environment, driving the achievement of our sustainable development goals.

Therefore, in addition to defining its short, medium and long-term goals in terms of altruistic social enterprise values, Advantech has also cooperated with external consultants over the last year to establish an innovative work environment, cultivate IoT education, collaborate with co-creation partners, and construct open platforms. These four initiatives are integrated into two major Advantech focal areas: core competencies and the Advantech Foundation. Thus, we aim to encourage all stakeholders toward the realization of our sustainability goals — developing the value of the IoT platform, cultivating talent, connecting with global co-creation partners, and achieving an intelligent planet.



Workplace

Building an inclusive environment and platform for Advantechers to embrace a passionate life.

Education

Promote Industrial IoT education through academia and industry collaborations.

Ecosystem

Cooperate with co-creation partners to lead the Industrial IoT value chain.

Platform

Achieve an intelligent planet to realize a sustainable community and environment.

Short-Term Goals

In accordance with the “Good to Great” philosophy as expounded in the Hedgehog Concept, Advantech will focus on developing IoT technology and cultivating an industrial ecosystem. Moreover, the regional advisory board (RAB) based at the company headquarters will assist with expanding the Advantech brand, products, services, and corporate culture worldwide and further optimizing Advantech’s corporate governance.

Mid-Term Goals

Advantech will use its core competency as the primary driving force and base its management on stakeholder balance. Through social contributions, both tangible and intangible, by Advantech and the Foundation, we hope to establish a common platform for all of our stakeholders — including employees, customers, society, and shareholders — to build a beautiful life together.

Long-Term Goals

Our long-term goals are focused on realizing corporate sustainability through altruism. By building a solid foundation of comprehensive corporate governance as well as balance among stakeholders, Advantech aims to overcome the issues and challenges facing global society by leveraging its expertise in IoT technology and continuing to uphold the principle of altruism. The Advantech Foundation will also guide all Advantech employees in achieving a model corporate image.

CEO of Advantech

1.1 Organization of the CSR Committee

Lita Tree Spirit

We believe that comprehensive corporate governance and a balance of stakeholder interests provide a solid foundation that enables a company to establish deep roots. In Advantech’s (altruistic) Lita Tree corporate model, society is the land that nourishes the tree. For a tree to grow, sufficient sunshine, air, water, nutrients, and a suitable environment are required. Sound organizational development becomes the strong trunk that supports operations, and active talent cultivation enables the corporation to flourish and expand, much like a tree grows new branches full of green leaves. The Lita Tree then bears profitable fruit that can be shared with the entire corporation. Finally, the ripened fruit that drops to the ground also nourishes the earth. Similarly, a Lita Tree corporation should fulfil its social responsibility and contribute to improving society.

Regarding its commitment to altruism, Advantech considers the Lita Tree concept to be the core value guiding its corporate operations. We believe that as a social organism, a corporation must plant good seeds in the form of altruistic deeds to organically reap generous rewards through the continuous operation of this virtuous cycle. Figure 1.1 illustrates Advantech’s Lita Tree concept.

Advantech asserts that the keys to realizing a never-ending spirit of altruism are stakeholder participation and balancing stakeholder interests. Departing from the conventional business focus of maximizing shareholder profits, we believe that the growth of a corporation depends on shareholder support, active employee involvement, customer satisfaction and trust, as well as mutual/shared benefits.

Regarding the shareholders who have provided long-term support, Advantech is committed to maintaining honest and ethical business practices, delivering stable dividend returns, and achieving sustainable development. Regarding the employees who have devoted most of their lives to Advantech, we are committed to molding Advantech into an open development platform that provides them with a life of success and contentment. Regarding customer trust, Advantech reaffirms its drive to become an enabler of Intelligent Planet. Regarding the social prosperity, Advantech is committed to being an example of corporate excellence, actively promoting altruism, benefiting society with our industrial achievements, and honoring our roots by boosting local economic growth.

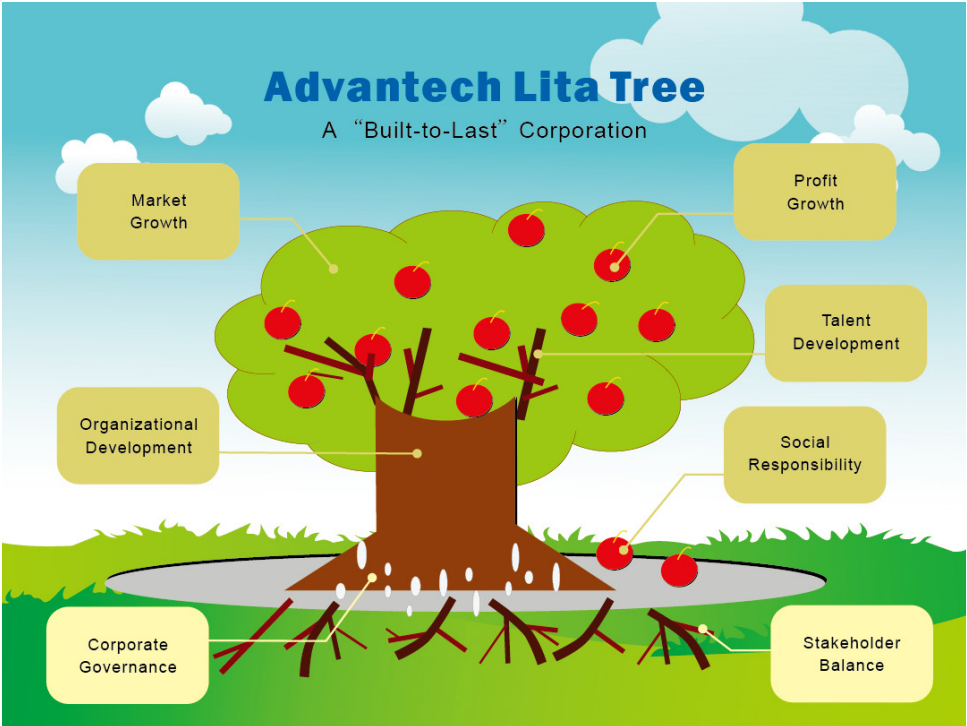


Figure 1.1 Schematic diagram illustrating the Advantech (altruistic) LiTa Tree concept

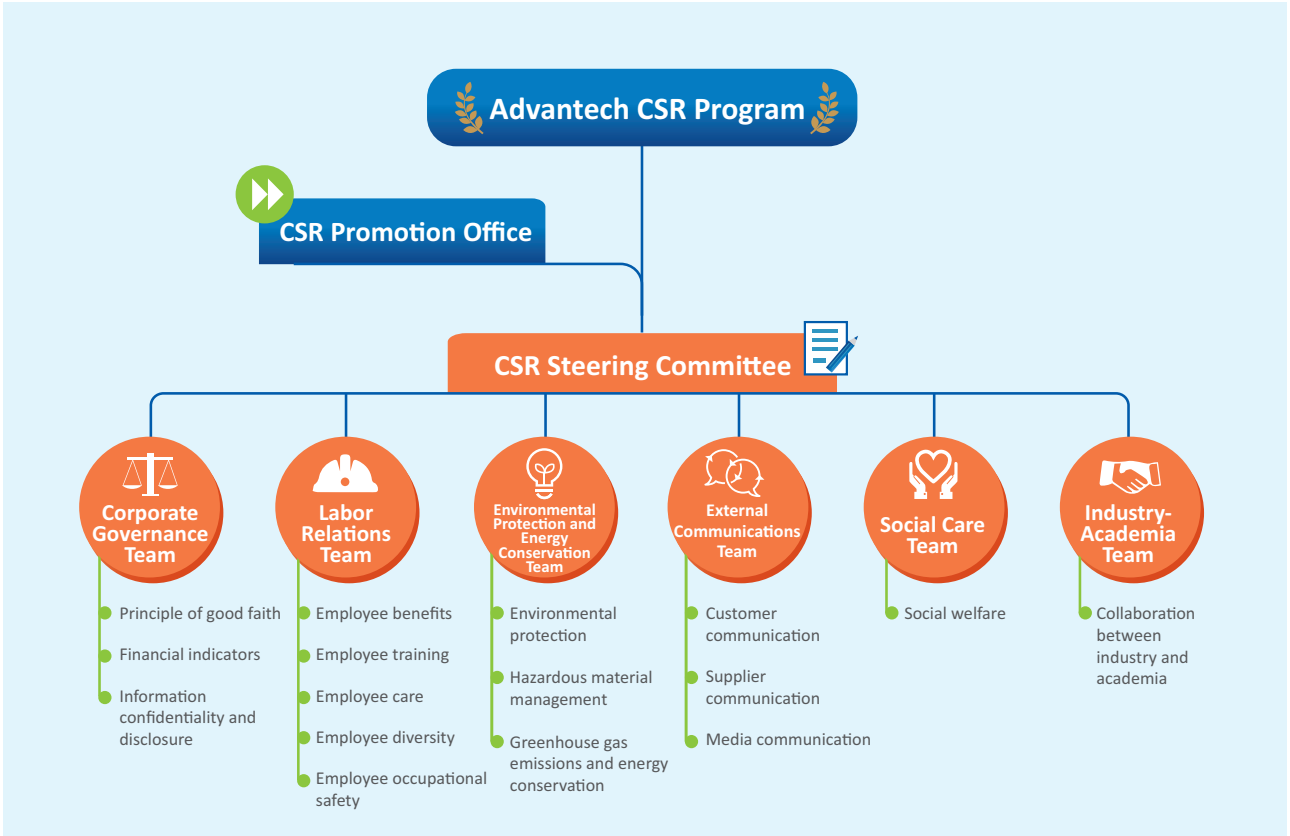


Figure 1.2 Advantech’s CSR program organizational framework

CSR Development and Implementation Strategy

Since 2013, Advantech has published a CSR report to present its corporate stance and initiatives regarding corporate social responsibility, as well as to disclose the company’s internal outcome verification methods for all relevant stakeholders.

Regarding the organizational framework of Advantech’s CSR program, the CSR Steering Committee is led by the CEO, and the CIO is assigned to convene regular meetings. The CIO will also report to the board of directors regarding the strategies for CSR promotion and approve the company’s annual sustainability reports. The CSR Steering Committee manages a main office (known as the CSR Promotion Office) and the following six subcommittees: The Corporate Governance Team, Labor Relations Team, Environmental Protection and Energy Conservation Team, External Communications Team, Social Care Team, and Industry-Academia Collaboration Team.

The CSR Steering Committee provides guidance regarding CSR management indicators in the economic,

environmental, and societal dimensions. A chart depicting the CSR program organizational framework is shown in Figure 1.2. By actively coordinating CSR activities, the committee members successively integrate the three indicators into the company’s daily operations.

The CSR Promotion Office uses the “Plan-Do-Check-Act” (PDCA) Cycle management approach to regularly identify stakeholders, obtain and examine stakeholders’ key concerns, and report these concerns during annual meetings to ensure all material aspects are covered. After approval from the CSR Steering Committee, the CSR Promotion Office executes action plans for CSR activities. The progress and outcome of these activities are then reported to the CSR Steering Committee and company executives. Additionally, the company executives participate in annual discussions regarding industry-academia collaboration and social welfare projects.

1.2 Stakeholder Identification





Advantech places considerable emphasis on identifying and communicating with stakeholders, which is conducted by the CSR Steering Committee. Following an evaluation of material topics, the promotion team mobilizes personnel from every department to identify stakeholders during operational interactions, select priority targets, and respond to their key concerns. According to the preliminary determinations, the following seven types of stakeholders were identified: customers/partners, employees, investors, media, suppliers, communities, and nonprofit organizations.

Engagement with stakeholders is a crucial aspect of Advantech’s sustainability management. Besides daily operations and engagement activities, we also use additional channels such as telephone

communications, meetings, satisfaction surveys, onsite interviews, and public association participations to interact with stakeholders. In response to the initiation of organizational sustainability management this year, Advantech established a CSR mailbox (csr@advantech.com.tw) for designated personnel to communicate and respond to various stakeholders.

The level of concern regarding material topics was based on the results of our annual questionnaire, which provided in-depth analyses of two factors: the level of stakeholder concern regarding specific topics, and the level of impact of these topics. Subsequently, key stakeholder concerns and their level of impact were identified, as shown in Table 1.1, for disclosure in relevant chapters of this CSR report.

Table 1.1 Advantech stakeholder key concerns and communication channels

Stakeholder	Key Concern	Communication Channel	
 Customers	<ul style="list-style-type: none">• Compliance• Procurement practices• Materials & energy	KA QBR review meeting	Satisfaction survey regarding various business operations and services
		Interactive seminars	MyAdvantech magazine published by Advantech
		International and domestic exhibitions	Customer CSR audits
		Assisting local business activities and engineers	CSR webpage on company website
 Employees	<ul style="list-style-type: none">• Labor/management relations• Training and education• Occupational health and safety	Employee welfare committee	Employee e-news
		Online and in-person employee conferences	Employee satisfaction surveys
		Employee portal and community website with an employee complaint mailbox	
		Global digital signage	CSR education and training
		Employee complaint mailbox	
 Investors	<ul style="list-style-type: none">• Economic performance• Ethical corporate management• Compliance	Investor service mailbox and hotline	Market observation post system website
		Investor meeting	Shareholder meeting
		Seminar and private meeting	Annual report
		Company website	Investor webpage
 Media	<ul style="list-style-type: none">• Economic performance• Ethical corporate management• Market presence	In-person or telephone interviews	Company-specific activities
		Media gatherings	Designated media contact person
		Revenue announcements	Media-exclusive investor conferences
		Press conferences and press releases	

Stakeholder	Key Concern	Communication Channel	
 Suppliers	<ul style="list-style-type: none">• Procurement practices• Economic performance• Supplier environmental protection assessment	Supplier CSR promotion and performance evaluations	Supplier evaluations
		Supplier environmental protection evaluations	Anti-corruption report mailbox
		Supplier conferences	
 Society	<ul style="list-style-type: none">• Labor/management relations• Employment• Effluents and waste	Designated unit responsible for communicating with the community	CSR mailbox on company website
		ABLE club	Disclosure of CSR report on company website
 Nonprofit organizations	<ul style="list-style-type: none">• Ethical corporate management• Compliance• Customer Health Safety	Collaborative activities	Disclosure of CSR report on company website
		Art galleries	

Investor Relations

Shareholders and investors are important stakeholders for Advantech. We strive to improve and increase our communication with shareholders and investors. Apart from hosting regular investor conferences and shareholder meetings, Advantech also participates in seminars organized by investment institutions to interact with investors and shareholders. Moreover, investors and analysts are welcome to contact us via telephone or email with questions, and we will do our best to provide answers and disclose information within acceptable limits. All feedback received is forwarded to management for reference. In addition to increasing interaction with shareholders and investors, all feedback helps management improve the breadth and depth of their strategic considerations. For example, in 2018, Advantech organized the IoT Co-Creation Summit in Suzhou, China. Advantech invited not only business partners and customers but also investors and shareholders to attend the event. Interacting with Advantech employees and business partners allowed the attendees to learn about industrial trends and understand Advantech’s long-term operating strategies in a more direct manner.

Most of the issues that concern investors and shareholders involve the company’s long-term development strategies and core competencies; whereas a sound financial structure and dividend distribution are long-term investors’ main areas of concern. With increasing awareness of environmental issues and climate change, more and more long-term investors are also starting to question whether Advantech products are sustainable and environmentally friendly, as well as whether Advantech provides a high-quality work environment. In addition to publishing CSR reports every year, Advantech post regular updates to its official website regarding relevant developments for investor and public reference.

In 2018, Advantech hosted two investor conferences and one shareholder meeting, which attracted more than 100 participants. Furthermore, Advantech participated in discussion forums organized by investment institutions. In terms of the total number of meetings, Advantech attended approximately 60 meetings organized by investment institutions and met with nearly 500 shareholders and investors from Taiwan and overseas.

Identified Material Aspects and Boundaries

For this report, relevant units analyzed the material aspects to identify Advantech’s stakeholders and collect their key concerns regarding sustainability. The collected information forms the basis of this information disclosure, informs our efforts to achieve more effective communication, and provides a reference for future CSR initiatives. The overall analysis process is illustrated in Figure 1.3.



Figure 1.3 Advantech’s CSR materiality analysis process



Sustainable Development Goals (SDGs)

In 2015, the United Nations planned a total of 17 SDGs and 169 corresponding targets. These SDGs and targets address issues experienced in countries worldwide and satisfy the need for sustainable development; they serve as a global vision for 2030, a vision for all nations to march together towards. The SDGs require not only intergovernmental cooperation, but also collaboration between industries, non-profit organizations, international organizations, and related stakeholders.

In response to global sustainable development goals, Advantech promises to assist its employees, ecosystem partners, and industrial and academic organizations by leveraging its industrial IoT technology

to build smart city and Industry 4.0 solutions, thereby creating new and sustainable value for society, the environment, and the planet.

Advantech uses its core IoT technology to enhance health service quality, energy efficiency, industrial automation, logistics/retail, carbon footprint reduction, and manufacturing efficiency around the world, in accordance with SDGs 3, 7, 9, 11, and 12. Elements of Advantech’s operational strategy, such as maintaining an innovative environment, IoT education, co-creation partnerships, and open platforms, contribute to global sustainability goals, in accordance with SDGs 8, 4, and 17 regarding productivity and employment, education and collaboration.

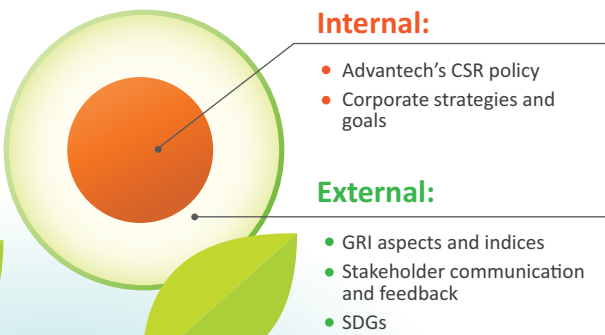


Figure 1.4 Advantech realizes SDGs by pursuing its mission of “Enabling an Intelligent Planet”

Sustainability Topic Sources

Advantech adhered to the reporting principles outlined in the GRI Standards Sustainability Reporting Guidelines when defining the material aspects. Because of the wide range of sustainability topics, only topics that are material to the organization, according to the sources shown in Table 1.2 were collected.

Table 1.2 Advantech sustainability topic sources



Priority of Material Topics

In accordance with the evaluation mechanism for material topics, Advantech dispatched 92 questionnaires and retrieved 91 valid responses. By using the AA1000 Accounting Principles to measure the relationship between Advantech and its stakeholders, we averaged the scores and relationship degree for each topic to determine the level of stakeholder concern. Regarding the economic, environmental, and social impacts of each topic with respect to Advantech, Advantech’s CSR Promotion Team further evaluated the degree of influence from the perspective of managerial administrators.

Based on the collected scores, a list of material topics pertaining to Advantech’s sustainable development was derived. The materiality threshold was determined according to the coverage of information disclosed for the first time. Topics with a score of at least 3.8 for stakeholder concern and 3.8 for degree of influence on Advantech were included in this CSR report as material aspects. The relevant results are shown in Figure 1.5.

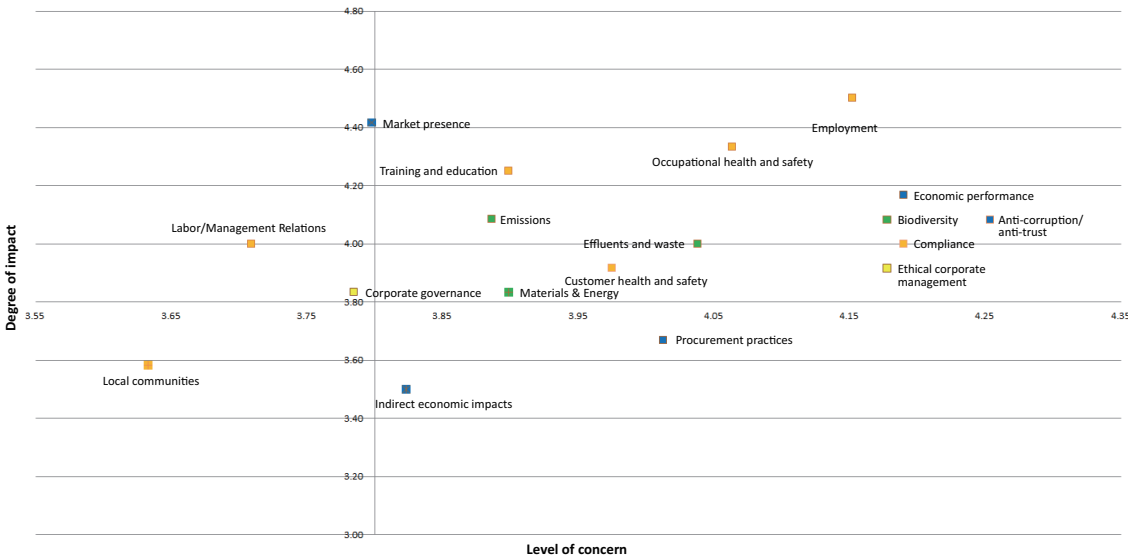


Figure 1.5 Advantech’s CSR aspect materiality analysis results

Cross analysis was conducted on the degree of corporate strategy and the key concerns of stakeholders, yielding a total of 15 topics. The actual practices implemented by Advantech in regards to each topic are discussed in subsequent chapters of this report.

Table 1.3 Material aspects presented in this CSR report

Environmental	Economic	Social
<ul style="list-style-type: none">• Effluents and waste• Materials• Energy• Emissions• Supplier environmental assessment	<ul style="list-style-type: none">• Market presence• Economic performance• Procurement practices	<ul style="list-style-type: none">• Labor/management relations• Employment• Customer health and safety• Training and education• Occupational health and safety• diversity and equal opportunity• Compliance

Identifying Aspect Boundaries

For every material topic identified, we evaluated its impact to determine whether the aspect influences the organization either internally or externally.

Table 1.4 Aspect boundaries

● : Fully disclosed in this report ◐ : Partially disclosed in this report

Aspects to Consider	Boundary	Internal		External
		Advantech Taiwan	Advantech Kunshan	Supplier
Environmental	Materials	●	●	
	Supplier environmental assessment	●	●	◐
	Emissions	●	●	
	Energy	●	●	
	Effluents and waste	●	●	
Economic	Market presence	●	●	
	Economic performance	●	●	
	Procurement practices	●	●	◐
Social	Training and education	●	●	
	Employment	●	●	
	Labor/management relations	●	●	
	Customer health and safety	●	●	
	Occupational health and safety	●	●	
	Diversity and Equal Opportunity	●	●	
	Compliance	●	●	



2 Corporate Management and Governance

- 2.1 Corporate Introduction
- 2.2 Corporate Governance
- 2.3 Risk Management



Establishing the Taiwan IoT Alliance Together with Partners to Promote the Construction of Smart Cities

The IT industry typically undergoes a major transformation every 15 years. According to recently observed trends, the wider industrial environment is currently experiencing a transition under the influence of several key industrial phenomena. Additionally, following years of preparation and subtle transformation, the era of IoT and cloud computing has officially arrived. Consequently, IT vendors must now develop cloud infrastructures and offer cloud- based smart services, as well as services related to the IoT and smart city industries, to satisfy the demands of each industry during this period. Although the IoT is an innovative concept, it does not involve entirely new industries. Conversely, the IoT involves the integration of three traditional industries, namely, the automation, telecommunication, and computing industries.

In this era of intelligent solutions, IoT vendors must recognize and meet the needs of every industry by building cloud infrastructures and offering cloud-based intelligent services, as well as services related to IoT and smart city applications. Advantech hopes to become one of the most influential global suppliers of IoT, automation, and embedded computing solutions. Accordingly, Advantech has invested significant resources and personnel into increasing its vertical market visibility. With the support of a cross-industry service platform, Advantech has developed IoT-based smart applications to provide diversified, customized value-added services in order to achieve its goal of “Enabling an Intelligent Planet” and improving the welfare of mankind.

2.1 Corporate Introduction

As a leading provider of intelligent systems, Advantech has demonstrated consistent innovation in the development and manufacturing of high-quality, high-performance computation platforms since its founding in 1983. With its headquarters located in Taipei, Taiwan, Advantech has established offices in a total of 26 countries throughout Europe, the USA, and Asia.² In 1999, the company’s shares were listed on the Taiwan Stock Exchange under the stock ID 2395. Advantech offers comprehensive hardware and software system integration, customer-centric design services, and global logistics support. A summary of Advantech’s products and sales performance is presented in Table 2.1.

² For a comprehensive list of countries, please refer to [http:// www.advantech. tw/contact](http://www.advantech.tw/contact)

Table 2.1 Advantech products’ sales performance

Major Products	Ratio	2018	
		Sales Amount (TWD, thousand)	%
Embedded boards and cases		21,354,713	44
Industrial computers		21,099,031	43
Other		6,272,774	13
Total		48,726,518	100

Advantech and its affiliates primarily provide production, assembly, sales, and after-sales services for industrial computers and related products. A portion of its affiliates participate in the research and development of technologies associated with the aforementioned products and business activities. A chart depicting Advantech’s organizational structure is provided as Figure 2.1.

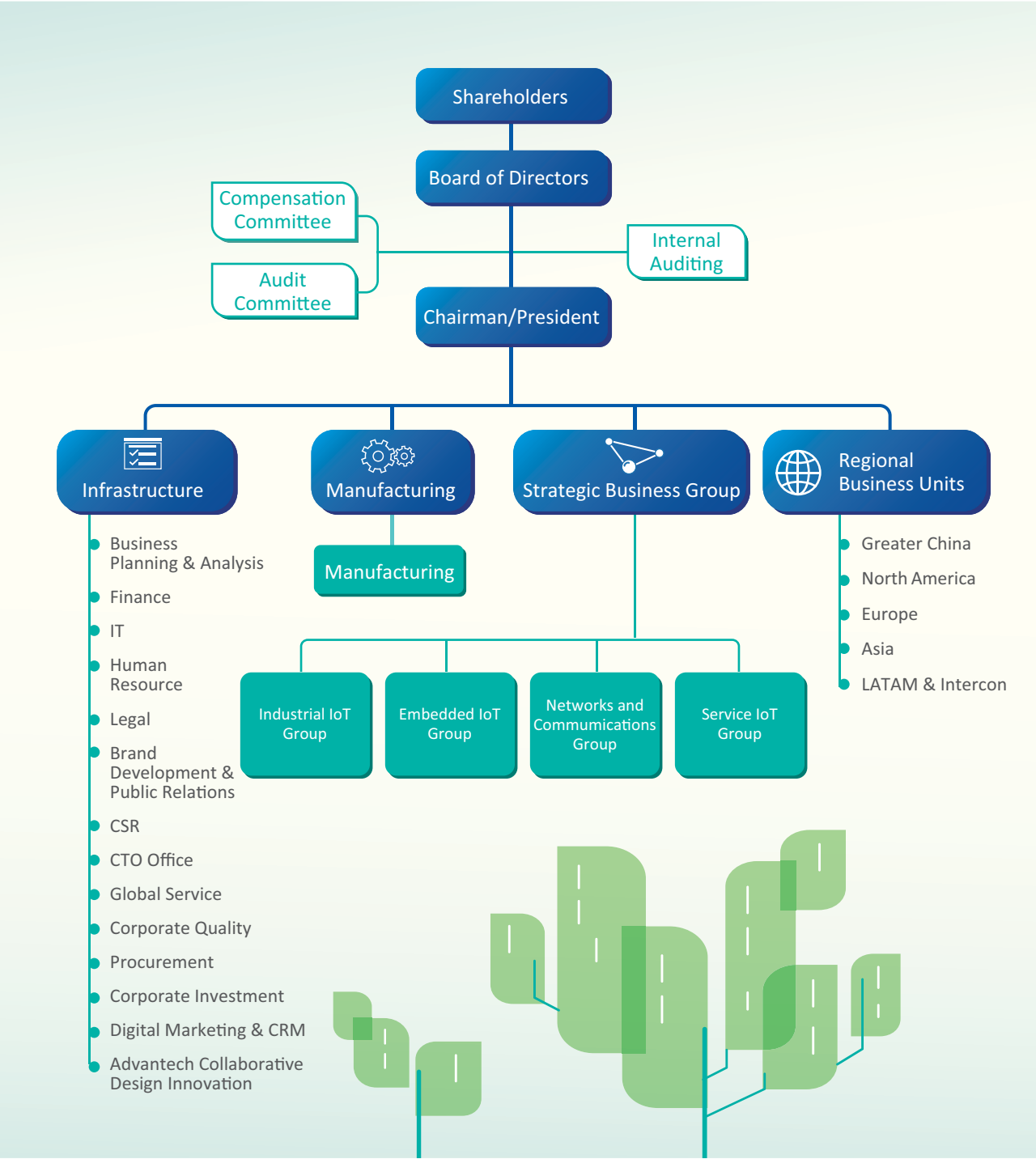


Figure 2.1 Advantech’s organizational structure

The labor conditions, environmental factors, and safety/health concerns associated with Advantech’s manufacturing center in Kunshan, China, must be considered because of the company’s industrial characteristics. Therefore, information regarding the performance of Advantech’s Kunshan Center is also disclosed in this CSR report. Additionally, the performance data of the Advantech Xindian site is combined with the statistics for the Advantech Donghu Manufacturing Center.

Future Goals

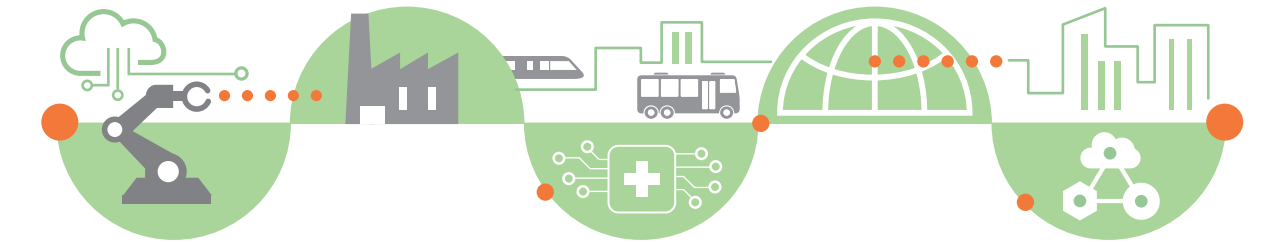
Urbanization, population aging, and overconsumption of resources in recent years have created problems for the environment as well as people's livelihood. Governments worldwide have invested in new technologies to ensure the sustainable development of the nation and its industries, hoping to use IoT technologies to solve the aforementioned problems; this trend has in turn stimulated the rigorous development of smart cities. Taiwan is no exception; IoT will be the focus of its economic and technological developments for the next 10 years. Moreover, the Taiwanese government has also created a blueprint for transforming the country into a digital nation and a smart island.

To welcome the era of IoT and cloud computing, in 2010 Advantech established "Enabling an Intelligent Planet" as its strategic vision. In addition to enhancing product applications, Advantech adjusted its management strategies with the intention of promoting integrated IoT solutions as its development focus. Since 2013, we have adopted "driving smart city innovations, creating an example for the IoT industry" as the company goal; calling on our partners in the IoT industry to establish an industrial alliance, with the goal of creating an IoT ecological chain for Taiwan that facilitates the transformation of Taiwanese industries.

Advantech's smart solutions encompass a variety of vertical applications including smart medical care, smart energy-conservation, smart traffic, smart retail, smart agricultural, and smart manufacturing applications, all of which have been introduced to a number of regions throughout the world including European, American, Asian, and Australian countries. For example, Advantech's intelligent transportation systems have helped create Taiwan's YouBike and ETC applications, as well as smart buses in Brazil, the Qinghai-Tibet railway system, and shuttle bus management systems for Germany's airport. Its digital healthcare solutions have also facilitated building a more efficient medical care environment for hospitals

worldwide, such as the hospital registration system for major hospitals in Taiwan, digital operating rooms for America's top 10 teaching hospitals, mobile drug administration system for hospitals in the Netherlands, and portable nursing stations for Australia's hospitals.

Advantech has also initiated various industrial partnerships to accelerate the formation of an eco-industry chain. Advantech’s focus is the promotion of smart city, IoT, and Industry 4.0 via either government or private organization initiatives. Advantech was the first to establish cross-Strait manufacturing facilities to serve as Industry 4.0 demonstration sites. IoT technologies and sensors are used for equipment networking and information collection. Data is then converted into key management insights for optimizing production processes and improving quality control. In the Industry 4.0 situation room, data visualization and the Advantech WISE-PaaS IoT cloud platform enable real-time management of intelligent factory operations. Additionally, Advantech also shares application stories of its successful Industry 4.0 experience. The WISE-PaaS IoT cloud platform and solution-ready packages (SRP) for smart city hardware and software integration help manufacturers accelerate the establishment of smart factories. Accordingly, leading enterprises in Taiwan, including China Steel, Everest Textile, footwear manufacturer Ching Luh, and PCB manufacturer Unimicron, have successfully completed their digital transformation. Moreover, to accelerate the formation of an IoT industry chain, Advantech has created an SRP for vertical applications based on its “co-creation model”. The company has also formed joint ventures with IoT domain-focused system integrators, including Yeong Chin Machinery and Nippon RAD, to drive the realization of the IoT and satisfy IoT market demands. In response to the Taiwanese government’s 5+2 Industrial Innovation Plan, and with the support of the Taiwan Industrial Development Bureau, Advantech collaborated with the Industrial Technology Research Institute, Institute for Information Industry, Digiwin Software,



Unimicron, Chin Poon Industrial, Unitech, and Symtek Automation Asia to co-create the smart manufacturing alliance known as PCB A-Team. This will facilitate Taiwan’s industrial upgrade to Industry 4.0.

In addition, Advantech has also joined many IoT-related government and non-government organizations in recent years, including the Cloud Computing and IoT Association in Taiwan, an IoT industry alliance under the Asia Silicon Valley Development Plan, and the Taiwan Telematics Industry Association. Advantech also formed a smart building alliance; became the first

founding member of the Taiwan Intelligent Aerotropolis Association; and formed cross-industry alliances with leading enterprises in various sectors to jointly promote IoT and smart city. Advantech offers advice on overall industrial development and smart city construction. Furthermore, the company contributes to diverse IoT platforms as well as technical standards associations to accelerate the universalization and development of IoT among various industries. The various associations and alliances of which Advantech is a member are listed in Table 2.2.

Table 2.2 Advantech’s affiliated organizations

Participating Unit	Regular Membership Subscription	Number of Seats Occupied	Strategic Meaning
Taipei Computer Association	Yes	—	—
Taiwan Smart City Solution Alliance (TSSA)	Yes	—	<ul style="list-style-type: none">• Founding member• Promoting real-site demos in Taiwan• Promoting the Smart City Expo• Playing a key role in urging Taiwanese businesses to adopt the concept of smart cities
Taiwan Electrical and Electronic Manufacturers' Association	Yes	Grade 1 member/ 7 seats	—
Taiwan Automation Intelligence and Robotics Association (TAIROA)	Yes	Grade 1 member/ 5 seats	—
Taiwan Smart City Development Association	Yes	Corporate members	Assisted with the establishment of the preparation committee
Taiwan Intelligent Aerotropolis Association	Yes	Grade 1 member/ 4 seats	—
National Information & Communications Initiative (NICI) Committee, Executive Yuan	—	1 seat	Assisted with the promotion of smart development and innovation among various industries in Taiwan
Taipei Neihu Technology Development Association	Yes	—	—
Taiwan Intelligent Building Association	Yes	Executive director	Promote intelligent building
Cloud Computing Association in Taiwan	Yes	Type B member/2 seats	Promote cloud applications, develop cloud technologies and provide Cloud DC total solutions.
Asia Silicon Valley Development Agency	-	Member	Promote innovation and R&D for devices and applications of the internet of things (IoT), upgrade Taiwan's startup and entrepreneurship ecosystem.
Edgecross Consortium	-	Founding member	Create new added value based on the edge computing layer beyond the borders of companies and industries.
e-F@ctory Alliance	-	Member	Promote factory automation and Industry 4.0 solutions
Taiwan Telematics Industry Association	-	Member	Expedite the development of the Taiwan telematics industry and strengthen its global competitiveness.

Participating Unit	Regular Membership Subscription	Number of Seats Occupied	Strategic Meaning
Embedded Linux & Android Alliance, ELA	-	Founding member	Drive standardized board adoption of an open and unified architecture for embedded Linux and Android OS for industrial embedded and IoT application.
ARM mbed	Yes	Member	Promote OS standardization of IoT embedded devices
Lora Alliance	Yes	Lora adapter member	Enable large scale deployment of Low Power Wide Area Networks (LPWAN) IoT through the development and promotion of the LoRaWAN open standard
Tainan Computer Association	Yes	Member	Engages various fields such as software, hardware, semiconductors and components, manufacture, sales, network communication service, etc., thereby generating over 80% of the total production value of Taiwan's Information Communication Technology (ICT).
Taichung Computer Association	Yes	Member	
Kaohsiung Computer Association	Yes	Member	
Taiwan Semiconductor Industry Association	Yes	Member	Promote cooperation and further development of Taiwan's semiconductor industry.

2.2 Corporate Governance

Advantech feels deeply that sustainable corporate development can only be achieved with comprehensive corporate governance. Consequently, Advantech not only selects industry and academia leaders to serve on its board of directors, responsible for developing strategies and management mechanisms, Advantech also established internal auditing system, reviews and appraises the efficiency of internal control systems and implementations to assist the board and management in achieving the company’s revenue, performance growth, and asset preservation goals, as well as to ensure the reliability of financial reports and regulatory compliance.

Besides publishing monthly revenue reports, Advantech also hosts investor conferences every six months and a shareholders’ meeting every year. Shareholders can submit written proposals every year during the shareholders’ meeting. Furthermore, updated financial information and investor conference presentations are available on the company website (available in Traditional Chinese, Simplified Chinese, and English) to provide a reference for investors.

Shareholders and investors can also submit queries and feedback via the investor mailbox. All relevant information can be found in the investor section of the company website or on the Market Observation Post System. We believe that through dedicated effort, we can enhance the transparency of Advantech’s business performance.

Advantech embraces the principles of ethical corporate management, as demonstrated by the results of its third corporate governance evaluation³ conducted in 2018. The evaluation results ranked Advantech in the top 5th percentile. The evaluation comprised a total of 864 listed companies. Since its first corporate governance evaluation in 2014, Advantech has shown significant improvement in various dimensions of corporate governance, including formulating annual improvement plans, reporting self-assessment results to its board of directors, and proposing alternative strategies for the items that failed self-assessments.

³ The corporate governance evaluation was conducted by the Securities and Futures Institute (<http://www.sfi.org.tw/>)

Board of Directors

To effectively formulate optimal strategies for business management, Advantech established a board of directors. In addition to the duties outlined in relevant shareholder meetings, the board is responsible for formulating policies and initiatives, and monitoring their implementation and outcomes. Advantech’s total capital

amounts to approximately 6.9 billion. A summary of the company’s recent financial information, including revenue, expenditure, and profit, is shown in Table 2.3.

In 2018, the tax deductions resulting from investments in equipment, technology, R&D, and talent cultivation totaled NT\$277 million.

Table 2.3 Advantech Taiwan’s financial performance (Unit: NT\$1,000)

	Item	2018	2017
Financial revenue/ expenditure	Business revenue	35,382,776	30,900,577
	Operating costs	24,955,020	21,702,119
	Gross profit	10,427,756	9,198,458
	Net income (loss) before tax	7,634,140	7,143,989
	Net profit (loss)	6,294,657	6,156,516
Profitability	Net profit per share	9.02	8.84
Employee salary and benefits	Total salary	2,627,283	2,708,831
	Total benefits	323,937	300,427
Payable to investors	Stockholder cash dividends	4,600,414	3,988,367
Payable to the government	Income tax	690,895	775,421

In addition to improving corporate governance schemes, Advantech emphasizes long-term corporate strategy development, investments in organization culture, and the cultivation of senior-level managerial talent. To accomplish these tasks, the board of directors invites each department manager to present a report at one of its regular meetings to enhance the board’s understanding of company operations. The directors question each manager and make strategic decisions based on the responses received. The projects are then handed over to the Chairman and President of the Board for follow up.

Since 2015, Advantech has convened two expanded Board of Directors meetings, every March and August annually (in coordination with the annual profit and half-year reports). Compared to regular

Board of Directors meetings, at which the main discussion topics are current matters (e.g., financial statement settlement and manager remuneration) as well as compliance issues, the primary matters for discussion in the expanded Board of Directors meetings are issues related to long-term strategy and corporate planning. These meetings are not subject to limitations regarding duration or individual proposals; rather, they involve comprehensive discussion of the company’s most important medium- and long-term issues, with appropriate contributions from external experts. These experts offer advice and seminars to assist the Board of Directors and operational teams in clarifying the contexts of strategies, such as corporate governance, transmission of operational experience, and international industrial trends.

The board is also responsible for the Audit and Compensation committees. The Audit Committee consists of supervisors who lead the company’s internal auditing in verifying that the nine main areas of daily operations, including finance, business, production, and expenses, all conform to corporate policies to prevent fraud. The Compensation Committee is responsible for establishing internal remuneration and reward systems, and creating feasible schemes for cultivating senior-level talent. The board employs various means to enhance its understanding of the company, expand its involvement in operations, and implement corporate governance.

1. Board members

The current board consists of 7 directors. To increase the efficacy of corporate governance, the company’s articles of association clearly state that 3 director

positions will be reserved for independent external personnel. With inclusion of impartial, external advisors, Advantech hopes to further increase transparency and fairness for crucial policy decisions.

Regarding the selection of independent external directors, existing board members will nominate suitable candidates. These candidates should be individuals who possess appropriate expertise in sustainable development and management, or have held the position of CEO or other similar seniority within the IT industry. We hope that they can contribute their extensive knowledge and experience to the formulation of long-term corporate development strategies.

2. Member information and qualifications

Details of the current board members are provided in Table 2.4.

Table 2.4 Supervisors and members of Advantech’s board of directors

Title	Name	Term	Experience/Education
CEO	KC Liu	3 years	Founder of Advantech Co.,Ltd. Previous HP Taiwan Sales Engineer B.S. in Communication Engineering, National Chiao Tung University
Director	Advantech Foundation, Representative: Chaney Ho	3 years	President of Le Wel Co.,Ltd. Tatung Institute of Technology, Taiwan
Director	AIDC Investment Corp. Representative : Donald Chang	3 years	President, 3M China Region Vice President, 3M Southeast Asia Region Bachelor Chemical Engineering, Chinese Culture University
Director	Ted Hsu	3 years	Chief Strategy Officer of ASUSTeK EMBA, National Chiao Tung University
Independent Director	Jeff Chen	3 years	VP of Stanley Black & Decker and President of Asia Region EMBA, Northwestern University
Independent Director	Joseph Yu	3 years	PhD of Business Administration, University of Michigan Professor, Department of Business Administration, National Chengchi University
Independent Director	Benson Liu	3 years	Chairman and President of Bristol-Myers Squibb (Taiwan) Ltd. Master, International Business Administration, University of Northrop, USA

Compensation Committee

The Remuneration Committee is responsible for optimizing corporate governance, enhancing the board’s remuneration management capacity, and evaluating and approving remuneration standards for directors and managers. For an explanation of the authority, composition, and election of the Remuneration Committee, refer to the Annual Report. In 2018, the Remuneration Committee convened 2 meetings with a 100% attendance rate.

Internal Audit System

The purpose of internal auditing is to monitor and evaluate the efficiency and implementation of our internal control system. Advantech requires all auditing personnel to maintain an independent and objective attitude when reviewing the nine main operation areas and relevant regulations to assist the board and management in achieving the company’s revenue, performance, and asset protection goals, and reasonably guarantee the reliability of financial reports and regulatory compliance.

Advantech has a designated email address (audit.direct@advantech.com.tw), inquiry form, and report mailbox, the details of which are publicized on the company website, employee portal, and at supplier meetings that serve as communication channels for internal and external stakeholders to submit ethical and legal enquires and report unethical behavior. The auditing unit is responsible for handling all enquires and

referring all reports to the chairman, who assigns an independent investigator to conduct an investigation. The reported information and identity of the informer are protected and kept strictly confidential.

Under the leadership of the board of directors and Audit Committee, Advantech’s internal audit process is aimed at thoroughly examining the company’s operations and identifying improvement opportunities. The auditing unit conducts audits according to the findings of previous operation audits, risk assessments, and key project initiatives relating to the company’s operating strategy. Thematic audits based on various real-work functions are also conducted by using a specific indicator to compare the performance of all global units, or conducting a thorough audit of operations for specific area or department. The ultimate aim is to establish solid operating strategies that build a strong foundation for long-term corporate development.

1. Organization and aims of the audit team

The audit office is an independent unit attached to the board of directors, reporting directly to the board and the Audit Committee. The internal auditing process involves the group partners of each company unit altruistically assisting in improving process efficiency, eliminating operational bottlenecks, importing all necessary resources, and sharing the best practices adopted at other units to further enhance the efficiency and optimization of the entire company.

2. Internal auditing operations

- Draft and implement annual auditing plans
- Review the implementation of self-inspections for all units and subsidiaries
- Supervise and promote the revision and conformance of internal control systems
- Identify work items that should be executed according to relevant laws and regulations
- Monitor items that are deficient and review improvement results
- Report to the board of directors and Compensation Committee

If an audit check identifies major deficiencies or items with insufficient improvement, the internal audit committee will invite unit managers to attend meetings with the board and audit committee to discuss improvement plans. All findings related to the company’s resource allocation and operating strategy should be reported to the chairman for determining an improvement strategy to ensure effective implementation.

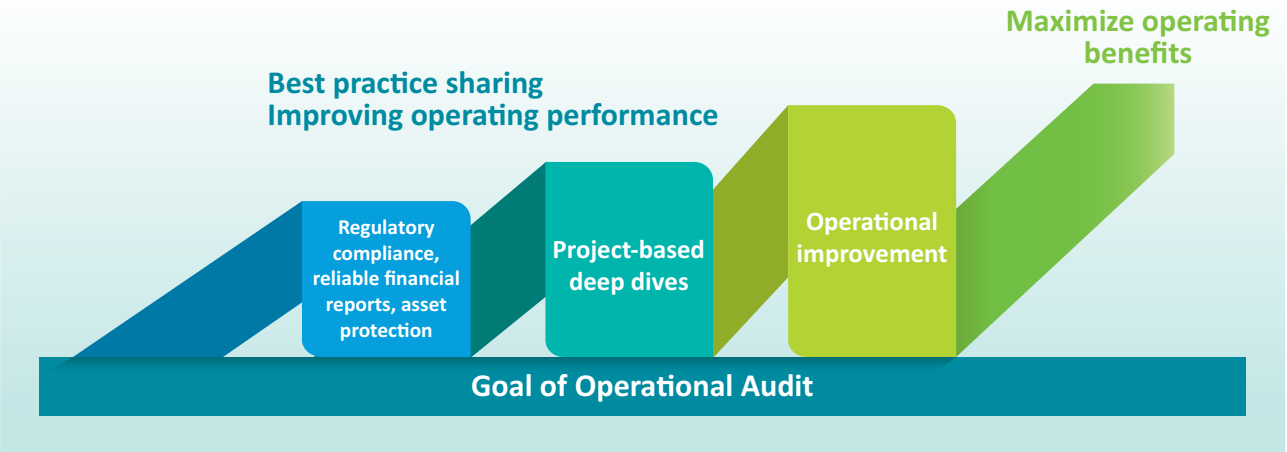


Figure 2.2 Goal of Operational Audit

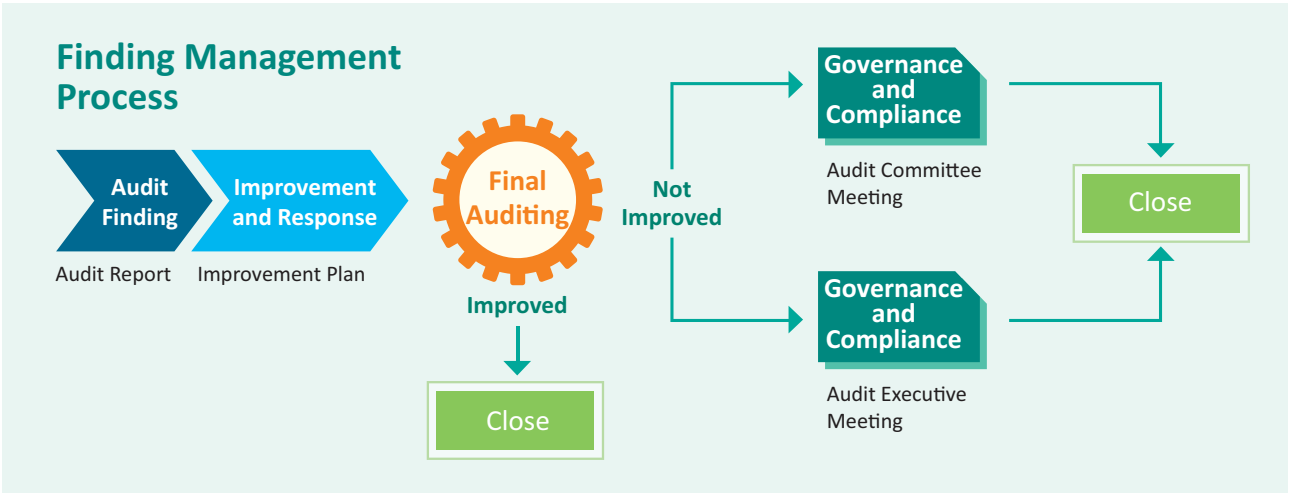


Figure 2.3 Advantech's internal audit procedures

The 2018 audit project focused on procurement and expenditures. Including an audit of head office operating processes, the audit project examined the management and control of procurements and expenditures. For the project, conducted in collaboration with external consultants from Deloitte & Touche, Advantech adopted a big data audit platform that uses computer-assisted audit technology to expand the scope of data analysis of the procurement and expenditure cycle in order to further identify abnormalities and potential risks. The audit project included sites in Taiwan, Kunshan, Beijing, and Shanghai, and targeted high-risk transactions. The big data audit platform was employed to improve the effectiveness of the internal audit process. Using minimal resources for data analysis, the audit platform served as a continuous monitoring platform. This allowed anomalies and potential risks to be detected promptly, thereby

facilitating additional follow-up analyses. This strategy also yielded more valuable insights regarding operations management and decision-making. The internal audit personnel conducted inspections, examined high-risk transactions, and verified documents. The design of each process control point was verified as compliant with the internal control system regulations. A number of minor areas for improvement were also addressed.

Sales project audits: In 2018, the audits focused on the regions of North America, Beijing, and Shanghai. After completing project analysis reports, the internal audit personnel conducted inspections of the operating procedures at overseas branches, including their sales cycle, warehouse management, and asset inventory processes. The design of each process control point was verified as compliant with the internal control system regulations. A number of minor areas for improvement were also addressed.

In addition to specific audit projects and the ongoing operational processes audits, the Auditing Office and each company unit will continue to establish internal self-evaluation and management systems to strengthen key control points, verify operational processes, implement continual improvements, and identify hidden risks.

As of the report publication date, neither Advantech nor any of its employees has been penalized for corrupting, monopolizing, or violating the Fair Trade Act. Furthermore, the company has established a Code of Conduct and provides training to new employees. All employees are also required to sign and comply with labor agreements. As of the report publication date, the company's employees have not garnered any complaints related to violating customer privacy, disclosing customer information, or voiding regulations regarding internal control systems. Additionally, Advantech was not involved in any legal violations reported last year. Because Advantech is a publicly listed company, any serious legal violations must be disclosed via major market observation post systems in order to notify investors.

2.3 Risk Management

Managing Internal Audits and Controlling Risks

Internal auditing serves to validate the company's risk management practices, to provide objective verifications to the board of directors, to ensure that the key management risks are properly managed, and to maintain the effective operation of internal control systems.

1. The annual auditing plan should be established based on risk assessments.

The following factors should be considered:

- Risk of financial fraud
- Other potential losses and risks
- Managerial or regulatory requirements
- Material changes in operation, project proposals, systems, and control
- The possibility of achieving operating efficiency

2. Relevant information that should be considered when evaluating internal auditing risks.

Information sources include:

- Opinions of the board of directors and supervisors
- Discussions with company executives
- Discussion with internal auditors
- Opinions of external auditors
- Requirements of laws and regulations
- Analysis of financial information and business data

Advantech established an Audit Committee in 2017, the company's corporate governance includes the auditing of corporate risk management, in addition to auditing existing financial reports, business operations, as well as inspecting overseas subsidiaries. We plan to use the resources of this Audit Committee, including internal supervisors and external partners, to build a comprehensive risk management system for Advantech. This system aims to include appropriate risk assessments, management, and control in order to perfect the company's governance framework that ensures Advantech's sustainable management and serves as a paradigm for other companies.

Material Procurement Strategies and Risk Management

Because material management is a key factor that facilitates a smooth operation for Advantech, the company manages its procurement activities by requiring its suppliers to sign a procurement agreement to regulate the delivery dates, quality, and warranty policies of its suppliers. In addition, Advantech requests its suppliers to issue immediate notices with respect to delivery delays that are caused by natural disasters. Regarding universal electronic components, Advantech has built a second source management system and a safe inventory system for its primary materials to prevent risks such as material shortage or quality issues. In terms of strategies, Advantech classifies its materials and appoint procurement employees to monitor market information, which is then examined by supervisors during weekly and monthly meetings. Centralized procurement strategies are adopted to establish a preferred vendor list (PVL), which facilitates efficient cooperative management through vendor convergence and centralization. Subsequently, high-quality and steady delivery are achieved to reduce relevant risks.

Financial Risk Management Strategies

- 1. Exchange rate risks:** The company's operating activities and net investments in foreign subsidiaries are conducted in foreign currencies. The company reduces risks by using forward exchange contracts to prevent foreign currency fluctuations, which would otherwise cause a reduction in foreign currency asset and future cash flow.
- 2. Interest rate risks:** Because the company holds bank deposits associated with floating risks, the company's executives regularly monitor interest rate risks. If necessary, the executives will consider taking measures to prevent significant interest rate risks and to accommodate changes in the interest rate.
- 3. Other pricing risks:** The company has investments in listed and OTC securities as well as beneficial certificates for open-end funds. The executives manage risks by holding different risk investment portfolios. In addition, the company is exposed to a relatively low degree of pricing risks since it is concentrated mostly on equity instruments and beneficial certificates for open-end funds in Taiwan.
- 4. Credit risk:** To reduce the financial loss that results when counterparties delay the fulfillment of their contractual obligations, the company has appointed a team to take on the responsibilities in determining the credit limit, approving the credit, and monitoring other items to ensure that overdue payments for account payables are recovered. Furthermore, the company will review the recoverable amounts of account receivables individually on the balance sheet date in order to ensure that the recovered payables are recognized as impairment loss.
- 5. Liquidity risks:** The company manages and maintains sufficient cash and equivalent cash to pay for operation expenditures and mitigate the impacts of cash flow fluctuation. Management executives monitor the usage of bank financing limit and ensure compliance with loan contract agreements. Management of liquidity risks is the responsibility of the board of directors. The company has established a suitable liquidity risk management framework to meet the needs for collecting short, mid, and long-term funds and to fulfill the demand for liquidity management.

IT Risk Management Strategies

- 1. Plant stability**
 - Uninterruptible power supply systems are used to provide a steady supply of electrical power. Each server uses a double loop. When power outage occurs, diesel oil generators can provide up to 3 days of power for the plant.
 - The plant has two air conditioners operating in turns, and a heat channel is established to provide a stable supply of uninterrupted air conditioning.
 - Smoke detectors connected to the HFC-23 Tomahawk fire extinguisher equipment are installed to facilitate fire prevention.
 - The plant's electrical power, temperature and humidity, and smoke conditions are monitored on a single platform. Once abnormalities occur, the central control room (B1) will activate the alarm and light indicators, security guards on duty will report the abnormality at the first instance, and IT personnel on duty will also receive SMS notifications on their mobile phones.
- 2. Server stability**
 - Server hard disks are protected by Raid 5 or Raid 1 systems, and core servers typically adopt multiple failure and load balancing mechanisms.
 - Server data are backed up on a daily basis. The backup system also sends backup success or failure messages to the administrator every day.
 - Enterprise resource planning (SAP) software has a backup server setup at the US branch company. A dedicated line is used to copy SAP data. When the SAP host server at the headquarters cannot restore the server immediately, the backup server in US will be activated to continue providing services.
 - Backup servers are also installed at Advantech's Linkou Campus to provide key IT applications such as customer relationship management (CRM)/product lifecycle management (PLM).
- 3. Network security**
 - The company's Internet and Intranet adopt a multi-circuit mechanism to prevent impacts caused by a disconnection.
 - A monitoring platform is installed to monitor the network's traffic volume and connection status to facilitate instant troubleshooting when situations occur.

- A firewall is built to protect external connections, and analysis based on abnormal records observed by the firewall is performed to reinforce protection.
- Anti-virus software is installed on employee computers. When a virus is detected, the anti-virus central control platform will notify IT personnel via email to eliminate the virus on the computer.
- Since February 2018, network connectivity inspections have been included in the audits. All computers must be connected to a local area network and installed with antivirus software in order to access the internet.
- From March 2019 onwards, in order to revoke departed employees' access privileges and strengthen system security, specific password length and complexity requirements will be implemented. Annual password changes will become compulsory,

and the administrator of each system will receive immediate instruction to delete the accounts of departed employees.

Climate Change Risk Management

The rise of awareness on global warming and climate change issues has necessitated businesses to manage risks associated with climate changes in order to ensure sustainable development. Advantech has participated in the Carbon Disclosure Project (CDP) since 2009, which requires the company to publish its greenhouse gas inventory data regularly on the CDP website for customers and stakeholders. In 2018, Advantech referenced TCFD (Task Force on Climate-related Financial Disclosures) and received B Level from CDP, same level with our benchmark. Advantech identified potential risks and opportunities as shown in Table 2.5.

Table 2.5 Assessment of Advantech's exposure to climate change risks

Risk Items	Risks or Impacts	Opportunities
Legal risks	Government units are exploring the possibilities of introducing a carbon tax or energy tax, which would increase the cost of business operations and raise the price of raw materials.	1. Including supplier management guidelines in CSR practices 2. Introducing green buildings and energy conservation programs in Advantech's Linkou Intelligent Campus
	Regulatory requirements on a product's energy efficiency are likely to increase verification costs that are required during product development.	1. Employing energy-efficient designs and products must comply with energy star regulations 2. Formulating green product design criteria and obtaining green product labeling certification
Tangible risks	Extreme climates increase the likelihood of drought, powerful typhoons, and higher power consumption, which exert a direct influence on production and operation.	1. Formulating emergency evacuation plans and drills 2. Proposing energy conservation solutions by Advantech's smart building team

Advantech considers corporate risk management as the responsibility of every member in the company. Department directors fully promote risk management policies and conduct process trainings, as well as manage those potential risks within their scope of responsibilities. All employees are requested to understand the company's risk management policies and incorporate risk management in their daily work,

as well as report all possible risk factors in a timely manner. We expect to adopt a top-down education and management approach to internalize risk management as an essential part of the organizational culture, thus minimizing the possibility of risks. Other response measures, except for those described above, are presented in Table 2.6.

Table 2.6 Advantech's risk response strategies for ensuring business continuity

	Emergency Event	Preventive Measures	Corrective Measures	Customer Correspondence	Factory Correspondence	Internal Monitoring
1	Main equipment failure/interruption	1. Preventive maintenance and daily inspection of equipment 2. Prepare backup of important parts and accessories 3. Establish a safety inventory for fixed shipping products	1. OEM by industry competitors 2. Make flexible adjustments to labor force allocation and work hour extension for using equipment at bottleneck stations 3. Establish maintenance and repair resources	Sales	1. Manufacturing unit 2. Production material managers at each plant	Manufacturing unit
2	Raw material shortage	1. Establish long-term supply contract 2. Prepare backup of important materials 3. Purchase materials in advance before they are out of stock	1. Order from affiliated businesses 2. Request that vendors deliver products immediately	N/A	Production material managers at each plant	1. Production material managers at each plant 2. Warehouse supervisors at each plant
	Water outage	Store water in a reservoir as backup	1. Purchase water 2. Adjust work hours	N/A	Plant Affairs Division	Plant Affairs Division
	Power outage	3. Establish a safety inventory for fixed shipping products 2. Establish an uninterruptible power supply system	1. OEM by other divisions within the plant 2. OEM by industry competitors	Sales	Plant Affairs Division	Manufacturing unit
3	Labor shortage	3. Establish a safety inventory for fixed shipping products 2. Conduct quarterly human resource evaluations and devise recruitment goals	1. Overtime planning 2. Seek support from relevant department personnel 3. Process outsourcing services	N/A	1. Manufacturing unit 2. Production material managers at each plant	1. Manufacturing unit 2. Production material managers at each plant
4	Product return (general customer complaint)	Quality assurance unit provides suggestions for improvement	1. Place an urgent order or arrange for restock 2. Customer feedback, urgent orders, rework, and restocking inventory 3. Strengthen employee training	Sales	1. Quality assurance unit 2. Production material managers at each plant	1. Quality assurance unit 2. Manufacturing unit
5	Customer complaint and product return (e.g., for exceeding the hazardous substance threshold)	Conduct regular internal spot checks for X-ray fluorescence	1. Isolate non-conforming materials/ingredients 2. Place an urgent order or arrange for restock	Sales/Quality assurance unit	Quality assurance unit	1. Quality assurance unit 2. Manufacturing unit 3. Procurement unit

3 Customer Relations and Supplier Management

3.1 Customer Services

3.2 Supplier Sustainability Management



Building a Green Supply Chain that Benefits all Partners

Advantech's core business philosophies are to create mutual benefits for suppliers and customers, and to ensure that company supply chains and production principles conform to ethical and environmental standards. In addition to regularly evaluating supplier product quality, on-schedule delivery rate, degree of cooperation, labor safety management, and CSR management, Advantech also communicates with outstanding suppliers to adjust its annual procurement distribution and thereby achieve mutually beneficial outcomes. As a manufacturer, Advantech must ensure that its products fulfill user needs and do not pose any health and safety risks. During the critical production and sales stages, Advantech considers the health and safety of its employees as well as sustainable product management. To maintain quality assurance, the company consistently monitors customer satisfaction to ensure the provision of satisfactory products and services.

Advantech's supply chain members can be classified into the following two categories: raw material/packaging suppliers, and security, cleaning, and logistics contractors. In 2018, the procurement expenditure for the first category of suppliers was NT\$22 billion, and that for the second category was NT\$3.49 million. The suppliers in the first category were prioritized in the report investigation and disclosure because of their greater significance in terms of sustainability and revenue.

Regarding the selection of raw materials and packaging suppliers, Advantech established its Nonhazardous Substance Management Operating Procedures for vendors to follow. All raw materials must conform to international environmental initiatives, laws, and regulations, including the Restriction of Hazardous Substances (RoHS) Directive, the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation, and the Substances of Very High Concern (SVHC) List. In addition to formulating its Nonhazardous Substance Management Operating Procedures to ensure the manufacture hazardous substance free (HSF) products, the company has also successfully managed supplier-related sustainability issues. Concerning the management of procurement processes, Advantech also conducts rigorous screening in order to select suppliers who adhere to corporate social responsibility concepts.

3.1 Customer Services

Advantech's service target is to provide services that exceed customer expectations in order to achieve the fundamental goal of fulfilling customer needs. This stance led to establishing the company's core value as "customer-oriented products and services", which involves planning products and service solutions from a customer perspective to understand customer needs.

Advantech collected customer opinions using the Key Account Quarterly Business Review (KA QBR) approach, during which a quality project manager (QPM) convened quarterly meetings to consult key account (KA) customers and devise solutions that satisfied their expectations regarding product quality, manufacturing quality, sales volume, technical

assistance, and after-sales service. The establishing of KAs involved Advantech business groups identifying the customers who accounted for a substantial proportion of their business revenue. In 2018, a total of 38 KA customers visited and audited Advantech. They were impressed by Advantech's vast array of data systems that facilitate visualized management, and the automated smart processes of the Phase 2 smart manufacturing center in Linkou. Some customers advised us to utilize AI and predictive quality analytics tools to achieve early prevention of quality issues. Accordingly, the quality assurance department has planned relevant projects.

Because Advantech respects and values its customers, besides providing comprehensive services, the company also implements practices aimed at the protection of customer privacy and intellectual property rights. To ensure that its products comply with international standards and customer requirements, and to reduce the potential impact of products on health and safety, Advantech regularly reviews environmental safety and health regulations and

incorporates fair trade and anti-corruption policies in its CSR principles as well as Employee Code of Conduct. All employees are required to strictly comply with these policies. To effectively respond to customer feedback, customer service personnel must adhere to the company’s customer service guidelines and respond to customers within 3 business days with a progress update.

3.2 Supplier Sustainability Management

Because Advantech’s core business philosophies are to create mutual benefits for suppliers and customers, and to ensure that company supply chains and production principles conform to ethical and environmental standards, besides regular supplier evaluations, Advantech also maintains consistent supplier communication and relationship management. For suppliers that have performed outstandingly, the company provides rewards, such as reduced invoice payment times, to ensure a mutually beneficial outcome. In 2010, the company established a green supply chain management system. With this system, suppliers must guarantee and verify that their products do not contain any of the hazardous substances prohibited by Advantech, and also provide the following information:

- Collection of toxicity data and MSDS /MCD for chemical substances
- Review results regarding our green supply chain management system

Advantech manages its suppliers by conducting on-site inspections of key suppliers according to the procurement procedures. An inspection checklist is used to confirm the suppliers' processes, quality, environmental safety and health, labor conditions, and CSR management. Through a supplier management platform, the company conducts quarterly evaluations to rate supplier quality, delivery, and their willingness to cooperate. Furthermore, response measures based on the evaluation results are implemented. More specifically, the procurement unit will seek new suppliers, and when new suppliers are found, the unit will terminate transactions with suppliers who scored less than 80 points until they have made improvements which have been verified.

Regarding the actual outcomes of supplier management, Advantech audited 79 existing suppliers according to the transaction amount with quality risks as the selection criteria. When supplier deficiencies are identified, Advantech will provide guidance to improve their quality and requests them to make improvements and submit proof within a specific time frame. A subsequent analysis of the deficiencies revealed that the deficiencies mostly involved quality and process control. Onsite inspections were performed to evaluate the suppliers' CSR performance and no major deficiencies were identified.

Advantech evaluates and chooses its suppliers by selecting suppliers who have produced products that are widely used in the industry, and have passed international standard certifications. For suppliers who do not have documents of proof, onsite auditing is required. In 2018, 17 onsite audits were conducted and 15 new suppliers were approved.

Regarding suppliers’ environmental management, Advantech has not only incorporated environment protection principles into its supplier management mechanisms, but in 2010 also adopted the EICC® Code of Conduct in an effort to encourage its suppliers to emphasize and promote the importance of CSR (for example, when encountering conflicting regulations). Currently, the company has integrated key CSR-related indicators, including RoHS (HSF) QC08000, ISO14000, OHSAS18000, and supplier localization, into its supplier evaluation and management criteria. Furthermore, Advantech requires that its suppliers uphold the protection of human rights and comply with relevant labor laws; these requirements are also included in the criteria for new suppliers.

To ensure that suppliers follow the principles of equality prescribed in the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy established by the International Labor Organization, Advantech implements relevant management measures on suppliers and contractors (including security providers) through its procurement and general affairs units. The company then gradually increases cooperation with the suppliers that satisfy its CSR-related requirements. An overview of the management process is shown in Table 3.1.



Table 3.1 Overview of CSR management relating to suppliers and contractors

Category	Management Principles	Implementation Percentage	Subsequent Management Focus
Of the 656 companies on the PVL, 656 who have signed a contract	Sign the CSR program and execute CSR practice reviews	100%	Specify CSR-related provisions in contract agreements
New suppliers for 2018	Evaluate suppliers according to the Supplier Audit Sheet	100%	Increase evaluation rates
	Evaluate suppliers according to the Environmental Safety and Health Declaration	100%	Maintain evaluation rates
Of the 656 companies on the PVL, 79 who were audited onsite	Review CSR practices according to the CSR and Environmental Safety and Health Declaration	12%	Increase onsite evaluation rates
Contractors Security companies	Review human rights policies according to the Contractor Declaration for Environmental Health and Safety and CSR	100% (Kunshan is not included)	Specify human rights-related provisions in contract agreements

Advantech prioritizes purchasing from local suppliers whose products conform to RoHS/HSF regulations, which saves energy and reduces the company’s carbon footprint. Furthermore, the company maintains long-term cooperative relationships with local suppliers to prevent energy waste during transportation, thereby reducing its GHG emissions. In 2018, Advantech’s procurement expenditure totaled NT\$22 billion. The company’s Taipei and Kunshan sites source

materials, primarily electronic, mechanical, and peripheral raw materials (product accessories), from a total of 1084 suppliers. Compared to that for 2017, the procurement expenditure for 2018 rose by 13%, and is largely attributable to increased material demands. The percentage of total annual purchases made from domestic suppliers for Advantech’s Taipei site was 93%, and that for the Kunshan site was 76%. The proportion of local purchases is summarized in Figure 3.1.

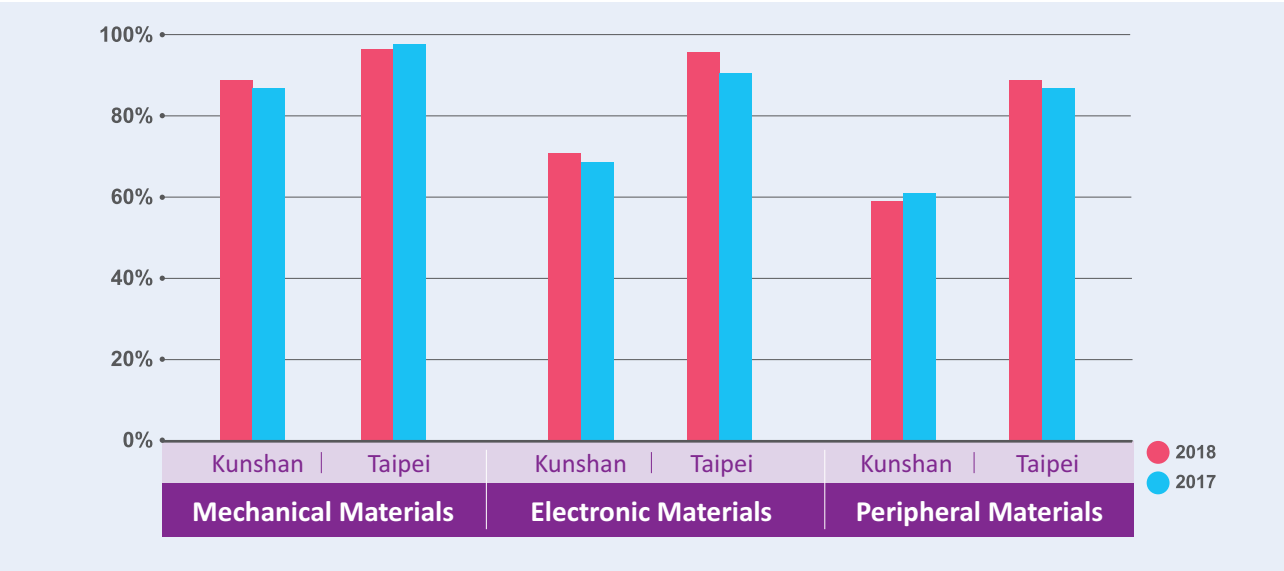


Figure 3.1 Local procurement statistics for Advantech’s Taiwan and Kunshan plants

4

Visions for a Green Environment

- 4.1 Green Product Management
- 4.2 Greenhouse Gas Management
- 4.3 Caring for Nature

Protecting the Environment by Participating in Smart Energy Management and Carbon Reduction

Advantech ascribes to the altruistic Lita tree concept, where the growth of a corporation is compared to that of a tree and society can be considered the soil that provides a foundation and nourishment for growth. Therefore, similar to how fruits that fall from a tree renourish the soil, we must reinvest the “fruits” of our labor back into society. Considering its responsibility to society and aim of creating a beautiful life, Advantech is committed to investing the utmost effort into improving the environment and ensuring labor safety. Accordingly, Advantech not only implemented the ISO 14001 Environmental Management System standards in 1996, OHSAS 18001 Occupational Safety and Health Management System standards in 2005, as well as practices that comply with government regulations for environmental protection, labor safety, and health, but also endeavors to reduce the environmental impact of its GHG management, product design/use, and waste disposal operations. Through these efforts, and the participation and commitment of employees, Advantech has established appropriate strategies that ensure environmental protection and sustainable corporate development.

According to the ISO 14001 Environmental Management standards, and based on the environmental aspects identified and verified by external units each year, Advantech reviews whether its operational activities have a significant impact in order to reduce or even prevent potential or actual negative impacts, and to ensure that major contamination leaks and accidents do not occur.

Advantech’s 10-year sustainable development goals are shown in Figure 4.1. Since then, Advantech has successfully established identification procedures and declarations that conform to relevant laws and regulations, formulated green supply chain management standards, set design criteria for green products, achieved green product certifications, conducted GHG inventory, and published CSR reports. In the future, the scope of corporate disclosure will be expanded from organization-level inventory to include investigations related to product carbon/ water footprints. Advantech also aims to identify additional opportunities for managing GHG and water resources within supply chains, develop low-carbon, water-saving products, and thoroughly implement sustainable corporate development.

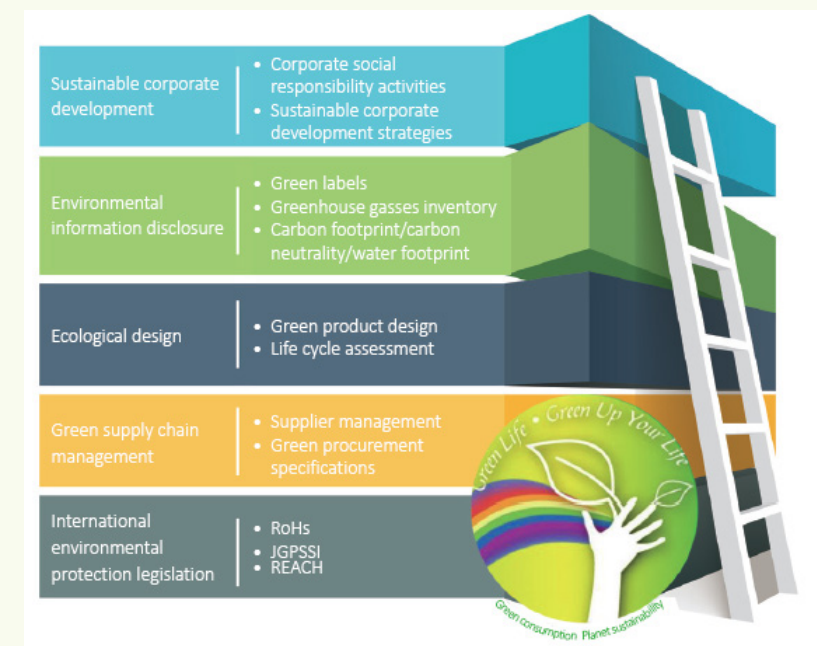


Figure 4.1 Advantech’s 10-year sustainable development goals

4.1 Green Product Management

Eco-Friendly Product Design

Advantech believes in protecting the environment by preventing pollution, using less energy and raw materials, reducing waste generation, and using clean production technologies, which involves modifying production processes to reduce the pollutants generated rather than using end-of-pipe solutions to resolve pollution. Regarding waste reduction, the company recycles packaging materials and minimizes the use of raw materials and energy when designing products and selecting technologies. Additionally, with the adoption of energy-saving designs, products can be recycled and reused. Advantech applies the ISO 14000 Environmental Management System standards regarding pollution prevention and life cycle assessment

to improve the company’s environmental protection performance and profitability.

The ENERGY STAR® label was established by the U.S. Environmental Protection Agency in 1992 and has been adopted in many countries worldwide including Canada, Japan, Taiwan, Australia, New Zealand, and the European Union. ENERGY STAR® serves as the international standard for energy efficient consumer goods (e.g., computers, printers, photocopy machines, monitors, and scanners). Computer equipment is required to conform to the specifications of not only ENERGY STAR® Computer Specifications 5.0, but also ENERGY STAR® EPS 2.0. From 2009 to 2018, Advantech has voluntarily achieved ENERGY STAR® certifications

Table 4.1 Advantech product lines with ENERGY STAR® certification

No.	Product Model	Product Type	Certification Date
1	APAX-5343E, APAX-5343, PWR-343	Power supply modules	08/26/2009
2	FPM-3121G-R3AE, FPM-8121H-R3AE, FPM-3121G-X0AE	Automation panel computers	05/20/2011
3	FPM-3151G-R3AE, FOM-3151G-X0AE, FPM-8151H-R3AE		04/18/2011
4	TPC-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 ABOX-120, PPC-1500 II, CM-5200, ZL-1510, ZL-1530, ZL-1511, ZL-1531, ZL-1210, ZL-1211, EP-5500, HP-8210, HP- 8510, DP-6500, AP-9900, AP-9230, AP-9530, POS-400 II, POS-400 II 12"		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	TPC-1551H		06/23/2017
15	AIM-37AT		12/26/2017
16	AIM-37AC		07/05/2018
17	AIM 10W		07/05/2018

No.	Product Model	Product Type	Certification Date
18	UNO-1172A, UNO-1172AE, UNO-1172AH	Embedded automation computers	09/02/2011
19	UNO-2173A, UNO-2171		09/08/2009
20	UNO-2174A		05/16/2011
21	UNO-2178A		05/16/2011
22	UNO-3072LA		07/05/2011
23	UNO-3074A		07/05/2011
24	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

for 24 product lines (Table 4.1). Moreover, all Advantech computer equipment and power supplies conform to the latest ENERGY STAR® regulations and requirements. This evidences Advantech’s contribution to the development of green products.

In recent years, climate change, environmentally hazardous substances in products, labor safety and health, as well as human rights have become key CSR issues. Advantech has incorporated these issues into its green supply chain management. (Refer to Chapter 3.2)

For example, regarding the management of environment-related substances, Advantech amended its internal management standards according to various environmental protection policies (e.g., RoHS 2.0), and in 2009 incorporated the IECQ HSPM QC080000 Hazardous Substances Process Management standards. A green supply chain information management platform was established for controlling risks. Additionally,

Advantech only uses raw materials that are 100% compliant with RoHS 2.0 specifications as well as the regulations listed in Table 4.2.

In addition to the aforementioned green design regulations, Advantech requires that all product design and development activities are assessed for safety to ensure compliance with CE/FCC/CCC safety requirements. Advantech follows international environmental protection laws and regulations regarding natural resource use, hazardous substance restrictions, and life cycle assessment (LCA) related to waste management. All procedures are 100% compliant with international specifications relevant to green product declarations. On the Advantech website (<http://www.advantech.tw/ags/>), the company’s products are marketed as green products based on the three dimensions of safety, energy conservation, and environmental protection, as shown in Figure 4.2.

Table 4.2 Raw material regulations observed by Advantech

1	China Regulation on the Pollution Control of Electronic Information Products (China RoHS)
2	The EU's REACH for SVHC
3	Regulations for Product Recycling
3.1	The EU's WEEE directives (for the disposal of electronics and electrical equipment)
3.2	International standards - ISO 11469 (marking of plastics)
4	Regulations for Battery Recycling
4.1	The EU's battery directive
4.2	China's regulation for the energy consumption of batteries
4.3	US/Canada battery regulations
4.4	Battery regulations in Japan
4.5	Battery regulations in Taiwan
5	South Korea's e-Standby Program and Minimum Efficiency Standards for Display Products
6	Regulations for Waste Packaging Materials
6.1	The EU's packaging material directive
6.2	China RoHS - SJ/T 11364-2006 (labeling of recycled packaging materials)
6.3	Taiwan's waste management regulations
6.4	Japanese regulations for recycling containers and packaging materials
6.5	South Korea's packaging material regulations
7	Other Regulations Related to Energy Conservation
7.1	EU 1275/2008/EC (standby/power off mode requirements)
7.2	Mexico's new energy law
7.3	EU278/2009/EC (energy performance requirements for external power supplies)
7.4	California Energy Commission (CEC)
7.5	South Korea's MEPS (minimum energy requirement)
7.6	Australia's MEPS (minimum energy requirement)



Figure 4.2 Example of environmental declarations provided on Advantech's website

Raw Materials Usage and Management

Because Advantech operates in the industrial computer industry, the procurement policies it implements stipulate the use of non-recyclable raw materials to produce reliable products. Raw materials that are used in production operations can be categorized into electronic, mechanical, and packaging materials. All Advantech products comply with international product recycling regulations and waste packaging material regulations. A summary of raw materials purchased in 2018 shows that most of the materials were electronic materials (86%), followed by mechanical (12%), and packaging materials (2%).

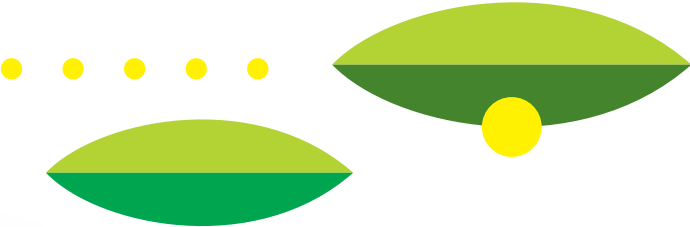


Table 4.3 Overview of Advantech's environmental protection investments

	Environmental Management Targets	Achievements
Energy saving and carbon reduction programs	In 2018, electricity usage per manufacturing unit declined by 5%.	Electricity usage per manufacturing unit declined by 7.43%
Waste reduction program	In 2018, industrial waste per manufacturing unit declined by 3%	Industrial waste per manufacturing unit declined by 33%

Environmental Protection Management

Advantech has initiated environmental protection management projects that emphasize energy conservation, carbon reduction, and waste reduction. Advantech's industrial waste per manufacturing unit declined since Advantech combined Xindian board factory into Linkou intelligent campus and used nitrogen to reduce waste while producing. The company's environmental protection achievements for 2018 are shown in Table 4.3.

Looking ahead, Advantech will integrate its sites in Taiwan and concentrate production at its iFactory located at the Linkou Intelligent Campus. By optimizing its energy management systems and production lines, Advantech expects to reduce power consumption for effective energy conservation. In order to reduce the amount of waste generated, Advantech will implement continuous factory improvement plans and research appropriate dip soldering durations for tin soldering waste to reduce the production of tin slags.

Advantech's environmental declarations and policies are as follows:

- 1. **Reduce impact on the environment:** Use appropriate production and pollution-prevention technologies; design more products that are energy efficient and reduce waste; avoid designing and using products that generate pollutants; effectively utilize resources; and reduce the environmental impact of product development activities and service processes.
- 2. **Fulfill environmental protection responsibilities:** Prohibit and limit the use of restricted raw materials, parts, accessories, and packaging materials to protect environmental resources and reduce the company's ecological impact.
- 3. **Implement resource recycling:** Implement energy resource recycling and provide education and training to increase awareness of energy conservation and environmental health and safety.

4. **Promote industrial waste reduction:** Introduce design concepts based on environmental protection to effectively utilize resources; reduce the environmental impact of production activities and service processes to satisfy regulations related to consumer products.

5. **Comply with environmental protection regulations:** Adhere to environmental protection laws, regulations, and other requirements; comply with government policies on environmental protection; actively research and develop green products in response to international eco-friendly trends; and satisfy customer demands for green products.

6. **Implement environmental management:** Provide education on environmental protection; encourage employees to participate in environmental management; identify deficiencies and implement improvements through regular audits and environmental management reviews; and establish an effective and lawful environmental management system.

Water Resource Usage and Management

Advantech has implemented various water conservation strategies, including the use of water-saving faucets and toilets, to reduce the average water consumption per capita. Advantech's campuses are located in developed industrial zones or technology parks in urban areas. For all of these campuses, tap water serves as the primary source of water, no extraction of underground or well water is conducted, and water consumption activities exert no negative impact on the surrounding water resources.

The company's monthly per capita water consumption in 2018 increased by 0.21 compared with that for 2017 because of increase in production capacity. Advantech will continue adopting water-saving strategies such as installing intelligent irrigation systems for water conservation, using intelligent air-conditioning systems for water temperature management, and implementing chillers to reduce total water consumption.

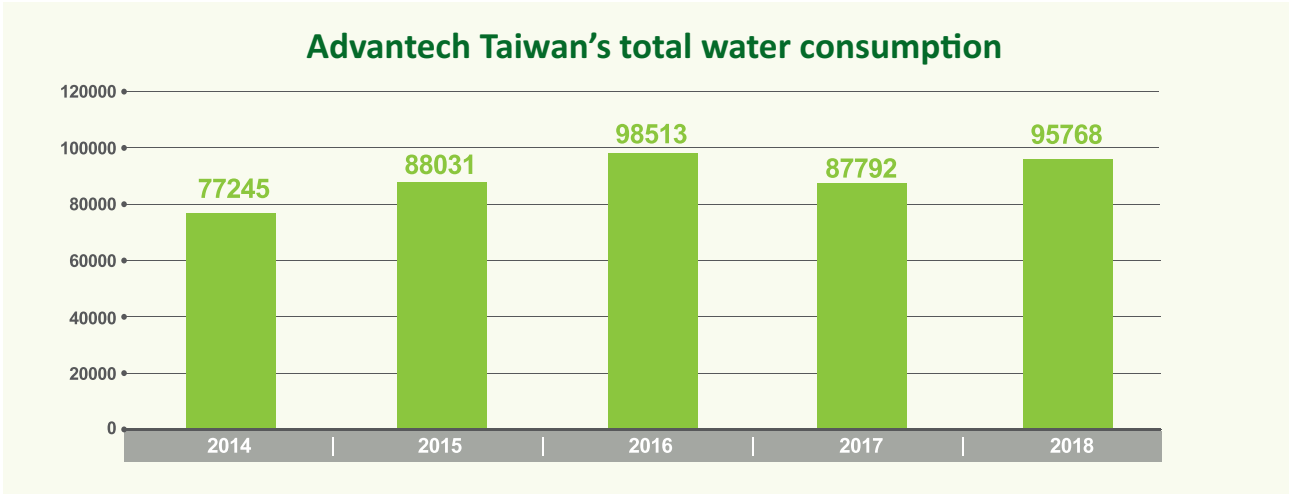


Figure 4.3 Advantech Taiwan's total water consumption

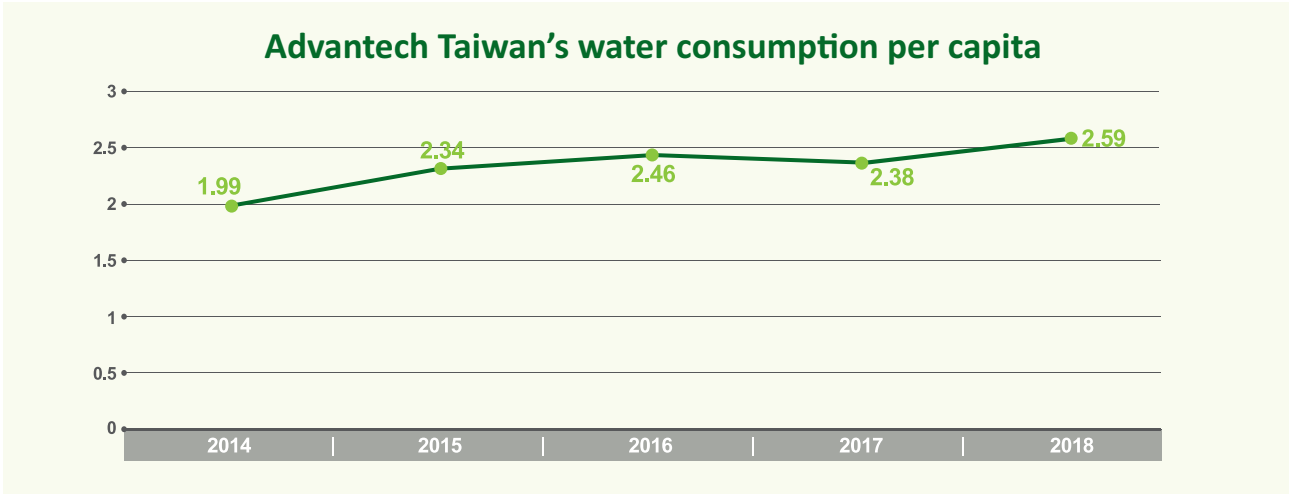


Figure 4.4 Advantech Taiwan's water consumption per capita

In 2018, total water consumption by Advantech Kunshan was 124,894 tons, an increase of 2,626 tons from the 122,268 tons in 2017. This was mainly due to the growth in production output for 2018, which was reflected in the annual water consumption. Advantech Kunshan is set to launch a resource conservation project in response to government requirements. Water meters will be installed in the production workshops at all factories. Water consumption management will be conducted separately for Phase 1, Phase 2, Phases 3 and 4, employee residences, kitchens, and facilities, in order to provide detailed analysis of reasonable water consumption rates.

Waste Management and Resource Recycling

Generating minimal waste is Advantech's ultimate goal for waste management. More specifically, by reducing the total amount of waste produced, recycling waste into resources, and implementing source management measures (e.g., reduce raw material use), Advantech aims to output less waste, replace end-of-pipe treatment with recycling-and-reuse solutions, convert trash into useful resources, achieve resource recycling, and reduce the energy consumption and cost of waste treatment.

Table 4.4 Waste management model for Advantech's Taiwan and Kunshan Campuses

	Waste Type	Description	Treatment Method	Final Treatment Method
Domestic Waste	Aluminum and tin cans	PET bottle/Styrofoam/aluminum and tin cans	Recycled by professional vendors	Reuse
	Paper	Newspaper/magazines/photocopy paper/printing paper/paper boxes (large)/paper boxes (small)	Recycled by professional vendors	Reuse
	Glass	Beverage bottles	Recycled by professional vendors	Recycled
	General plastic	Beverage bottles/waste containers	Recycled by professional vendors	Recycled
	Other recyclables	Batteries/cartridges/light bulbs	Recycled at headquarters/ by photocopier vendor	Recycled
	Resources	Compost/pig feed	Recycled by management committee	Fertilizer
	Kitchen waste	Office waste	Recycled by management committee	Incineration (Taiwan) Sanitary landfill (Kunshan)
Hazardous industrial waste	Domestic waste	Waste soldering iron/waste sponges/waste tapes	Recycled by professional vendors	Incineration (Taiwan) Sanitary landfill (Kunshan)
	General	PCB scrap material/scrap tin slag/discarded electronic parts/chemical wastes	Recycled by certified waste disposal operators	Solidified burial/incineration

The amount of waste produced by Advantech Taiwan in 2018 was 130.25 metric tons. Because the company's operations are primarily assembly related, the amount of hazardous industrial waste waste generated is comparatively lower, accounting for only 13.40% of total waste (17.45 metric tons). The amount of domestic waste was 112.8 metric tons, accounting for approximately 86.60% of total waste.

Regarding the use of raw materials, electronic materials accounts for approximately 90% of total materials used, with the remaining 10% comprising packaging, plastics, mechanical materials, and other non-metal mechanical materials. The amount of industrial waste generated by Advantech Taiwan totaled 17.45 metric tons, and can be divided into four categories: PCB waste, tin slag, chemical waste, and other. The waste produced primarily consisted of electronic components and tailings. In the future,

Advantech will continue efforts to increase its process yield, reduce the output of electronic waste and tailings, and achieve efficient industrial waste reduction.

The amount of waste produced by Advantech Kunshan in 2018 was 565.90 metric tons. The total output of domestic waste was 182 metric tons, accounting for approximately 30.93% of the total waste produced. The total output of industrial waste was 383.80 metric tons, which comprised circuit boards, organic solvents, and stamped iron boards and accounted for 52.49% of the total waste produced. The industrial waste reduction project implemented at the Advantech Kunshan plant includes establishing an area for storing waste paint, which is then dried and disposed of by qualified recycling vendors, as well as exchanging industrial tin slag for tin wire from raw material suppliers, who then recycle and reuse the tin slag.

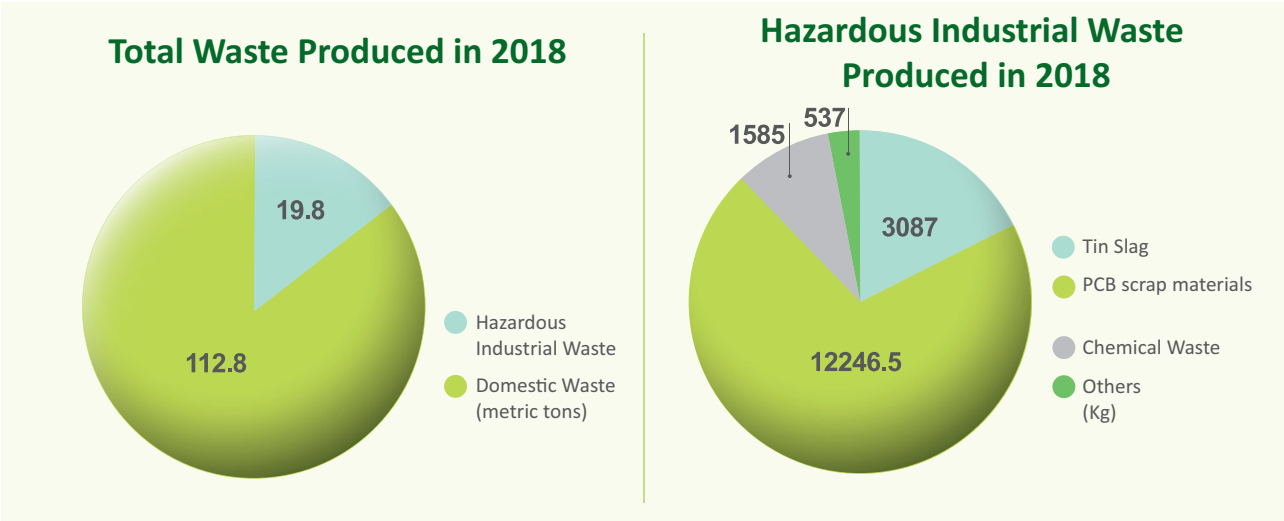


Figure 4.5 Advantech Taiwan's overall waste production

Figure 4.6 Advantech Taiwan's hazardous industrial waste output

4.2 Greenhouse Gas Management

Since 2009, Advantech has contributed to the Carbon Disclosure Project (CDP), the world's largest database related to global climate change. Every year, questionnaires are distributed to understand businesses' responses to climate change and efforts to reduce GHG emissions. The survey results are used to evaluate the potential business risks and opportunities caused by climate change. Through the CDP's annual information disclosure, Advantech carefully reviews climate-related issues such as climate regulations and hazards caused by climate change. To mitigate potential business management risks, Advantech adopts effective reduction and elimination strategies, and thereby conforms to the GHG management requirements specified by international clients.

Also in 2009, at the Donghu plant in Taiwan, Advantech conducted the first GHG emissions inventory and reduction planning based on the ISO14064-1 standard. The outcomes of which were published in relevant reports and on the company website. Figures 4.7 and 4.8 summarize the direct (diesel fuel consumed by power generators) and indirect (electricity power usage) energy consumption for Advantech's Taiwan campuses and offices, providing source data regarding GHG emissions.

In 2018, diesel fuel was used primarily for monthly testing, high-voltage substation maintenance, and IT server room emergency power supply testing. Additionally, due to the 2018 opening of the Phase 2 Linkou manufacturing center, diesel fuel usage in 2018 was slightly higher than in 2017.

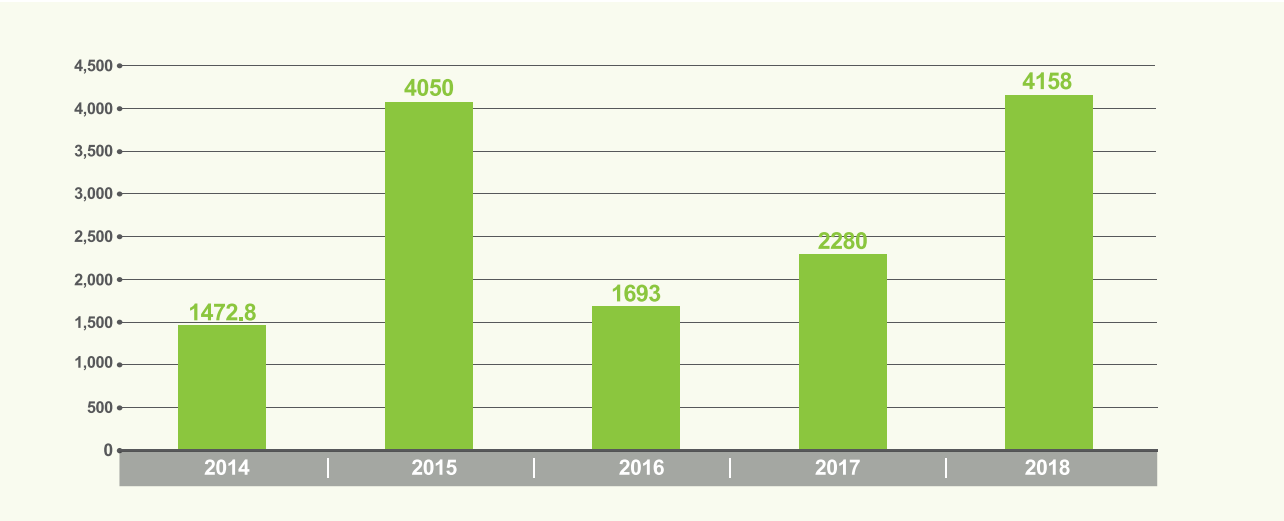


Figure 4.7 Direct energy consumption for Advantech Taiwan (diesel fuel consumption by emergency power generators, million joules)

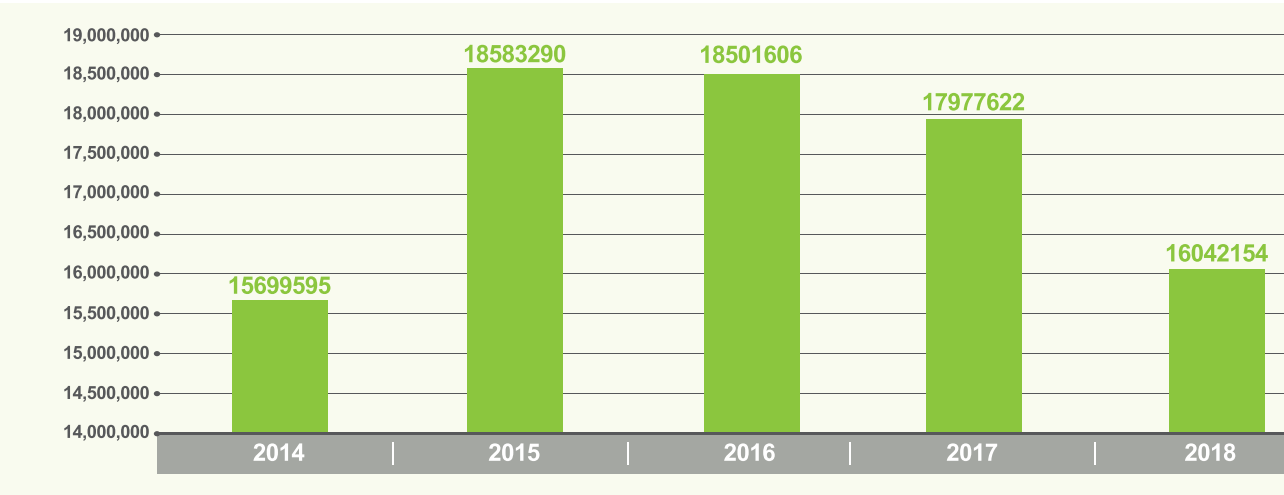


Figure 4.8 Indirect energy consumption for Advantech Taiwan (kWh)

In 2018, Advantech Taiwan consumed a total of 16,042,154 kWh (=57,751,754.4 Million joules) of electricity and 113 liters of diesel fuel for emergency operations. Advantech Kunshan consumed 19,381,709 kWh (=69,774,152.4 Million joules) of electricity. To date, Advantech has implemented the following energy-saving measures:

- Advantech's Linkou Intelligent Campus features building energy management and people-sensing energy management systems. Advantech constructed an intelligent building. Through intelligent management, effective energy conservation can be achieved and resource wastage prevented.
- Intelligent power management is implemented by using a single button to control the lights and projectors in the conference room; various different settings such as presentation mode or discussion mode are also provided. This prevents unnecessary resource waste should employees forget to switch off the power supply.
- Advantech's Kunshan Plant adopts air compressors with a parallel pipeline system, LED lights in public spaces, and motion sensor switches to conserve energy.

Advantech's Linkou Intelligent Campus

Advantech's Linkou Campus officially started operation in 2014. The total area spans 34,470 m2 and construction was divided into three phases. Phase 1 was the building of the R&D center and offices, and Phase 2 was the manufacturing center. Phase 3 will involve the construction of additional office space and a living area. At the time of publication of this report, the Advantech Linkou Campus had obtained a Gold Green Building Certification for its Phase 2 construction.

For our partners, the Linkou Campus provides a co-creation site for conducting collaborative R&D. For our customers, the Linkou Campus offers the opportunity to personally experience Advantech's intelligent solutions. By visiting the Linkou Campus, customers can gain first-hand knowledge of the various intelligent technologies and applications. Furthermore, Advantech continues to conduct innovative development at the Linkou Campus in order to increase the smart capabilities of intelligent buildings. The intelligent technologies and applications developed for intelligent buildings are described as follows:



Intelligent parking

Intelligent parking is a smart service application that combines various functions, such as parking space reservation, license plate identification, eTag read/write operations, guest welcome message broadcasts, navigation assistance, parking lot control and management, and vehicle location tracking.



Intelligent reception

Upon arriving on-site, visitors are greeted with a welcome message displayed on a large digital signage monitor located in the lobby. An automated visitor registration system is provided for visitors to register their arrival. The system then notifies the relevant personnel via a message sent to their mobile phone. Also installed throughout the reception area are interactive terminals that enable visitors to browse Advantech's eCatalog, view promotional videos, access email services, share information online, and retrieve QR codes for scanning with their mobile device. The digital signage monitors are programmed to sleep and wake automatically in accordance with standard business hours in order to reduce energy consumption.



Intelligent meeting rooms

Doors to meeting rooms are equipped with touch-controlled digital signage displays integrated with the meeting room booking system for displaying room reservation information. Employees can use these devices to check whether a room has been reserved, book a meeting room, or adjust the in-room environment according to their requirements. Air quality sensors and an air-conditioning system are also installed in meeting rooms to regulate the temperature and air quality. Embedded sensors monitor the presence of people in the room. If no person is detected for 15 minutes, the air-conditioning system and in-room power are switched off automatically to conserve energy.



Human sensing and access control

In addition to monitoring the building's internal environment, sensors are used to detect the presence of people to trigger adjustments in lighting and temperature. These adjustments can also be time-scheduled based on standard working hours to increase building efficiency and energy savings. Regarding access control, because all the intelligent systems are integrated, when an entry card reader scans an employee access card, the building lights are automatically activated.



Solar energy

Advantech implemented a solar cell at the Linkou Campus that provided 1,430 kWh of electricity in 2018.



Smart factory real-time situation room

Advantech's manufacturing centers have moved towards smart management in recent years. Accordingly, sensors have been deployed at operation sites to collect and upload data to the cloud for analysis. The data collected from all factories is then displayed in the situation room in real time to provide management personal with a constant overview of the production line status. For such excellence in real-time facility and resource monitoring, Advantech was received an ROI Industry 4.0 Award (China) in October 2017.

5 main smart factory management tools

- Factory Energy Management Solution (FEMS)
- Manufacturing Execution System (MES)
- Equipment Monitoring and Optimization (EMO)
- Predictive Maintenance Solution (PM5)
- Energy Management Solution (EMS)



In addition to introducing smart solutions for reducing energy consumption, Advantech continues to promote and implement the following energy- saving measures:

- Conduct video conferences rather than on-site meetings whenever possible.
- Prioritize the purchase of green-label office equipment and electronic products.
- Maintain an indoor temperature of 25 °C.
- Encourage employees to develop the habit of switching off lights when leaving a room.

Annual power consumption analysis showed that power consumption by Advantech Taiwan decreased by 1,935.486 kWh in 2018 compared to that for 2017, equivalent to 6,967,684,800 MJ. In 2018, electricity usage per manufacturing unit was 10.06 KWh, a

reduction of 0.81 KWh compared to the 10.87 KWh per manufacturing unit for 2017. This is equivalent to a reduction of 7.43%. The reasons for this reduction in electricity consumption were the integration of production systems in Advantech’s Linkou and Donghu sites, enhanced production efficiency, and effective use of the energy conservation system at the Linkou Campus.

In the future, Advantech will continue striving to reduce power consumption by 5% per unit product every year. By implementing relevant projects and promotional efforts, the company hopes to reinforce the concept of energy conservation in the mind of every employee, thereby making energy conservation an integral part of corporate culture.

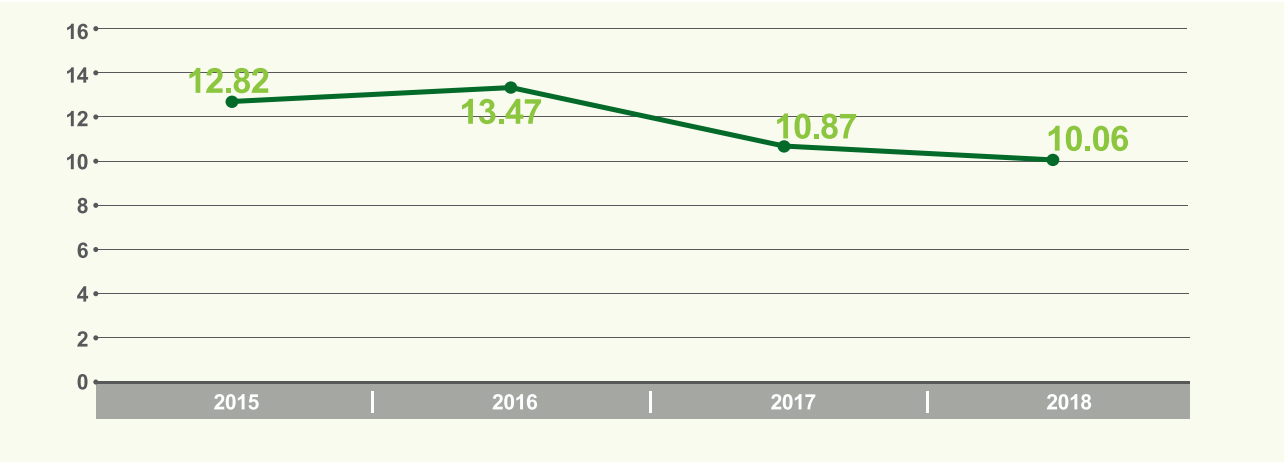


Figure 4.9 Advantech Taiwan electricity usage statistics per manufacturing unit (KWh)

In keeping with the ISO14064-1 and GHG Protocol requirements, Advantech compiled a detailed list of GHG emissions to serve as the qualitative and quantitative inventory for Scope 1 (direct GHG emissions) and Scope 2 (indirect GHG emissions). Advantech set 2010 as the baseline year for the GHG emissions list. Annual emissions in 2010 amounted to 6,740.6 metric tons of CO₂.

Advantech’s GHG emissions are primarily CO₂ that results from the use of electricity. This emission source accounted for more than 95% of total emissions in 2018. Scope 3 emissions are primarily attributed to emissions resulting from supply chains, employee business trips, product use and disposal, outsourced waste treatment, and external delivery and logistics operations. Currently, Advantech employees are encouraged to commute using

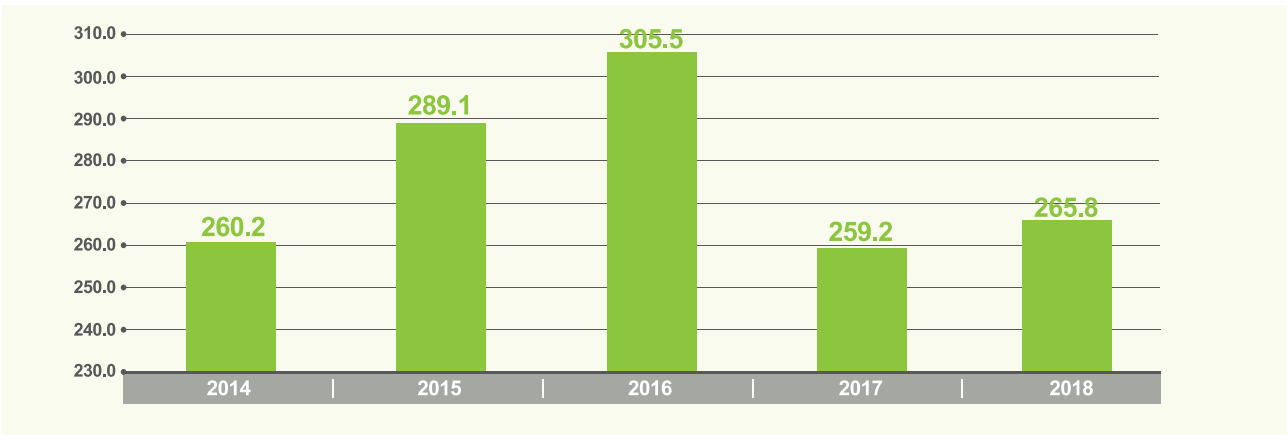


Figure 4.10 Scope 1 GHG emission statistics for Advantech Taiwan (metric tons of CO₂ e/year)

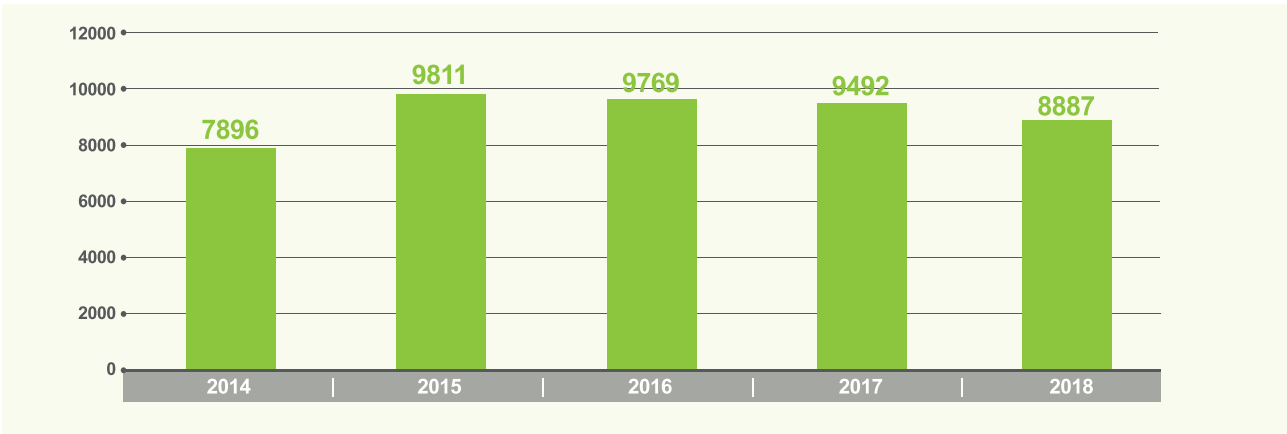


Figure 4.11 Scope 2 GHG emission statistics for Advantech Taiwan (metric tons of CO₂ e/year)

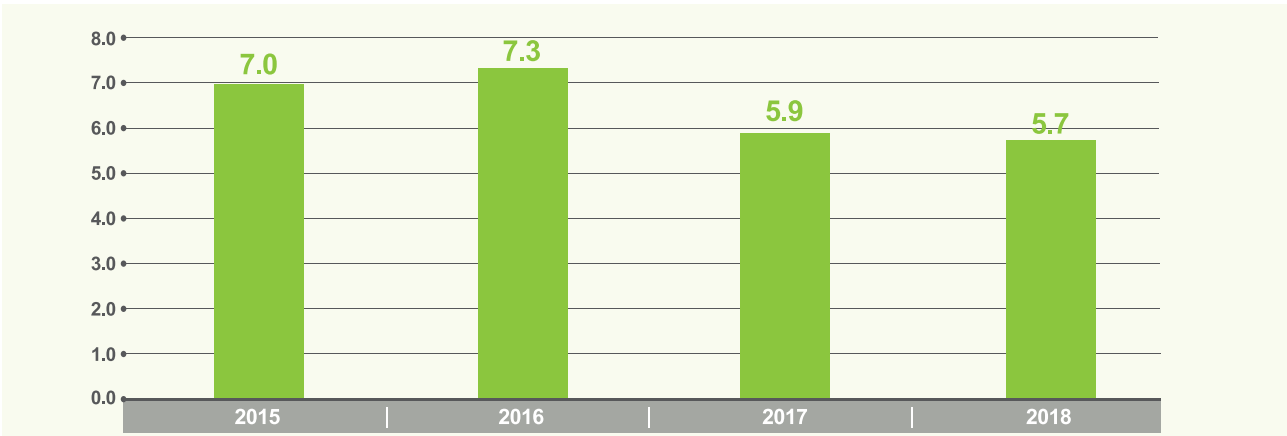


Figure 4.12 Scope 1 and 2 GHG average monthly emissions per capita (metric tons of CO₂ e/year)

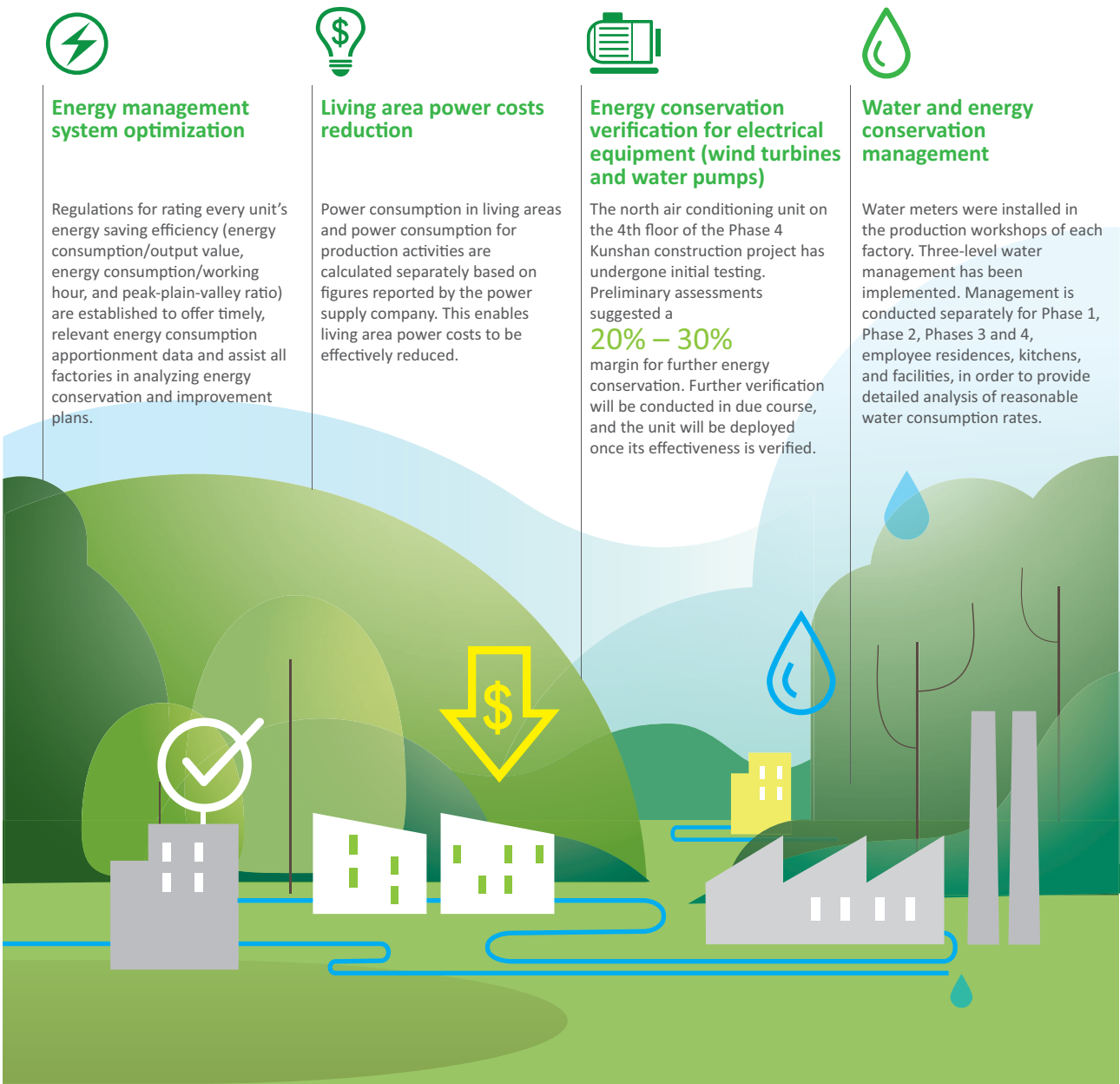
Note: Source of coefficients
Carbon emissions were calculated based on the 0.554 kg CO₂e power coefficient announced by the Bureau of Energy in 2017. Considering global warming trends, the coefficient for the radiative impact of specific GHGs was adopted from the Fourth Assessment Report by the IPCC (2007).

public transportation in order to reduce GHG emissions. Emissions resulting from raw material sourcing and product shipments are handled by government-approved contractors. Because Advantech’s Scope 3 emissions primarily result from supply chains, in the future, relevant emissions inventories will be conducted in accordance with PAS2050/ISO14067 standards.

In 2015, the Advantech Kunshan Campus conducted an ISO 14064-1 GHG emissions inventory (for the previous year) for the first time. On March 20, 2015, the Care Quality Commission (CQC) conducted third-party onsite inspections. For the Kunshan Campus in 2018, Scope 1

emissions amounted to 1,557 metric tons of CO₂e/year, and Scope 2 emissions totaled 17,715 metric tons of CO₂e/year. Scope 3 emissions were not inventoried because various transport activities could not be determined. Nonetheless, the Advantech Kunshan Campus set 2014 as its baseline year as it begins implementing GHG emission reduction plans. In 2019, Advantech Kunshan initiated various energy conservation projects that include energy efficiency rating mechanisms for each unit, electrical device energy conservation verification, and living area power costs reduction. See Table 4.5 for details.

Table 4.5 Advantech Kunshan Energy Conservation Projects



4.3 Caring for Nature

Organic Farm

“Organic, natural, eco-friendly, and earth loving” efforts have been constant goals for Advantech. Being close to nature and feeling its vitality are strong motivators for Advantech employees. Since 2011, Advantech’s organic farm plots have been available for employee adoption on a half-yearly basis. In addition to providing organic fertilizer, seeds, and seedlings to the adopting families, Advantech offers special awards of organic produce and eco-friendly everyday products to those employees who take a serious interest in organic horticulture. Every year, over 100 families adopt organic farm plots. The operational costs for these farm plots total NT\$1 million/year.



Advantech’s organic farm plots aim to provide employees, their families, and other individuals the opportunity to experience organic farming, as well as promote a healthy diet. The farm plots also encourage employees to take better care of themselves, their families, and our planet, thereby contributing to sustainable development. Referencing the experience of Advantech Taiwan, Advantech Kunshan also established an exclusive “happy farm”, enabling more Advantech employees to experience the joy of farming.

Referencing Advantech’s organic farm experience in Taiwan, an employee farm project has also been established at the Kunshan Campus, enabling more Advantech employees to enjoy the pleasures of farming. In 2017, Advantech invested RMB 10,000 to support 74 farm and more than 311 families in Kunshan.





Working and Learning Toward a Beautiful Life

- 5.1 A Harmonious Workplace
- 5.2 Advantech Institute
- 5.3 Advantech Beautiful Life
- 5.4 Occupational Health and Safety



Employee-Oriented Altruistic Enterprise

Talent is our most important asset. Advantech’s steady growth since 1983 can be attributed to employee achievements and effort. According to the core values of “working and learning toward a beautiful life,” Advantech provides its employees with diverse, interdisciplinary, and cross- border work opportunities to develop their careers. We encourage our staff to fulfill their potential and expand their world view and experience through job rotation to enhance their workplace competitiveness.

Additionally, we believe that achieving a good balance between work and physical/mental health is essential for employee happiness, which is a driving force in the company’s continuous improvements. Behind every employee is a family and friends. The Advantech ABLE Club (Advantech Beautiful Life) program is focused on employees and cultivating an altruistic and beautiful life. The ABLE Club hosts various activities such as sports days, LOHAS initiatives, and art events, which are aimed at deepening communication between Advantech employees and their families, promoting unity, and contributing to a beautiful life, where work and health are in perfect balance. Table 5.1 summarizes Advantech’s goals and practices for realizing the core values of “working and learning toward a beautiful life”.

Table 5.1 Advantech’s social management goals and practices

	Corresponding Issues/ Items	Practices
Work	Human rights	Prohibits the use of child labor and forced labor; ensures equal employment opportunities; no human rights complaint cases reported; and all employee jobs are protected under the Labor Safety Act, which ensures reinstatement after parental leave
	Employer/employee communications	Labor meetings, departmental meetings, seminars, MyAdvantech magazine, suggestion boxes, as well as other communication channels
	Compensation and benefits	Adheres to the minimum base salary specified in the Labor Standards Act, provides various insurance benefits, contributes to a pension fund, and conducts periodic performance appraisals
	Occupational health and safety	Holds relevant certification for occupational health and safety, and management systems; the proportion of labor representatives in the Environmental Safety Committee conforms to the basic requirements of the Labor Safety Act; and minimizes occupational injuries by providing annual employee health examinations (as mandated by the Labor Standards Act)
	Employee code of conduct	Prohibits unethical business practices and insider trading; complies with employee labor and environmental regulations; conducts self-examinations according to the Electronic Industry Code of Conduct (EICC); and ensures that all employees refuse bribes and follow equal labor rights requirements
	A happy workplace	Maintains an employee cafeteria and employee parking lot; implements Vegetarian Thursday and tea time breaks; and adheres to the notification deadlines for work position shifts required by the Labor Standards Act
Learn	Talent development	Advantech Institute, training seminars, reading clubs, and overseas business assignments
	Industry and academia collaboration	TIC100, EDC, EACC, campus visits, and lectures
Beautiful life	ABLE Club	Sports, arts, charity, and LOHAS activities
	Employee relations	Sports day, talent contest, year-end party
	The Welfare Committee	Arts appreciation regulations, cross-departmental gathering regulations, birthday celebrations, and the employee bonus points (ABLE points) scheme
	Social welfare	Art and culture sponsorships, ACT Story MOM, and volunteering programs

5.1 A Harmonious Workplace

Because Advantech believes that its ongoing success and advancement depend on the collective efforts of employee talents, the company treats all employees equally and with respect. Additionally, Advantech welcomes job seekers who identify with the company’s corporate philosophies and culture and are willing to grow and work for mutually beneficial achievements. Currently, no labor unions have been established. However, Advantech strictly adheres to labor regulations. Advantech’s Staff Welfare Committee is responsible for ensuring the protection of employee

rights and benefits and strengthening employee communication and feedback by providing satisfaction surveys and complaint mailboxes and conducting labor association meetings/negotiations.

As of 2018, the total number of Advantech employees exceeded 8,000, of which 3,116 are based in Taiwan. Additionally, all high-level Advantech executives based in Taiwan are of Taiwanese nationality. Table 5.2 shows the distribution of employees according to location, occupation, age, and gender.

Table 5.2 Advantech Taiwan's human resource statistics

	Item	Number and percentage (%) of male employees		Number and percentage (%) of female employees		Total
Hired employees	Total number of employees	1,834	58.9%	1,282	41.1%	3,116
Senior executives	Managers, directors, and above	400	12.8%	88	2.8%	488
Age of employees	Under 30	251	8.1%	264	8.5%	515
	31-49	1,446	46.4%	841	27.0%	2,287
	Above 50	137	4.4%	177	5.7%	314
Full time/contractor	Full-time	1,808	58.0%	1,266	40.6%	3,074
	Contractor	16	0.5%	15	0.5%	31
	Cooperative education	10	0.3%	1	0.0%	11
Job type	PM/RD	1,077	34.6%	281	9.0%	1,358
	MKT/Sales	111	3.6%	141	4.5%	252
	Infra	84	2.7%	178	5.7%	262
	MFG/Quality	562	18.0%	682	21.9%	1,244
New employee rate: 15.6%						
New employees	Under 30	97	3.1%	116	3.7%	213
	31-49	171	5.5%	95	3.0%	266
	Above 50	5	0.2%	1	0.0%	6
Departing employee rate: 12.8%						
Departing employees	Under 30	72	2.3%	28	0.9%	100
	31-49	175	5.6%	104	3.3%	279
	Above 50	11	0.4%	9	0.3%	20

According to Article 16 of the Act of Gender Equality in Employment, after being in service for six months, employees may apply for parental leave without pay before any of their children reach the age of three. The period of this leave is until their children reach the age of three, but it may not exceed two years in length. This provision is applicable to employees of Advantech Taiwan. The unpaid parental leave application rate was 7% in 2018, with a reinstatement rate of 64%. 80% of employees have worked for over one year after they were reinstated from parental leaves since 2017 (retention rate).

Table 5.3 Employee applications for parental leave

	Male	Female	Total
(a) 2016-2018 eligible for parental leave	280	151	431
(b) 2018 number of applicants	6	24	30
(c) Number of employees due reinstatement in 2018	4	24	28
(d) Number of employees reinstated in 2018	0	18	18
(e) Number of employees reinstated after parental leave in 2017	2	8	10
(f) Number still employed after reinstatement in 2017	1	7	8
Application rate (b/a)	2.1%	15.9%	7.0%
Reinstatement rate (d/c)	0.0%	75.0%	64.3%
Retention rate (f/e)	50.0%	87.5%	80.0%

Advantech Kunshan has 2,323 employees, and all of its high-level executives are of Taiwanese nationality. Table 5.4 shows the distribution of employees by work location, occupation, age, and gender.

Table 5.4 Advantech Kunshan’s human resource statistics

	Item	Number and percentage (%) of male employees		Number and percentage (%) of female employees		Total
Hired employees	Total number	1,260	54.2%	1,063	45.8%	2,323
Senior executives	Managers/deputy managers or above	77	3.3%	56	2.4%	133
Age of employees	Under 30	513	22.1%	408	17.6%	921
	31-49	733	31.6%	649	27.9%	1382
	Above 50	14	0.6%	6	0.3%	20
Full time/contract hire	Full time	1,260	54.2%	1,063	45.8%	2323
	Contractor	0	0.0%	0	0.0%	0
Job type	Product manager/Research and development	98	4.2%	103	4.4%	201
	Marketing/Sales	0	0.0%	0	0.0%	0
	Infrastructure	114	4.9%	131	5.6%	245
	Manufacturing/Quality	1048	45.1%	829	35.7%	1877
New employee rate: 19.1%						
New employees	Under 30	161	6.9%	113	4.9%	274
	31-49	88	3.8%	79	3.4%	167
	Above 50	1	0.0%	1	0.0%	2
Departing employee rate: 23%						
Departing employees	Under 30	187	8.0%	134	5.8%	321
	31-49	120	5.2%	89	3.8%	209
	Above 50	2	0.1%	2	0.1%	4

Compensation and Benefits

Employees are a company’s most valuable asset. Because Advantech’s consistent and continued growth is largely due to the achievements of its employees, Advantech is happy to share the rewards reaped with its employees.

Advantech’s management policies regarding employee salary and benefits include offering employee benefits that exceed those of competitors; ensuring employee salaries are based on their education background, performance, and market conditions; and treating all employees equally regardless of their gender, race, religious beliefs, political affiliations, and/or marital status.

The company provides the various legally required insurance and pension benefits, as well as group and travel insurance for overseas business trips to ensure the work/life safety of its employees. In order

to achieve operational, departmental, and individual objectives, Advantech conducts annual employee performance appraisals that provide a reference for employee promotion, development training, and salary disbursement decisions.

During these appraisals, supervisors and employees jointly review work performance, formulate development plans, and set future goals.

Regarding the distribution of pension funds, please refer to the Annual Report. Advantech stores accumulated pension funds in a designated account at the Bank of Taiwan.

Employees who have worked at Advantech for 3 months or more must undergo a performance appraisal; meanwhile, those who have worked for less than 3 months must undergo a performance evaluation for new employees.

Table 5.5 Performance appraisal rate

	Taiwan		Dongguan		Kunshan	
	Male	Female	Male	Female	Male	Female
Total	96.10%	93.45%	100%	100%	95.88%	97.40%
PM/RD	96.10%	91.10%	—	—	91.92%	92.16%
MKT/Sales	98.20%	92.91%	100%	100%	—	—
Infra	83.33%	88.20%	100%	100%	96.43%	96.90%
MFG/Quality	94.48%	95.89%	100%	100%	96.19%	98.10%

Advantech also believes in providing employees equal opportunities and benefits in order to foster employee coherence and sustainable corporate management.

Table 5.6 Advantech salaries compared to local minimum wage

	Taiwan		Dongguan		Kunshan	
	Male	Female	Male	Female	Male	Female
Ratio of minimum wage provided by Advantech compared to the legal minimum wage	1.11	1.11	1.47	1.47	1.05	1.05
Ratio of minimum wage provided by Advantech compared between male and female employees	1		1		1	
Ratio of average lowest salary at Advantech compared to the local minimum wage	1.17	1.22	2.1	1.76	1.16	1.11
Ratio of average lowest salary compared between female and male employees	1.04		0.84		0.95	

Employer/Employee Communications

Currently, Advantech has not established a workers’ union. However, to ensure that its employees can communicate effectively and resolve problems, Advantech holds regular labor negotiations and departmental meetings for employees.

Advantech also publishes the MyAdvantech magazine, in which the company’s business expansions and management directions are disclosed. Furthermore, a suggestion box function was added to the Advantech Employee Portal to encourage employee feedback and suggestions.

Regarding sexual harassment and gender-related complaints, employees of all levels can submit reports via the CSR mailbox at csr@advantech.com.tw.

Advantech’s provision of the aforementioned communication channels serves to discourage and minimize harassment and discrimination, thereby ensuring that working conditions satisfy employee needs and protect employee rights. This supportive environment enables all employees to apply their skills and reach their full potential.

5.2 Advantech Institute

Advantech values the individual characteristics and potential of its employees, and hopes that each employee can achieve their ambitions and fullest potential at Advantech. In keeping with the Electronic Industry Citizenship Coalition’s (EICC) management criteria, Advantech publishes its anti-bribery and equal labor rights policies on the company website and in the new employee handbook. All employees are required to comply with these regulations.

To facilitate the cultivation of high-level talent, Advantech has established the Advantech Institute and designed a series of elite training programs.

The number of e-Learning training hours completed by Advantech employees is presented in Table 5.7. Additionally, 16,329 people participated in other programs including workshops, the LEAP camp, and executive talks. The total number of training hours completed was 127,039 hours, with the average number of hours for an Advantech employee being 40.77 hours. It is important to mention that the training of overseas employees is conducted by local offices and not included in these values.

Table 5.7 Hours of e-Learning training completed by Advantech employees

Position	Number of participants	e-Learning total hours	e-Learning average hours for male	e-Learning average hours for female
Product management/R&D	1,358	50,210	34.1	47.9
Marketing/Sales	252	6,827	26.5	27.6
Infrastructure	262	4,902	24.7	15.9
Manufacturing/Quality control	1,244	24,253	17.2	21.4
Total	3,116	56,192	11.7	27.1

The training programs offered at the Advantech Institute encompass a 10-Core Courses program, case studies, a reading club, e-Learning, the Champion Program, LEAP Camp, and the Temporary Coverage Assignment Program (TCAP). The Advantech Institute provides a global development platform that emphasizes learning and encourages all Advantech talent to continually grow and improve. The structure and content of various training programs are shown in Table 5.8 and Figures 5.1 to 5.3.

Table 5.8 Overview of Advantech Institute training programs

Item	Overview of course content	Target participants/ objectives
10-Core courses program	This program was developed by Advantech’s senior executives based on the most essential knowledge skills. The content of the 10-Core Courses program covers quality commitment, business marketing, human capital, R&D management, and the creation of financial value while maintaining Advantech’s systems and regulations. The 10 core courses are designed to provide participants with a comprehensive understanding of Advantech’s core values and systems.	General employees
Case studies	Advantech’s decision-making business management level selects themes and factors that influence the company’s future development. Experts from various domains and business management academics are invited to discuss theories, propose recommendations, and compose a business case study as a reference for strategic integration.	Business management- level employees
e-learning (Learning@ advantech)	The Advantech Institute’s e-learning platform was established for teaching professional expertise and skills, announcing crucial information and events, and disseminating Advantech’s knowledge, core values, and corporate culture. Advantech’s employees worldwide can study at their own pace without location or time limitations. From this information-rich platform, employees can obtain diverse information that effectively expands their world view and maximizes their learning. The website contains information regarding Advantech’s corporate philosophy, business leadership model, professional courses, new employee orientation, Advantech knowledge specialists, and important events.	General employees
Champion program	The Champion Program was established in July 2011. Through the concept of brand design, the program teaches Advantech’s business philosophies and operational practices. Group discussions and essay writing are used to explore the development of innovative practices while cultivating elite talent and future industry leaders for Advantech.	Mid-level managers
Leap camp	Advantech employees from around to world are selected to attend the LEAP Camp training program held at Advantech headquarters. The program is aimed at increasing employees’ knowledge and skills, allowing them to experience Advantech’s corporate culture and core values, and providing opportunities to interact with global partners for greater coordination. The program courses are designed for different domains and according to diverse job responsibilities.	New employees (less than 1 year)
Reading club	Advantech believes that collectively reading and discussing books can strength the relationship between team members. Therefore, Advantech established a reading club for employees. External experts, business management and operational planning academia representatives, as well as mid- to senior-level managers from associated organizations are also invited to introduce innovative management concepts. Through these discussions, Advantech continuously refines its business management models and formulates key business strategies.	According to the reading topic, relevant employees and supervisors
Temporary coverage assignment program (tcap)	To broaden the world view and experience of Advantech’s elite talent, the company established the TCAP to target major or emerging markets and new opportunities. The overseas assignment period is typically 3 to 6 months, during which employees face a number of different challenges. By changing work environment and job responsibilities, employees have the opportunity to broaden their perspective, achieve short-term goals, and acquire valuable practical experience.	Advantech’s employees worldwide/ employees undertaking the TCAP for 3-6 months

Advantech’s Talent Development Model



Figure 5.1 The Advantech Institute’s course structure

Advantech's 10-Core Courses Program

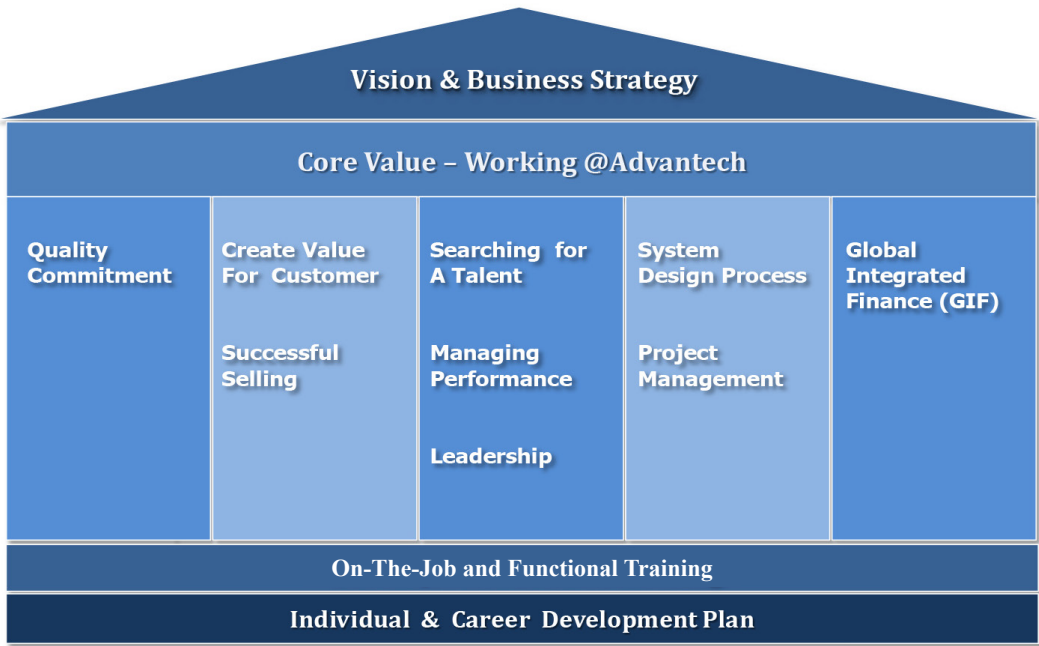


Figure 5.2 Structure of Advantech’s 10-Core Courses program



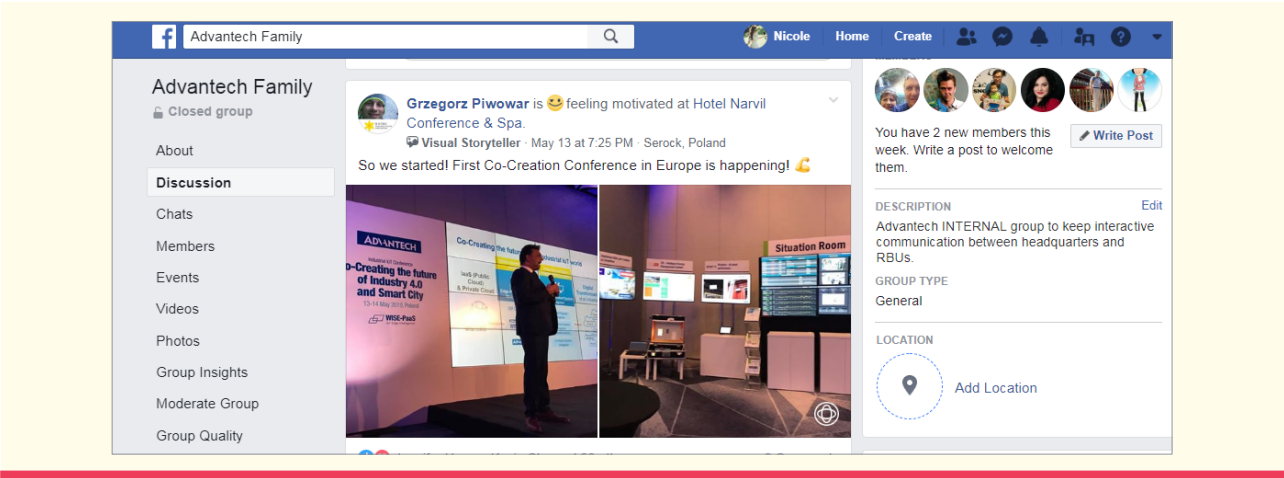
Figure 5.3 Advantech Executive Talks

Advantech Executive Talks

To seamlessly and accurately deliver Advantech's strategies to Advantech employees across the world in real-time, Advantech has begun to prepare the Advantech Executive Talks since 2015 with the hope of using streamlined video messages to lower information asymmetry that is likely caused by time difference and distance between the headquarters and front-line employees. Since February of 2016, videos were transmitted to all Advantech personnel through this platform. The platform will vary depending on the main theme. Executives of Advantech will be invited to provide 5 to 10-minute presentations in Mandarin or English. The scope of issues will cover strategic developments, financial orientation, descriptions before and after merger and acquisition, and industrial trends. Advantech expects to use this platform in the future to develop customized videos that will convey accurate real-time information for each and every employee in all regions and units. As of 2018 a total of 167 videos (79 Chinese and 88 English) have been uploaded to the platform, garnering more than 10,000 views.

Advantech Family Facebook

On the social media platform Facebook, Advantech set up Advantech Family, a closed group to which all Advantech employees around the world were invited. We hope to use this relatively relaxed, informal communication channel to provide real-time information regarding the practice and implementation of global strategies. This group is managed by Advantech HQ. By publishing relevant content, such as live broadcasts, games, videos, and photos, the Advantech Family group connects Advantech HQ with its employees and connects colleagues from different units and regions together. Advantech employees are encouraged to post to foster interaction and sharing on a global scale. Since its inception in 2018, the group has gained more than 200 members, and employees continue to request to join. Over 20 videos and nearly 40 text posts have been shared to the group by employees from around the world.



5.3 Advantech Beautiful Life

We believe that only happy employees who are physically and mentally healthy can drive business growth and advancement. In keeping with its people-oriented and altruistic corporate culture, Advantech actively promotes various ABLE Club activities. Through effective employee relationship management by the CSR department, as well as the efforts of ABLE Club managers and the Staff Welfare Committee, Advantech successfully organized several ABLE Club events involving diverse activities customized for specific groups. The goal was to facilitate social interactions between Advantech employees and their families to thereby contribute to achieving a beautiful life. Figure 5.4 shows the organizational structure of Advantech's ABLE Club.



Figure 5.4 Advantech's ABLE Club organizational structure



Employee Relations

Advantech actively encourages employee interaction and relationship development. The company is committed to creating an open development platform based on the core values of “working and learning toward a beautiful life” and enabling all employees to experience a beautiful life through various employee activities.

Advantech hosts various employee events and encourages active participation. With the ABLE Club Sports Day, Voices of Advantech, and year-end party, we hope to provide employees with diverse avenues to demonstrate their talents.

A Family Day event was organized in 2018 to reinforce the localization of the Advantech Linkou IoT campus.

Staff and their families were invited to visit the campus to improve their sense of belonging and connectedness with the company. Over 2,300 people participated in this event. Another Advantech event held in September, Baseball Day, has become an annual tradition. For this event, 1,000 tickets are reserved for employees’ families and customers from affiliated enterprises to participate in sports.

In 2018, Advantech even conducted a special interview with the 1111 Job Bank website as an example of a “happy enterprise”. Overall, Advantech invested over NT\$7.73 million into its large-scale annual employee events in 2018; events that attracted over 7,100 participants. Figure 5.5 shows the content of some of the events.



Figure 5.6 Advantech ABLE Club activities

The Welfare Committee

Advantech’s Welfare Committee organizes various employee events/activities, which can be divided into the categories of growth, fellowship, tours, and arts and culture, according to the event focus. In 2018, Advantech invested NT\$33.81 million into the Welfare Committee. Additionally, to increase the flexibility of distributing employee welfare funds, Advantech

established an employee points program that converts welfare funds into points that employees can use to participate in diverse leisure activities. By organizing various festive events that integrate charitable activities, the Welfare Committee helps employees participate in charity while attending those events.



2018 year-end party



Employee basketball game

Figure 5.5 Advantech employee events

ABLE Club Community Activities

The name ABLE Club is derived from “Advantech Beautiful Life” and refers to the aim of creating a beautiful life for every Advantech employee through participation in various club activities, including sports days, LOHAS initiatives, arts events, and community programs. These club activities provide a means for employees and their families to communicate and interact with society while achieving our core values of “working and learning toward a beautiful life”.

After years of dedicated promotion, the ABLE Club events have become a highlight for Advantech employees. The diverse activities organized by the

ABLE Club, which include sporting events that involve strenuous exercise and skill competitions, outdoor organic LOHAS activities that involve cycling along a coastline or mountain hikes to discover secret places, art events (photography and aesthetics) that encourage employees to cultivate their artistic skills, and community programs that involve volunteering and charitable contributions, all enable Advantech employees to live a rich and colorful life.

In 2018, Advantech invested NT\$5.87 million into the ABLE Club, which now boasts 1,400 members.



Figure 5.7 Advantech ABLE Club activity highlights

Table 5.9 Events organized by Advantech’s Welfare Committee

Category	Content focus
Growth	Subscription to magazines and books, organize lectures and courses on personal development
Fellowship	Departmental fellowship activities, quarterly birthday celebrations, friendship activities, health and LOHAS activities
Tours	Domestic and international tours, theme tours, cultural tours, one-day leisure tours
Arts and culture	Movie viewings, arts and culture lectures, Arts and culture shows and exhibits, artistic and cultural creations



Table 5.10 Employee absence and injury rate

		Frequency of workplace injuries rate (FR)	Occupational diseases rate (ODR)	Disabling injury severity rate (SR)	Number of occupational deaths	Absence rate (AR)
Advantech Taiwan	Male	1.41	0	8	0	0.69%
	Female	1.76	0	15	0	0.86%
Advantech Kunshan	Male	1.98	0	88	0	1.97%
	Female	0	0	0	0	1.40%

- Note:
1. Absence rate (AR) refers to the total absent days as a percentage of number of work days. Absence = Employee is absent from work due to their lack of ability to work, not limited to work-related injuries or diseases. Excluding approved leave of absence such as national holidays, training, maternity/parental leave, and funeral leave.
 2. Disabling injury severity rate (SR) = (number of work days missed/total work hours)*1000000. Number of work days missed = The number of work days lost due to work-related accidents or diseases. The number of work days lost excludes the number of days an employee performed limited duties or served as a temporary replacement within the same organization
 3. Work-related injury frequency (FR) = (total number of work-related injuries/total work hours)*1000000
 4. SR and FR statistics include traffic accidents but exclude contractors.
 5. Absence rate (AR) = (Total number of sick days + total number of work days missed)/Total work hours*100%

5.4 Occupational Health and Safety

To prevent occupational injuries, in 2006 Advantech implemented an occupational health and safety management system according to OHSAS18001 specifications, formulated standard operating procedures for responding to workplace emergencies, introduced autonomous equipment inspections, and enhanced employee health and safety and fire-prevention training.

To comply with environmental health and safety standards, Advantech conducts regular evaluations of drinking water quality, noise levels, temperature, humidity, and light intensity in the work environment. Additionally, every 6 months, professional inspection companies are commissioned to measure the CO₂ concentration in buildings with centralized air conditioning system to ensure a safe work environment, protect employee health, and prevent occupational hazards.

In addition to labor safety issues, Advantech emphasizes employee health. To ensure health management, Advantech provides annual employee health assessments that are more detailed than that required by the Labor Standards Act. Besides organizing employee health examinations and health- promoting activities (e.g., marathons), we also enforce a no-smoking policy and provide breastfeeding rooms, sports and leisure facilities, as well as a safe and healthy dining environment.

As well as improving employees’ health and safety awareness through training programs, Advantech has established a Labor Health and Safety Committee in accordance with legal requirements. The Committee comprises one director, one employer representative, and 15 employee representatives, as mandated by relevant labor regulations (must account for one third of the total members).

6 Innovation and Sustainable Development

- 6.1 TiC100 IoT Internship
- 6.2 NCTU IoT & Intelligence Research Center
- 6.3 Enterprise-Academy Crossover Collaboration
- 6.4 IoT Accelerators



Industry and Academia Collaborations Promote Innovation and Sustainable Development

As a responsible corporate citizen, Advantech has always sought to identify the optimal approach for giving back to society. After attempting many strategies, we eventually found that incorporating innovation-based enterprise and academia collaborations into talent development enables employees to better leverage their professional knowledge and skills, produce quantifiable results, maximize output, and effectively share corporate competencies with society.

In 1997, the Advantech Foundation established “innovative learning” as its core value, “industry-academic cooperation” as its methodology, and “talent discovery” as its objective. Through initiatives such as the TiC100, EDC, EACC, and Elite Internship Program, Advantech has combined corporate and academic resources with practical business experience to provide students with an understanding of the commercial business market and facilitate their development in a workplace environment.

Additionally, over the many years Advantech has promoted industry and academia collaboration, the students’ creative ideas have injected new vitality into the company by inspiring Advantech employees to pursue personal fulfillment, learning, and development, and thus create a corporate culture of innovation. For Advantech, the establishment of an internal innovation system, continuous optimization of this system, and the use of industry-academia collaborations to contribute to society and promote innovation exemplify the company’s approach to achieving sustainable development.

6.1 TiC100 IoT Internship

Established in 1998, the TiC100 is now in its 17th year of operation. With laboratory-based entrepreneurship emerging as the latest trend, TiC100 encourages students to engage in academic entrepreneurship and commercialize their dreams and creativity.

In 2010, in response to social trends, the TiC100 was transformed into an innovative business model competition that teaches students how to effectively integrate resources, connect with businesses, build innovative business models, and devise innovative solutions to major social issues. In 2011, TiC100 organized the first ever corporate cooperative entrepreneurial competition. Various businesses were invited to suggest topics and multidisciplinary cases, thereby providing students with the opportunity to gain actual marketing experience and apply what they have learned. In 2012, the Advantech Foundation hosted the first TiC100 Competition in China, officially expanding the TiC100 initiative into China.

In 2013, in order to make even greater contributions by leveraging Advantech’s expertise and industry strengths, “smarter cities and IoT” was set at the TiC100’s core focus. For three consecutive years (2013 to 2015), leading domestic and overseas IoT enterprises were invited to suggest the competition topics, while various industry experts offered guidance regarding the creation of innovative IoT business models for promoting smarter cities and IoT integration. In 2017, in order to encourage students to explore and innovate, TiC100 was transformed into the TiC100 IoT Solution Contest, using Advantech’s WISE-PaaS IoT software as its core service platform.

In recent years, summer and academic year internships have received growing attention in Taiwan. In addition to serving as criteria for graduation or credit transfers in many schools, experience with carefully designed topics during internships helps students more effectively explore potential future career paths and competencies. This means they can make the best choice for themselves and realize their full potential in the workplace. We believe streamlined project internships are of greater benefit to students compared to short-term competitions or scholarships. For this reason, since 2018, TiC100 has transformed into an internship program. Integrating Advantech's Early Design Campaign (EDC), a user experience-based innovative design project, TiC100 launched two internship projects. These are the UX-ID (user experience industrial design) Early Design Internship, which includes product innovation and concept design, and the SRP (solution-ready platform) Early Design Internship, which emphasizes early trials of IoT applications. The TiC100 Summer Internship Program will recruit young talents in the fields of industrial design, UXUI design, software development, and marketing.

Program Scope

1. Invested resources

The total TiC100 expenditure in 2018 was NT\$4.51 million. Expenditures included competition awards, event promotions, campus lectures, platform establishment, competitions, training activities, and outsourced activities.



Figure 6.1 Highlights of the Advantech TiC100 event

2. Number of contestants

- (I) SRP Early Design Internship:
There were 69 registrants, 19 of whom were admitted.
- (II) UX-ID Early Design Internship:
There were 4 topic groups; 15 people admitted.
- (III) Global Internship:
A total of 9 interns were admitted in South Korea, Japan, the U.S., Brazil, and China; their competencies included marketing and FAE (field applied engineering).

3. Competition structure

The SRP Early Design Internship includes school-year part-time internships (January ~ June 2018) and summer internships (July ~ August 2018), whereas the UX-ID Early Design Internship takes place during summer vacation. All student internships are project-specific; that is, students use field surveys, market analysis, workshops, training, and practice (design or program development) to propose innovative solutions for the specific topics assigned. They also collaborate with Advantech's internal and external mentors and other student teams. This internship project provides students with experience and a working knowledge of the company's important internal innovation processes.

Program Content

1. Diverse training mechanisms

TiC100 strives to cultivate students' core competency using diverse training methods. In addition to the "expert mentor" work placement training strategy, where teams participate in actual projects and

experience real work practice, outstanding consultant companies, venture capitalists, and charity organizations are invited to offer guidance regarding consumer insights, business model design, user scenario-based simulations, entrepreneurial projects, presentation skills, online marketing, and brand management. This provides students with more effective and systematic training, which increases their competitiveness.

Internship topics: The SRP Internship topics have included the UShop+ (smart retail) cloud platform, WebAccess industrial IoT software, machine vision, and air conditioning solutions. The UX-ID Early Design topics have included ePaper smart bus stop design and low-power ePaper monitor design.

2. Ideal stage for innovation

To encourage students to practice and realize innovative ideas through hands-on activities, the TiC100 internship program also provides students with a free development resource—the WISE-PaaS industrial IoT cloud platform. Training is also provided to students. Through practice, they learn how the platform's device-to-cloud and software-hardware integration development resources can be applied to the digital transformation of many industries.

Future Outlook

Smart city, IoT development, and AI will be the biggest industry trends for the next decade. They are also Advantech's primary fields of expertise. The company's mission to "enable an intelligent planet" has been the primary theme of its industry-academia cooperation. Advantech has called upon its employees, customers, and industry partners to provide these interns with the most sincere, in-depth recommendations and assistance, to share their core competencies with the students, and to build a close connection between industry and society. In 2019, the TiC100 internship program will focus on the SRP Internship and UX-ID Early Design Internship. The WISE-PaaS platform has also matured further. Consequently, Advantech is also planning to make this development resource available to students around the world in 2019 via the AIoT Developer InnoWorks coding competition. We hope this will create more innovative applications related to the IIoT. The 2019 AIoT Developer InnoWorks competition will focus on the regions of Taiwan, South Korea, Japan, China, Vietnam, Russia, and Poland. We plan to invite 12 ~ 14 domestic and overseas universities to participate in the competition.

6.2 NCTU IoT & Intelligence Research Center

IoT is a new topic of interest in recent years and an opportunity for traditional IT industries to transform. IoT requires innovative, talented experts with great visions in the IoT industry to be nurtured in an education setting. However, the gap between industry and academia renders the application in practice ineffective.

Advantech believes that building a long-term industry-academia cooperation platform will facilitate integrating the core competencies of the industrial and academic sectors to reduce the industry-academia gap, and effectively stimulate industrial transformations in Taiwan. Therefore, Advantech cooperated with NCTU in 2015, along with the Industrial Technology Research Institute (ITRI), MediaTek, IBM, ARM, and Microsoft to build the first IoT & intelligence research center; an industry-academia platform that focuses on IoT issues and integrates the capacity of R&D personnel



Figure 6.2 NCTU IoT & Intelligence Research Center

and resources. Advantech has initiated a 5-year investment plan that invests NT\$20 million every year in the Research Center, hoping to lead by example and attract more vendors to participate in this platform. Aggregating the R&D and innovation capacities of industrial experts, academic scholars, and researchers, the platform can become a cradle for Taiwan's IoT industry.

Program Content

The research center built in 2015. Based on its practical experiences, Advantech proposes key industry-related issues to discuss with professors of the research center, and jointly formulate an annual Alternative Benefit Plan (ABP). In 2018, 4 research projects were implemented by professors, students, and project managers of Advantech's business units. Every quarter, meetings are convened in which steering committee members (three seats for NCTU and two for Advantech) and external experts discuss topics to ensure that the issues explored precisely meet people's needs in practice and that the research results are valuable to both academic and industrial sectors.

In addition to sponsoring academic research, Advantech believes that cultivating industry talent is crucial to IoT development. Beginning in 2016, Advantech, in collaboration with the Ministry of Education, provides NT\$500,000 in annual sponsorship for three students to undertake IoT-related study at a PhD level (Advantech sponsors NT\$300,000 and the Ministry of Education sponsors NT\$200,000). Guided

by both Advantech and NCTU, these students' PhD dissertations are centered on the IoT projects conducted at the NCTU research center. The students are required to study for two years and intern at Advantech for a further two years in order to become PhD-holding industry elites with practical knowledge and skills. This enhances not only the students' employment competitiveness, but also boost the development of the industry itself.

In 2018, four elite PhD holders completed industrial practice internships at Advantech. They participated in R&D projects, applying their academic knowledge to industry. Advantech provided hardware equipment and resources in the form of its WISE-PaaS cloud service platform, while also commissioning professors to design practical IoT courses. These courses cover academic and practical applications of Industry 4.0, cloud computing, and edge computing. Each class session attracted over 20 students and produced teaching material for later promotion and extension.

Future Outlook

In 2019, Advantech continued to expand the scope of past research outcomes and introduce field verification. Using the Advantech Linkou Smart Technology Campus as a demonstration site, we provided schools with more specific industrial data, optimized research models, and subsequently implemented mass production examples. This helped translate the academic research outcomes into value-creating industry insights, instead of merely laboratory theories. In this way, we helped establish a model for industry-academic cooperation.

teaching method. To cultivate teachers with extensive case study experience, in 2013 Advantech collaborated with the NCCU College of Commerce and NTU College of Management to devise a 5-year plan as follows: The Advantech Foundation would donate NT\$1 million annually to institutions to sponsor case studies of well-known enterprises in Taiwan and China. The goal was to conduct 50 case studies, including case studies of Advantech and other enterprises, over the five years.

To ensure case quality and promote Chinese business cases to external organizations and schools, participating institutions were required to submit their cases to the NCCU Business Case Center and Taiwan Management Case Center (TMCC), or other representative Chinese case centers, with a minimum of three cases conducted and approved per year. The project started in 2013 and was completed in 2017.

EACC Case Study: Project M

Starting in 2018, upon the invitation of the National Taiwan University's Professor Li Jiren, Advantech began sponsoring Project M (M represents "management"). Seven professors from the National Taiwan University, Yuan Ze University, National Tsing Hua University, National Chi Nan University, and National Cheng Kung University were invited to collaborate on the Traditional Chinese edition of the Harvard Business Review. The professors were responsible for conducting relevant research and writing 11 short case studies and seven

feature articles in Chinese. The significance of this cooperation project lies in the production of original Chinese feature articles and short case studies. This has meant that the Traditional Chinese edition of Harvard Business Review no longer features only translated materials. In addition, this project regularly organizes case study writing seminars, at which senior professors and editors offer advice based on the research orientations of young professors. In 2018, Advantech's case studies were collaboratively completed by Professors Kuo Chia-wei, Chiu Hung-chang, and Chang Shao-chi, who explored the planning of profit pools in diverse industrial companies.

Future Outlook

Project M yielded considerable results in 2018. Several short case studies and monographs were published in the Traditional Chinese edition of the Harvard Business Review. This broke new ground for the Traditional Chinese edition, from which Taiwanese content has hitherto been absent. This also expanded the impact of the EACC case studies to beyond the classroom, having a real influence on Taiwanese business management by allowing managers to enrich and improve their knowledge of operations and management. Advantech continued to sponsor this cooperation project in 2019, inviting a greater number of professors to participate. Therefore, more short case studies and monographs are expected in the future.

EACC Case Study: National Chengchi University

In 2019, Advantech also signed a new three-year (2019 ~ 2021) cooperation project with the National Chengchi University. This project involves Advantech sponsoring the NCCU College of Commerce to conduct case studies, write research articles, and teach case study examples. We continue to seek strategies for enterprise growth and breakthroughs via discussions between professors, MBA students, and EMBA students regarding issues in business models and management.

6.3 Enterprise-Academy Crossover Collaboration

The Enterprise-Academy Crossover Collaboration (EACC) project comprises the following programs: EACC-Case Study, Focus Lab, and the Elite Internship Program.

Every year, the Advantech Foundation collaborates with various management and business colleges of renowned universities to identify key factors that influence organizational development, including organizational management and corporate development strategies. Participating professors guide students in collecting data and conducting surveys and interviews to identify possible solutions. Advantech

managers are also invited to attend workshops to participate in discussions, reach a consensus, and clarify directions for future development.

However, because of the scarcity of quality case studies from Chinese enterprises, students of business management education programs in Taiwan are limited to examining foreign cases. They do not have the appropriate means for examining the domestic business environment. Additionally, compared to leading business schools in foreign countries, business schools in Taiwan do not typically use case studies as a




6.4 IoT Accelerators

The IoT is an emerging industry that promises substantial growth and numerous innovation and entrepreneurship. However, the low-volume, high-mix production characteristic typical of the IoT market presents a substantial obstacle to market entry. Accordingly, cross-industry partnerships are necessary to promote the development of the IoT industry. Leveraging its years of experience in the IoT industry, Advantech encourages IoT accelerators to establish an IoT entrepreneur ecosystem, incubates B2B and IoT startup teams, and organizes initiatives that accelerate development, such as industry consultations, practical exchanges, and resource matching, in order to create an entrepreneur community that fosters learning and growth.


Program Content

Advantech hosts regular IoT Accelerator Days, where startup teams are invited to demonstrate their product solutions and internal and external partners, including business mentors, venture capitalists, and startup accelerators, acting as mentors offer professional guidance and consultations, practical exchanges, and resource matching. This promotes the establishment of an IoT startup acceleration ecosystem and assists startup teams with identifying exclusive profit models.




Professional guidance

Advantech's product department experts act as mentors and provide guidance regarding product design, distribution, and marketing to enable entrepreneurs to quickly enter the market.




Global market connections

By leveraging its global brand and sales teams, Advantech will create international sales channels to help entrepreneurs grow their business worldwide and seize global business opportunities.



Startup resource matching

Advantech connects entrepreneurs to external resources for fundraising, patent consultation, and financial planning, to solve key operational issues.



Social media advertising

Outstanding projects will be selected for media promotion, particularly among the IoT community and co-presented by Digitimes and Advantech, to increase the visibility of startup teams in specific market segments.

In 2018, Advantech organized 8 IoT Accelerator Days in Taiwan and Mainland China. In addition to Advantech's relevant internal managers, industry representatives from enterprises such as China Development, Shangchuang Xinwei Investment Management, the CID Group, and StarFab Accelerator were also invited to participate in these events. These representatives offered guidance to the 26 participating startup teams exploring solutions for a variety of domains, including smart factory, smart retail, artificial intelligence, network security, smart devices, intelligent healthcare, and image recognition. After the events, Advantech also provides several teams with relevant support and guidance regarding operating models, marketing and sales, and product technology. From the 26 participating teams, Advantech selected 12 teams that were closely connected with its core industries and provided them with financial and technological resources to assist in commercialization and marketing. The teams were also invited to attend Advantech's IoT Co-Creation Summit held on November 1 ~ 2, 2018, to showcase their product solutions.

Future Outlook

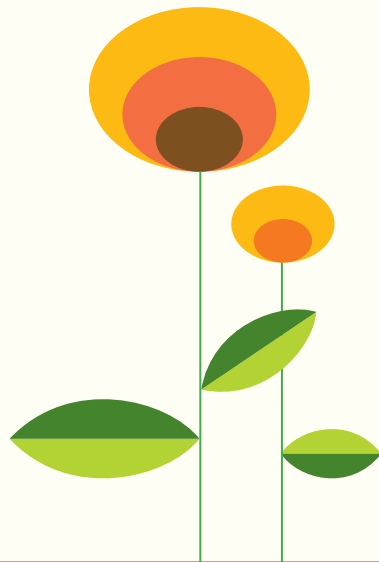
Advantech will continue organizing regular IoT Accelerator Days for IoT startup companies and assisting participating teams in accelerating their development and growth with the use of Advantech's IoT products, technologies, and marketing channels. In 2017, Advantech, together with StarFab Accelerator, established the Advantech x StarFab IoT accelerator. In the future, Advantech and StarFab will focus on cultivating and investing in IoT startup teams. By emphasizing joint development and co-creation, Advantech hopes to encourage startup teams and accelerate their development of innovative IoT applications. The goal is to incubate at least 15 startup teams before 2020 in an effort to boost the development of Taiwan's IoT industry chain through a cross-industry entrepreneur ecosystem.



Contributing to Society Through a Spirit of Altruism

We believe that society is like the nourishing ground that forms the basis on which enterprises grow and prosper. Advantech owes its operational achievements to the inexhaustible resources provided by the greater social environment. We firmly believe that, as a responsible corporate citizen, Advantech must bear its share of social responsibility. Advantech regards society as one of its crucial stakeholders.

Therefore, with an honest heart and modest spirit, Advantech is fully committed to becoming a role model of social responsibility by spreading the altruistic spirit of Advantech, using our achievements to benefit society, and sharing our pride with local communities. Via the Advantech ABLE Club, the company promotes social welfare by financing three major focus areas: social innovation projects, education and care, and arts and cultural development. Additionally, by linking such actions to employee participation, we expand the scope of our social influence. In doing so, we embody the company's corporate culture of altruism and pursue social prosperity and the common good.



7.1 Sponsoring Social Innovation Projects

In 2018, the ABLE Club sponsored both the Taiwan Social Enterprise Innovation and Entrepreneurship Society's TiC100 Social Enterprise Contest and Social Enterprise Insights' iLab Project. The intention was to provide social innovation practitioners with resources and ideas as they progress toward a new chapter of promoting positive changes for society.

TiC100 Social Enterprise Contest

The objectives of the TiC100 Social Innovative Startup Contest are to combine solutions to social issues with entrepreneurial action, and thus advance innovative concepts and solutions in collaboration with partners. The focus for the 2015 ~ 2018 period was community and social issues. During this period, over 400 social enterprise starter seeds were planted on campuses and in society at large. The starter seeds were targeted to 22 focus issues, including environmental protection, community development, education, agriculture, food, tourism, elder care, health, and medicine.



Figure 7.1 TiC100 highlights

iLab Program

Advantech recognizes that in the beginning stages, all social enterprises require support from many strategic partners. For this reason, Advantech has long sponsored the Social Enterprise Insights' iLab program. Furthermore, we approve of the Social Enterprise Insights' dedication to the development of Taiwanese social enterprises since 2014. This dedication has had a critical impact on Taiwan's entrepreneurial ecosystem. Charles Yen, President of iLab, stated that "the community created by iLab allows aspiring young people to find like-minded partners and resources, and thus become more willing to take risks in entrepreneurship. For early-stage entrepreneurs, the opportunity to connect with fellow entrepreneurs, entrepreneurial mentors, big companies, and government resources is very important."

From 2016 to 2018, iLab incubated a total of 64 social enterprise startup teams. iLab entrepreneurs also influenced more than 180,000 people who participated in the project. In addition to providing seed bonuses totaling NT\$3.6 million to mitigate the risks in the early stages of entrepreneurship, iLab provides even more added value with the non-bonus services offered to entrepreneurs. For example, Social Enterprise Insights and Advantech have co-organized events so-called Startup Nights, to which social enterprise entrepreneurs and Advantech employees are invited to share their social enterprise philosophies with the public.



Figure 7.2 iLab highlights

By gaining the approval of all attendees, these events expand the scope of influence out to the participants' families and even their local communities.





collaboration between Advantech and Junyi Academy provides children in the rural areas of Miaoli with opportunities to integrate learning and practice, and thereby build skills for the future. In Miaoli, there were 11,875 students registered (up 47% from the 8,075 registrations in 2017). Of these, 950 were regular weekly users. Additionally, teachers from a total of 72 schools (49.3% of the 146 elementary and junior high schools in Miaoli County) used the Junyi Academy platform; 41 teachers were in-depth users (up 58% from the 26 teachers in 2017).

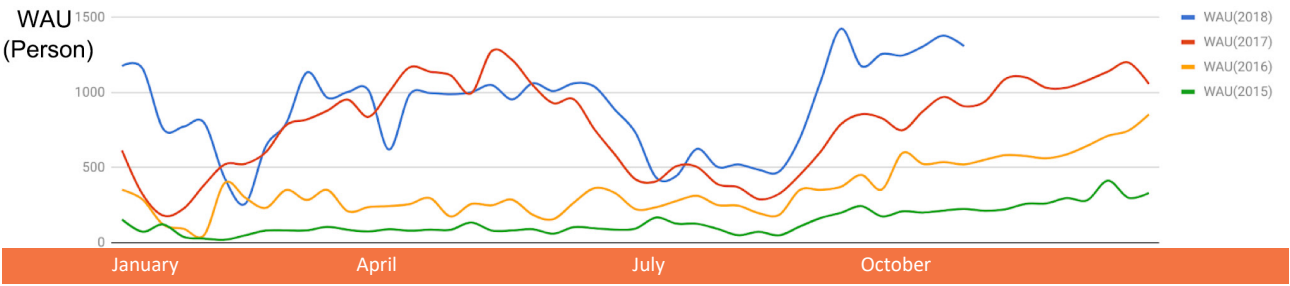
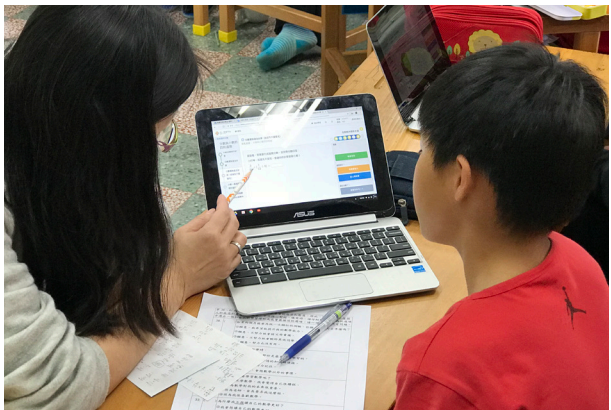


Figure 7.3 Number of students and teachers using the online education platform

7.2 Education and Care

Advantech cares about issues related to culture and education. Through the Advantech ABLE Club, numerous activities have been organized to give back to society and contribute to others in need. In terms of education promotion, Advantech sponsored Junyi Academy’s Miaoli Rural Area Education Promotion Program to offer hope for disadvantaged children through technology. With the Active & Creative Teaching (ACT) program, Advantech sponsors volunteer readers at schools around Taiwan. Scholarships are also offered to disadvantaged children from rural areas in Hsinchu and Miaoli to assist students in rural villages. The seeds of education are planted through various key education projects, which we hope will have a positive impact in society.

As of the end of 2018, Advantech has invested approximately NT\$9.1 million in social welfare projects, which include the ACT Story Mom, “Your Vote Determines the Power of Love” social welfare proposals, rural area scholarships in Taiwan Hsinchu and Miaoli.

Miaoli Rural Area Scholarships

The Advantech ABLE Club supports the mission of Junyi Academy—“To help every child acquire the ability to move into the world and develop a sense of responsibility for society. To help every child find learning methods that best suit them, and learn at their own pace. To help teachers realize their passion for education, so that every child can shine brightly. To help parents accompany their children as they explore the unknown and discover their talents.”

Through the online education platform, Junyi Academy assists teachers in realizing individualized education and reducing learning disadvantages. The



Figure 7.4 Miaoli rural area scholarship highlights

ACT Story Mom - A Diverse and Lively Teaching Method

We believe that “education is the foundation of national development.” Because children’s education drives social advancement, delivering basic education and establishing a reading culture are key objectives for Advantech.

At its founding in 1997, the Advantech Foundation established the ACT 100 Diverse and Lively Teaching method by integrating elements of drama and adopting creative and active learning strategies to update traditional teaching concepts and practices.

The aim is to use storytelling to assist parents with motivating children’s learning and opening their minds to possibilities. Through listening to stories, children



learn to develop their imagination and identify wants and ambitions. With the inclusion of lively and creative drama techniques, static reading transforms into

dynamic storytelling, making learning fun and deepening the interaction between parents and children.

The ACT Story Mom volunteer program is conducted along with well-planned courses and comprehensive campus tour activities. Graduated trainees participate in providing on-campus services, such as class adoptions, story tours, reading clubs, story performances, and activity organization. Advantech's Story Mom volunteers are committed to life-long learning and using their passion and energy to promote reading education. These volunteers help children show love to their parents at home, and interact positively with teachers at school by caring for people, events, and objects.

Since 1997, the Advantech Foundation has provided the ACT 100 Diverse and Lively Teaching project sponsorship per year, investing more than NT\$10 million over the past decade to cultivate storytelling volunteers. The Advantech Foundation also enables parents to continue their personal development, reaffirm beliefs, share wisdom, care for their children, and participate in volunteering. Currently, Advantech has recruited thousands of storytelling volunteers at more than 100 schools. In addition to assisting parents and children with developing a life-long habit of reading, the volunteers also explore their own reading interests and capacity. We hope that our efforts to promote a reading culture can contribute to education reform.



Figure 7.5 ACT Story Mom highlights



“Your Vote Determines the Power of Love” Social Welfare Proposal Platform

Despite Advantech employees’ strong showing of love and support for Taiwan society, relying on corporate strengths to help those in need is not enough. Therefore, at the end of 2010, the Advantech Foundation participated in the “Your Vote Determines the Power of Love” social welfare proposal program developed by the Taishin Charity Foundation, and then successfully established the Advantech Public Service Award. d. In 2018, Advantech provided 10 awards and over NT\$1.5 million in sponsorship. We hope that our contribution

assists cultural education groups with completing projects and having a meaningful impact on society.

Proposals for education projects are put to a public vote, and the most socially meaningful proposals are selected for implementation. We aim to harness social power and use people’s passions to initiate a change, while also encouraging people to understand and interact with disadvantaged social groups, help those in need, and ensure the fair distribution and use of resources.

Caring Scholarship for Remote Areas of Taiwan

The strength of education is a nation’s most competitive soft power. The Advantech Foundation has made substantial investments into education development. Regarding basic education, because many economically disadvantaged children living in remote areas of Taiwan still do not receive sufficient education, over 10 years ago, CEO KC’s wife, with the assistance of volunteers in Miaoli, personally sponsored several children with their school tuition fees. In 2012, the Advantech Foundation joined the Chu-Miao Rural Area Caring Scholarship project to assist schools located in remote and economically disadvantaged areas of Hsinchu and

Miaoli. After establishing regulations for the scholarship program, the schools formulated an Evaluation Committee to select outstanding, hard-working students for the scholarship and ensure the funds are used to cover miscellaneous fees and extracurricular activities.

In 2018, 1,642 children from 38 schools were awarded a scholarship sponsored by the Advantech Foundation. We hope that the recipients of these scholarships seize this opportunity, study diligently, express gratitude, and give back to society. Thus, the power of love and caring can be magnified and continuously sustained.

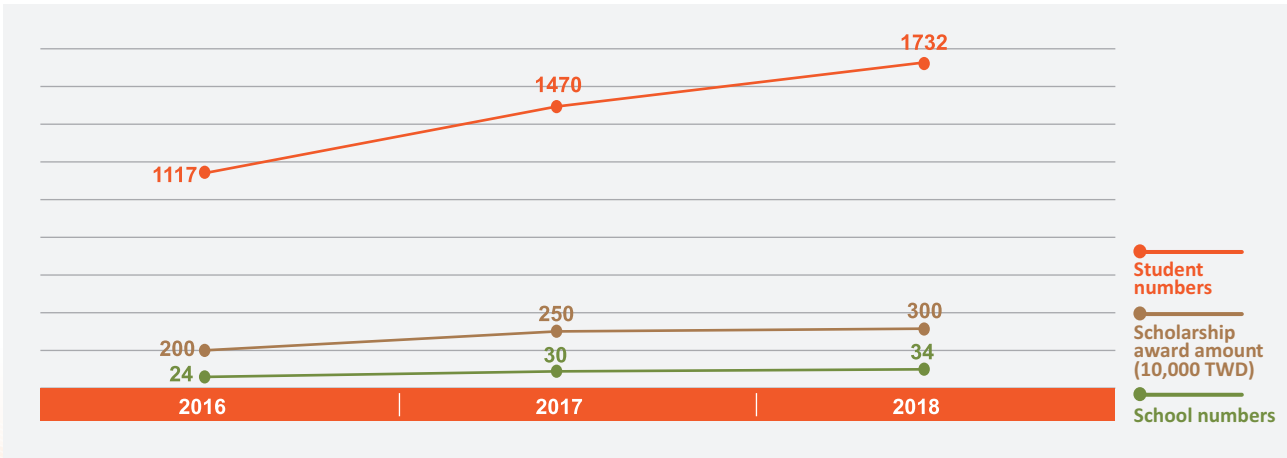


Figure 7.6 Results of the Caring Scholarship program

7.3 Arts and Culture Sponsorships

Promotion of Traditional Arts: National Taiwan College of Performing Arts

Advantech's ABLE Club has devoted years of effort to maximizing its social impact through industry-academia collaborations in order to recruit talent and achieve

innovative learning. The National Taiwan College of Performing Arts is the only institution in Taiwan that offers traditional performing arts education. With its mission being to pass on, develop, and revitalize traditional Taiwanese opera, the college is committed to cultivating talented performers and creating value

and demand for traditional performing arts. To assist with cultivating and developing Taiwanese opera, in 2015 Advantech collaborated with the National Taiwan College of Performing Arts in implementing a 3-year fostering program. Advantech spends NT\$3.01 million every year to sponsor this program, which it anticipates will generate prosperous opportunities for traditional performing arts.

Hwa Xing Tours: Every year art productions are selected for performance at the school and at three national theaters located in northern, central, and southern Taiwan.

Hwa Jing Cultivation Program: Six university students trained in Beijing opera, Taiwanese opera, Hakka opera, acrobatics and dance were selected to receive scholarships and learn under the tutelage

of highly regarded masters of cross-Strait arts. A performance exhibition is also held to showcase the talents of individual performers and performance troupes as a means of encouraging top-level talent.

The Department of Acrobatics' primary teaching space, the Xiaoyun Building, has been in use since 1998. Over the years, frequent use has resulted in wear and tear to the facilities and equipment, which has affected the students' safety during practice and performances. In order to support the promotion and development of traditional arts and culture, the Advantech ABLE Club made a pioneering donation of NT\$2.5 million to the refurbishment of the facilities. This contribution together with the NT\$3 million jointly donated by the ABLE Club and the Lita Tree Education Foundation, along with funds amounting to nearly NT\$1.5 million raised



Figure 7.7 Xiaoyun Building completion ceremony



Figure 7.8 Traditional arts performance

by the National Taiwan College of Performing Arts itself, the main specialty classroom was refurbished. In doing so, we hoped to create a superb rehearsal venue and high-quality learning environment that would assist the College in achieving its aim of “fostering quality traditional opera talents and maintaining a professional academy of traditional performing arts development.”

The refurbishment project started in March 2017 and was completed in August 2018. Project highlights include the following:

- 1. Prop storage space:** The existing prop storage space was insufficient, resulting in disorganized and messy props. The refurbishment plan was based on the design of the prop storage area of the National Institute of Circus Arts in Australia. Accordingly, a vertical storage space that comprised painted stainless steel mesh and an electric crane system was built, saving space and improving the overall storage efficiency.
- 2. Olympic-standard gymnastics flooring:** Because the old gymnastics flooring and carpets were damaged, students were more vulnerable to injuries, which

hindered their performance. The refurbishment involved the complete replacement of the flooring with brand new Olympic-grade gymnastics flooring and carpets, ensuring students can practice with greater safety.

- 3. Suspension system:** An elevated suspension system and hand-cranked gear winch were installed in the specialty classroom. This was the only practice site in Taiwan that satisfied the relevant international professional requirements. However, the equipment was old and dilapidated. The refurbishment included a full replacement of the suspension system, along with plans for suspension facilities that adopt the latest technologies, in order to improve student safety during rehearsals.

Art Salons

Advantech's ABLE Club actively promotes its Art Salons. At the end of each year, the ABLE Club invites art groups to submit proposals for the upcoming year. The groups selected via the ABLE Club's voting system are offered funding for collaborative projects and performances

that Advantech staff and the general public can attend. This initiative enables art groups to increase their profile and audience appeal, while also cultivating public appreciation of arts and culture.

Additionally, Advantech's ABLE Club also sponsors special showings of outstanding local art shows or movies. In 2018, Advantech invested NT\$4.21 million in Art Salon events, which included 84 art performances with a total of 2,780 participants.

Public Service Art Gallery

To promote artistic talent and support potential artists in Taiwan, the Advantech Foundation established the Advantech Public Service Art Gallery program in 2000. Spaces in both Advantech's Headquarters and Sunny Building were designated as art galleries for all types of artists to exhibit their creations free of charge. These art galleries not only serve as a platform for artists to showcase their work, but also provide Advantech's visitors, partners, and employees, as well as local community residents, with a pleasant and artistic work environment.

The artworks exhibited are updated every two months and include colorful watercolor paintings, Chinese calligraphy, oil paintings, photography,

composite media images, and sculptures. Additionally, the exhibitions at Advantech's galleries are also designed and arranged around the foundation's scheduled arts and culture activities. For example, Advantech sponsors the Taipei City Yang Chun Watercolor Art Organization, and every year organizes the Continental Watercolor Art Hwa-yang Award, with the winning entries exhibited in Advantech's Public Service Art Gallery for all to appreciate.

Advantech's Public Service Art Gallery provides a free space for artists to exhibit their work, with new artworks exhibited every two months. The Advantech Foundation assists with the exhibition arrangements, such as transporting artworks, decorating the exhibition area, sending out invitations, providing guest tours, packing artworks, organizing tea parties, and concluding exhibitions. The art exhibition spaces offer sponsorships of NT\$10,000 for every exhibition, totaling NT\$1500,000 each year.

Currently, the areas allocated to Advantech's Public Service Art Gallery program are the main hall on the first floor and B1 of headquarters, as well as the main halls on the first and second floor of the Sunny Building.



Figure 7.9 Arts Salon performance highlights



Figure 7.10 Advantech's Public Service Art Gallery exhibition

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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 2018

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 2018 (hereinafter referred to as CSR Report). The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the text, and data in accompanying tables, contained in this report.

The information in the Advantech's CSR Report of 2018 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 2018.

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 at a high level of scrutiny for Advantech and 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 Global Reporting Initiative Sustainability Reporting Standards (2016)

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 has 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, EICC, 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 2018 verified is accurate, reliable and provides a fair and balanced representation of Advantech sustainability activities in 01/01/2018 to 12/31/2018.

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.

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. For future reporting, Advantech may consider describing stakeholder views of the accuracy and usefulness of previous reporting cycle

GLOBAL REPORTING INITIATIVE REPORTING STANDARDS (2016) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

The report, Advantech's CSR Report of 2018, is adequately in line with the GRI Standards in accordance with Core Option. The material aspects 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 aspects and boundaries, and stakeholder engagement, GRI 102-40 to GRI 102-47, are correctly located in content index and report. When reporting on goals and targets for each material topic in the future, the expected results are suggested to be set, if applicable, with quantitative objectives. It is also recommended to explain the mechanisms for evaluating the effectiveness of the management approach specifically for future reporting.

Signed:
For and on behalf of SGS Taiwan Ltd.

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17 April, 2019
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