

**2017** Advantech Co., Ltd.

# Corporate Social Responsibility Report

**Altruistic Management**  
**Social Contribution**  
**Advantech Beautiful Life**



# About Advantech's 2017 Corporate Social Responsibility Report

## ■ Editorial Principles

Advantech's 2017 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 2018, Advantech's 2017 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, Xindian, and Linkou), as well as its Kunshan office in China, and from 2015, Advantech has disclosed its human resource information of Dong Guan plant 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 2017. 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 2016, 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 AA1000AS<sup>1</sup> Type 2 High level of assurance. The verification statement is provided in the Appendix section of this report.

<sup>1</sup> 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 2018  
 Previous issue: October 2017  
 Next issue: Scheduled for October 2019

**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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## 01

## CEO Expectations and Sustainability Management

- 1.1 The Organization of 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.

#### ■ 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 ABLE Club, 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 ABLE Club will also guide all Advantech employees in achieving a model corporate image.

Advantech will use a combination of the company’s two major platforms — its core corporate energy and the ABLE Club — to lead all staff and partners in realizing their corporate social responsibilities in order to balance all stakeholder interests and demonstrate the values of an altruistic social enterprise.

In 2018, Advantech’s CSR Promotion Office also invited external consultants to assist with establishing CSR focus areas and operational directions for the next five years based on the company’s core competencies in an effort to invigorate Advantech’s promotion of CSR and thereby form a strategic direction for sustainable management.



CEO of Advantech

## 1.1 The Organization of 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.

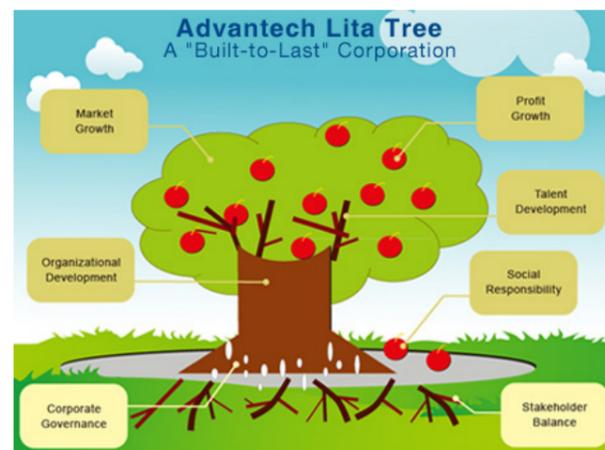


Figure 1.1 Schematic diagram illustrating the Advantech (altruistic) LiTa Tree concept

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.

### 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.

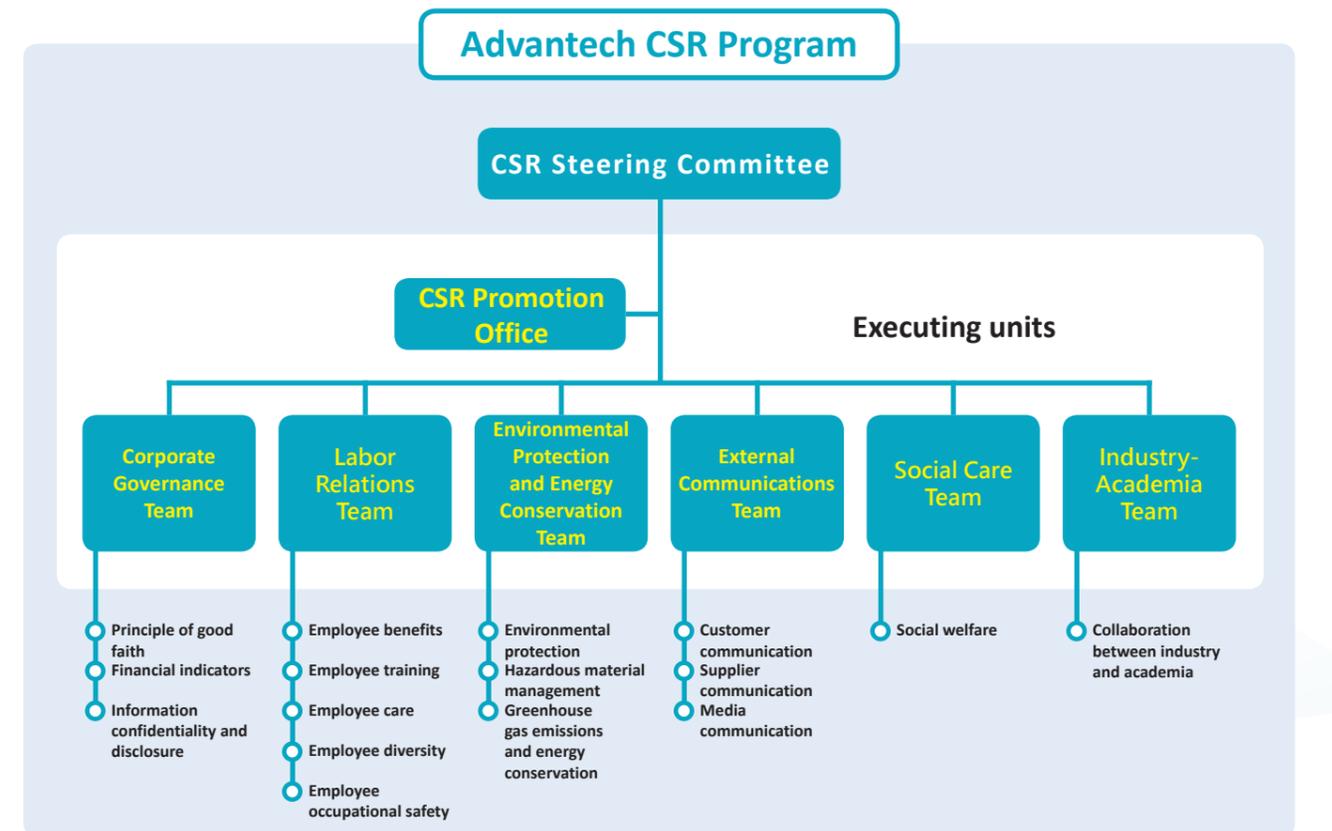


Figure 1.2 Advantech’s CSR program organizational framework

## 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 in 2017 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"> <li>Product service and labeling</li> <li>Customer privacy management</li> <li>Marketing communications</li> </ul>	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"> <li>Labor relations and employee welfare</li> <li>Anti-corruption and fair competition</li> <li>Customer privacy management</li> </ul>	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"> <li>Compliance with product-related laws and regulations</li> <li>Ethical corporate management and market image</li> <li>Procurement practices</li> </ul>	Investor service mailbox on company website	Investor conferences
		Market observation post system	Investor webpage on company website
		Shareholders' committee	
Media	<ul style="list-style-type: none"> <li>Ethical corporate management</li> <li>Economic performance</li> <li>Compliance with product-related laws and regulations</li> </ul>	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"> <li>Procurement practices</li> <li>Supplier social impact assessment</li> <li>Supplier environmental protection assessment</li> </ul>	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"> <li>Economic performance</li> <li>Product and services labeling</li> <li>Marketing communications</li> </ul>	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"> <li>Collaboration between industry and academia</li> <li>Industry alliances</li> </ul>	Collaborative activities	Disclosure of CSR report on company website
		Art galleries	

### 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.

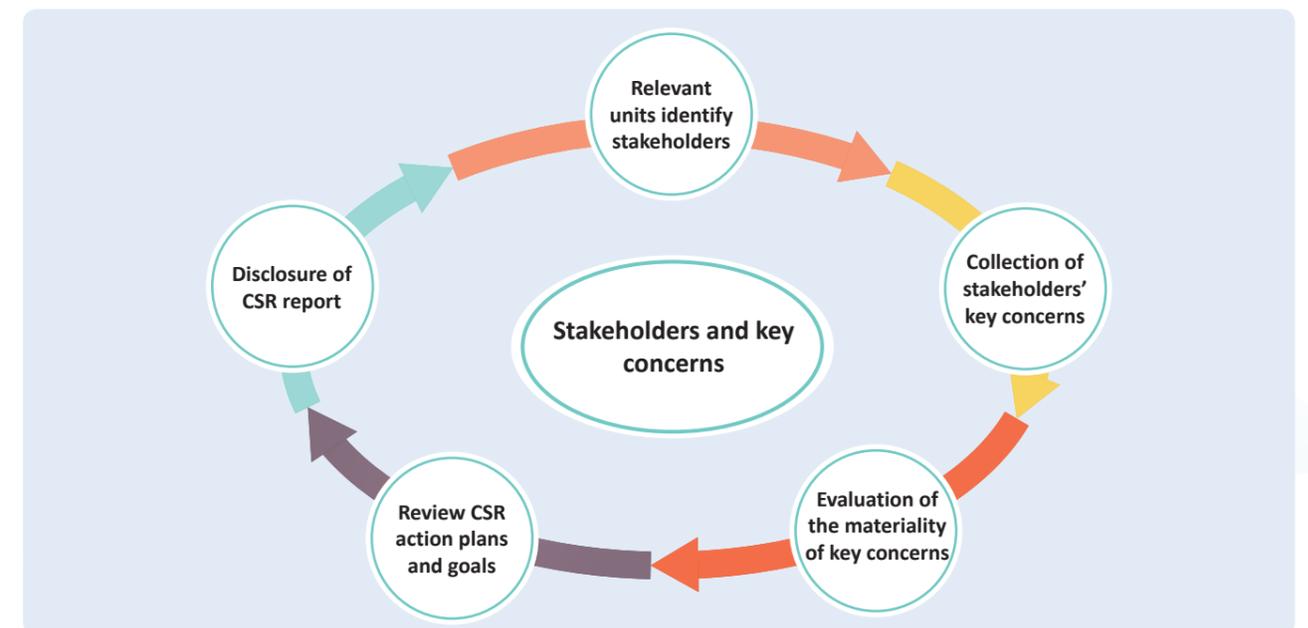


Figure 1.3 Advantech’s CSR materiality analysis process

## Sustainable Development Goals

In 2015, the United Nations planned a total of 17 sustainable development goals (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.



Figure 1.4 SDGs set by the United Nations

In 2010, Advantech began promoting the concept of an intelligent planet and development of the IoT industry. Advantech has subsequently leveraged its core competencies to accelerate the realization of smart cities and used innovative technologies to solve environmental and social issues in an effort to encourage progress on the SDGs. Following a thorough review of Advantech’s long-term CSR strategies, the CSR Steering Committee has set the following goals as strategic directions for sustainable development in the future:



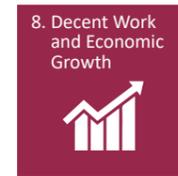
### Goal 4: Quality Education

With innovative learning as the core strategy and industry-academia collaboration as the methodology, Advantech hosts its annual TiC100 IoT Solution Contest, Early Design Campaign, and Advantech Elite Internship Program, and has established a research center at the National Chiao Tung University. Through these initiatives, Advantech combines industry and academia resources to help students combine theory with practice and gain practical industry experience in order to cultivate excellent talent for the IoT industry. (For more information, please refer to Chapter 6.)



### Goal 7: Affordable Clean Energy

Advantech’s Linkou Intelligent Campus is also a co-creation site for developing innovative smart building solutions as well as a space for visitors from industry, government, and academia to personally experience Advantech’s intelligent solutions. Through these initiatives, Advantech will substantially realize smart building energy management and smart facilities management. At Advantech's Linkou Intelligent Campus, visitors will be able to experience intelligent centralized control rooms, intelligent parking, and intelligent meeting rooms. Advantech will also continue to promote innovative developments in smart energy conservation. (For more information, please refer to Chapter 4.)



### Goal 8: Decent Work and Economic Growth

Advantech strives to cultivate core competencies in employment, innovation, and entrepreneurship for aspiring young people. The company achieves this through various means, including inviting quality consultants, venture capitalists, and charity organizations to offer students lessons on business model design, entrepreneurial project presentation skills, online marketing, and brand management in order to increase their workplace competitiveness. Additionally, Advantech regularly organizes IoT Accelerator Day events, where startup teams are invited to demonstrate product solutions. Each team is also assigned a venture capitalist mentor and resources to establish an individual profit model. (For additional information, refer to Chapter 6.)



### Goal 9: Industry, Innovation and Infrastructure

Amid the era of Industry 4.0, industries are facing common challenges, including how to improve investment returns, ensure production capacity, increase energy efficiency, and achieve smart energy conservation, smart safety, and smart maintenance. By integrating smart facilities and data analysis, Advantech has transformed its manufacturing centers in Kunshan and Linkou into smart factories to further the realization of smart manufacturing. Advantech will continue to promote Industry 4.0 through the deployment of integrated automation systems and innovative cloud technologies. (For more information, please refer to Chapter 4.)



### Goal 11: Sustainable Cities and Communities

In recent years, increased urbanization, population aging, and resource overconsumption has generated serious environmental and employment problems. Governments worldwide are investing in new IoT technologies to address these problems and ensure sustainable development. Adapting to the new era of IoT and cloud computing, Advantech is committed to promoting the realization of an intelligent planet by developing integrated IoT solutions. These solutions encompass a variety of vertical markets, including smart medical care, smart energy conservation, smart transportation, smart retail, and smart manufacturing, and have been introduced in a number of countries throughout Europe, the Americas, Asia, and Australia. (For more information, please refer to Chapter 2.)

## 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

<b>External</b>	<ul style="list-style-type: none"> <li>◆ GRI aspects and indices</li> <li>◆ Stakeholder communication and feedback</li> <li>◆ SDGs</li> </ul>
<b>Internal</b>	<ul style="list-style-type: none"> <li>◆ Advantech’s CSR policy</li> <li>◆ Corporate strategies and goals</li> </ul>

### Priority of Material Topics

In accordance with the evaluation mechanism for material topics, Advantech dispatched 92 questionnaires and retrieved 85 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.

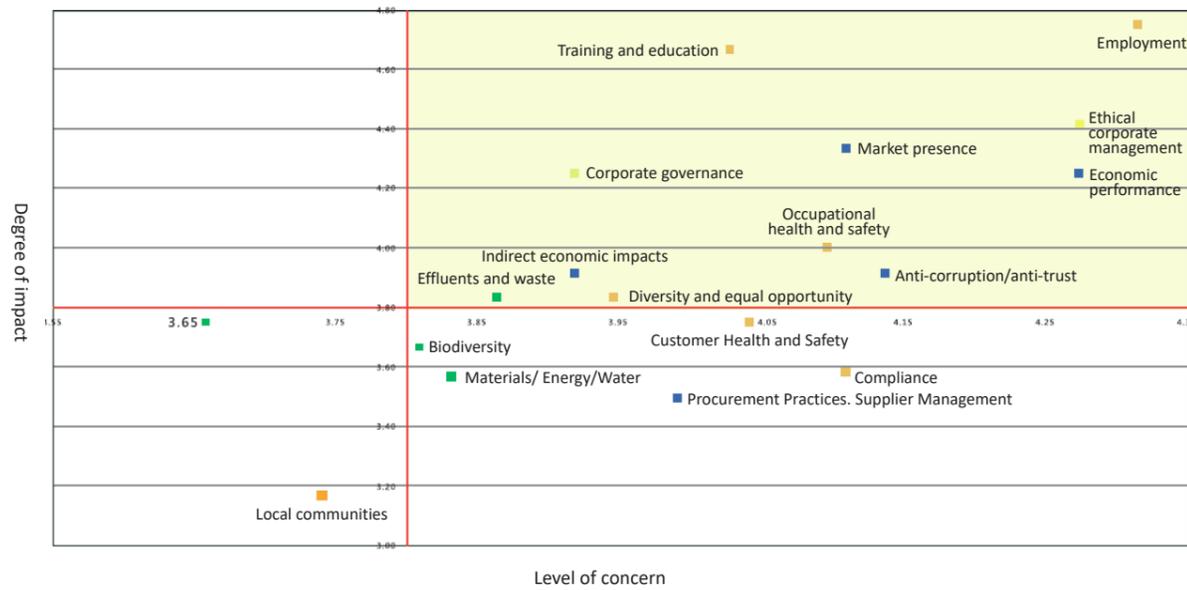


Figure 1.5 Advantech's CSR aspect materiality analysis results

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
<ol style="list-style-type: none"> <li>1. Effluents and waste</li> <li>2. Materials</li> <li>3. Energy</li> <li>4. Emissions</li> <li>5. Supplier environmental assessment</li> </ol>	<ol style="list-style-type: none"> <li>1. Market presence</li> <li>2. Economic performance</li> <li>3. Procurement practices</li> </ol>	<ol style="list-style-type: none"> <li>1. Labor/Management Relations</li> <li>2. Employment</li> <li>3. Customer health and safety</li> <li>4. Training and education</li> <li>5. Occupational health and safety</li> <li>6. Diversity and Equal Opportunity</li> <li>7. Compliance</li> </ol>

### 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

Legend: ■ : Material ● : Fully disclosed in this report  : Partially disclosed in this report  : Cannot be disclosed due to lack of information

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	●	●	

## 02

## 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 23 countries throughout Europe, the USA, and Asia.<sup>1</sup> 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.

<sup>1</sup> For a comprehensive list of countries, please refer to <http://www.advantech.tw/contact>

Table 2.1 Advantech products’ sales performance

Major product	Ratio	2017	
		Sales Amount	%
Embedded board and case		18,596,165	42
Industrial applied computer		9,028,906	20
After-sale service and other		16,749,680	38
<b>Total</b>		<b>44,374,751</b>	<b>100</b>

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.

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. In 2013, Advantech acquired LNC Technology Co., including its factory in Dongguan, China. Therefore, information regarding human resources management at the LNC Technology Co.’s Dongguan factory is also disclosed in this report.

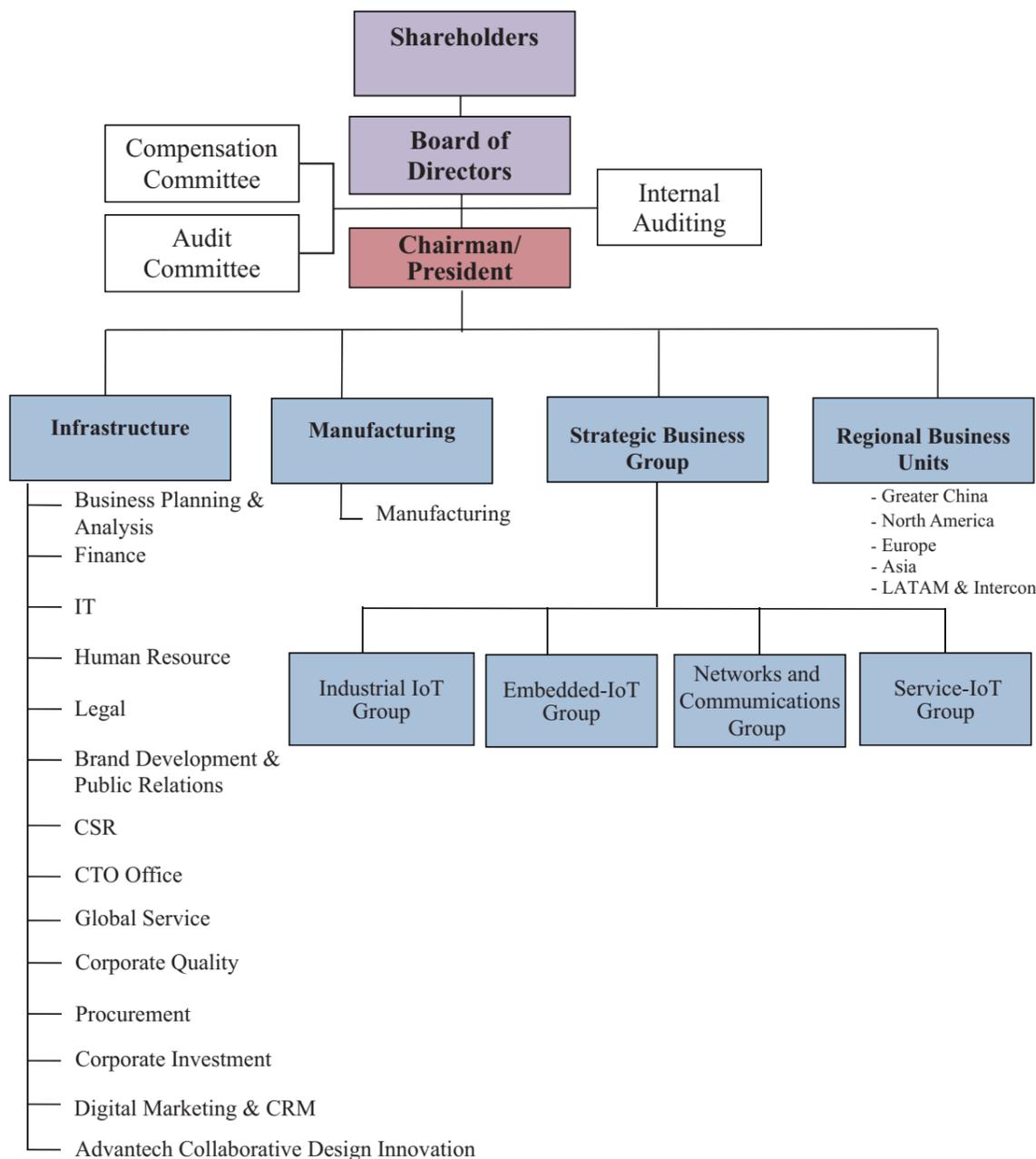


Figure 2.1 Advantech's organizational structure

**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 is also actively involved in a variety of cross-industry cooperation to accelerate the

formation of IoT ecological chain. Advantech has joined official and private organizations. In 2012, using the topic of smart cities as a starting point, Advantech assisted the Taipei Computer Association in gradually transforming the Telecommunications Exhibition into what is currently known as the Smart City Expo. Then in early 2014, the Taipei Computer Association seized the opportunity, together with Taiwan's main IoT supply chain vendors, including IBM Taiwan, Tatung Company, Chunghwa Telecom, Asus Cloud, Advantech, the Industrial Technology Research Institute (ITRI), and the Institute for Information Industry (III), to jointly establish the Taiwan Smart City Solution Alliance (TSSA), with KC Liu, CEO of Advantech, serving as the TSSA's first president.

Furthermore, in recent years, Advantech has also joined multiple government and non-government organizations, such as the Taiwan Automation Intelligence and Robotics Association (TAIROA), Cloud Computing Association in Taiwan, and the National Information and Communications Initiative (NICI) Committee, with the aim of providing recommendations regarding the overall industry development and construction of a smart city. See Table 2.2 for a list of Advantech's affiliated organizations.

Table 2.2 Advantech's affiliated organizations

Participating Unit	Regular membership subscription	No. of seats occupied	Strategic meaning
Taipei Computer Association	Yes	-	-
Taiwan Smart City Solution Alliance (TSSA)	Yes	-	Founding member Promoting Real Site Demos in Taiwan Promoting the Smart City Expo Playing a key role in promoting 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

Participating Unit	Regular membership subscription	No. of seats occupied	Strategic meaning
Taipei Neihu Technology Development Association	Yes		
Taiwan Intelligent Building Association	Yes	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.
Lora Alliance	-	Member	Enable large scale deployment of Low Power Wide Area Networks (LPWAN) IoT through the development and promotion of the LoRaWAN open standard
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.
e-F@ctory Alliance		Member	
Taiwan Telematics Industry Association		Member	Expedite the development of the Taiwan telematics industry and to strengthen its global competitiveness.

## 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 evaluation<sup>2</sup> conducted in 2017. The evaluation results ranked Advantech in the top 5th percentile. The evaluation comprised a total of 1,496 companies, including 861 listed and 675 OTC 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.

<sup>2</sup> The corporate governance evaluation was conducted by the Securities and Futures Institute (<http://www.sfi.org.tw/>)

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

Item	2017	2016	
<b>Financial revenue/ expenditure</b>	<b>Business revenue</b>	30,900,577	30,501,099
	<b>Operating costs</b>	21,702,119	21,538,672
	<b>Gross profit</b>	9,198,458	8,962,427
	<b>Net income (loss) before tax</b>	7,143,989	6,643,696
	<b>Net profit (loss)</b>	6,156,516	5,666,862
<b>Profitability</b>	<b>Net profit per share</b>	8.84	8.15
<b>Employee salary and benefits</b>	<b>Total salary</b>	2,708,831	2,654,766
	<b>Total benefits</b>	300,427	290,429
<b>Payable to investors</b>	<b>Stockholder cash dividends</b>	3,988,367	3,791,118
<b>Payable to the government</b>	<b>Income tax</b>	775,421	642,316

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.

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

### 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 NT\$69 billion. A summary of the company's recent financial information, including revenue, expenditure, and profit, is shown in Table 2.3.

In 2017, the tax deductions resulting from investments in equipment, technology, R&D, and talent cultivation totaled NT\$247 million.

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 five directors and three supervisors. To increase the efficacy of corporate governance, the company's articles of association clearly state that two 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.

For independent supervisors, experience in supervision and financial auditing is more heavily emphasized. Suitable candidates are also invited to join the Audit Committee as trial members.

## 2. Member information and qualifications

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

Table 2.4 Board Member List, Service Term and Educational Background/Experience

Title	Name	Service Term	Main Educational Background/Experience
Chairman	KC Liu	3 years	<ul style="list-style-type: none"> <li>• Founder of Advantech Co.,Ltd.</li> <li>• Previous HP Taiwan Sales Engineer</li> <li>• B.S. in Communication Engineering, National Chiao Tung University Biography</li> </ul>
Director	Advantech Foundation, Representative: Chaney Ho	3 years	<ul style="list-style-type: none"> <li>• President of Advantech Co.,Ltd.</li> <li>• HP Taiwan Engineer and Manager</li> <li>• Tatung Institute of Technology,Taiwan</li> </ul>
Director	Ted Hsu	3 years	<ul style="list-style-type: none"> <li>• Chief Strategy Officer of ASUSTeK</li> <li>• EMBA, National Chiao Tung University</li> </ul>
Director	AIDC Investment Corp. Representative : Donald Chang	3 years	<ul style="list-style-type: none"> <li>• President, 3M China Region</li> <li>• Vice President, 3M Southeast Asia Region</li> <li>• Bachelor Chemical Engineering, Chinese Culture University</li> </ul>
Independent Director	Joseph Yu	3 years	<ul style="list-style-type: none"> <li>• Professor of Business Administration, National Chengchi University (NCCU)</li> <li>• USA PhD in Business Administration, University of Michigan</li> </ul>
Independent Director	Jeff Chen	3 years	<ul style="list-style-type: none"> <li>• Stanley Black and Decker, VP &amp; President of Asia</li> <li>• EMBA, Northwestern University</li> </ul>
Independent Director	Benson Liu	3 years	<ul style="list-style-type: none"> <li>• Chairman and President of Bristol-Myers Squibb (Taiwan) Ltd.</li> <li>• Master, International Business Administration, University of Northrop, USA</li> </ul>

## ■ Compensation Committee

Aside from improving corporate governance, strengthening the compensation management power of the board, and assessing and determining the compensation for directors, supervisors, and managers, the Compensation Committee must also assist Advantech with project consultation and training of senior-level managers.

### 1. Roles and responsibilities

- Define the policies, systems, standards, and structures related to the performance and compensation of directors, supervisors, and managers.
- Evaluate and determine the salaries for directors, supervisors, and managers.

- Conduct regular reviews of the compensation policies, systems, standards, and structures relating to directors, supervisors, and managers based on factors such as corporate goals, operating performance, and competitive environment.

The Compensation Committee is expected to follow the principles listed below when fulfilling the aforementioned responsibilities.

- When evaluating director, supervisor, and manager performance and compensation, consider the industry compensation standard as well as the individual's personal performance, corporate performance, and potential derailment risk.

- Directors and managers shall not be guided toward risky business behaviors in the pursuit of remuneration rewards.
- The ratio of short-term performance bonuses, as well as the timing of payments for variable compensation components for directors and executives, should be determined in consideration of industry characteristics and the nature of the company's business.

### 2. Composition and selection

The Compensation Committee members are appointed by the board of directors, which includes two independent directors and an external advisor, with one of the independent directors acting as convener. The Compensation Committee convenes two meetings per year. All members of the Compensation Committee must abide by independent and professional specifications and regulations; the term of office for committee members is the same as that for the board of directors.

### ■ 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.

Annual audits are conducted in both the first and second half of the year, with the first audit focusing on Advantech headquarters' operating processes and regional business projects, and the second audit focusing on R&D and manufacturing. The main audit projects conducted in 2017 were as follows:

1. Audits for procurement projects in the first half of the year: In Q1 of 2017, the manufacturing units in Taiwan underwent audits that examined the control of operating procedures. In Q2, Advantech conducted a computer audit in collaboration with external consultants from Deloitte & Touche. Through data analysis and using computer-based audit technology, Advantech expanded the scope of its purchase and payment cycle analysis, identifying additional abnormalities and potential risks. The audits were conducted for its sites in Taiwan, Kunshan, Beijing, and Shanghai, and focused on high-risk purchasing transaction areas. The internal audit personnel conducted on-site inspections, examined high-risk transactions, and verified documents. No major abnormalities were found, and the design of each process control point was confirmed to be in compliance with the internal control system regulations.
2. Audits for sales projects in the second half of the year: In Q3 of 2017, Advantech continued to collaborate with external consultants from Deloitte & Touche in conducting computer-based auditing with the scope expanded to the sales cycle and primarily focused on Europe, Beijing, and Shanghai. After compiling project analysis reports, the internal audit personnel conducted on-site inspections of the operating procedures at overseas branches, including their sales cycles, warehouse management, and asset inventories. These inspections covered the design of each process control point, compliance with internal management system specifications, and inventory records and fixed assets; no major anomalies were found.

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 System 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 and take the following factors into consideration:
  - 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
3. Role of internal auditing in risk management Core role:
  - Verify the validity of the risk management process.
  - Verify the accuracy of risk assessments.

- Assess the process of risk management.
- Assess reports on primary risks and control measures.
- Review the management of primary risks, including the effectiveness of risk control and response measures to risks.

Statutory role in asset protection:

- Assist with risk identification and risk assessment.
- Respond to and handle risks.
- Consolidate risk reports
- Maintain and develop the corporate risk management framework.
- Propagate the establishment of corporate risk management.

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.

### ■ Risk Management and Strategies for Material Procurement

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 and 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.

**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. Advantech has also 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.	<ol style="list-style-type: none"> <li>1. Including supplier management guidelines in CSR practices</li> <li>2. Introducing green buildings and energy conservation programs in Advantech's Linkou Intelligent Campus</li> </ol>
	Regulatory requirements on a product's energy efficiency are likely to increase verification costs that are required during product development.	<ol style="list-style-type: none"> <li>1. Employing energy-efficient designs and products must comply with energy star regulations</li> <li>2. Formulating green product design criteria and obtaining green product labeling certification</li> </ol>
Tangible risks	Extreme climates increase the likelihood of drought, powerful typhoons, and higher power consumption, which exert a direct influence on production and operation.	<ol style="list-style-type: none"> <li>1. Formulating emergency evacuation plans and drills</li> <li>2. Proposing energy conservation solutions by Advantech's smart building team</li> </ol>

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	<ol style="list-style-type: none"> <li>1. Preventive maintenance and daily inspection of equipment</li> <li>2. Prepare backup of important parts and accessories</li> <li>3. Establish a safety inventory for fixed shipping products</li> </ol>	<ol style="list-style-type: none"> <li>1. OEM by industry competitors</li> <li>2. Make flexible adjustments to labor force allocation and work hour extension for using equipment at bottleneck stations</li> <li>3. Establish maintenance and repair resources</li> </ol>	Sales	<ol style="list-style-type: none"> <li>1. Manufacturing unit</li> <li>2. Production material managers at each plant</li> </ol>	<ol style="list-style-type: none"> <li>1. Manufacturing unit</li> </ol>
2	Raw material shortage	<ol style="list-style-type: none"> <li>1. Establish long-term supply contract</li> <li>2. Prepare backup of important materials</li> <li>3. Purchase materials in advance before they are out of stock</li> </ol>	<ol style="list-style-type: none"> <li>1. Order from affiliated businesses</li> <li>2. Request that vendors deliver products immediately</li> </ol>	N/A	<ol style="list-style-type: none"> <li>1. Production material managers at each plant</li> </ol>	<ol style="list-style-type: none"> <li>1. Production material managers at each plant</li> <li>2. Warehouse supervisors at each plant</li> </ol>
	Water outage	<ol style="list-style-type: none"> <li>1. Store water in a reservoir as backup</li> </ol>	<ol style="list-style-type: none"> <li>1. Purchase water</li> <li>2. Adjust work hours</li> </ol>	N/A	<ol style="list-style-type: none"> <li>1. Plant Affairs Division</li> </ol>	<ol style="list-style-type: none"> <li>1. Plant Affairs Division</li> </ol>
	Power outage	<ol style="list-style-type: none"> <li>3. Establish a safety inventory for fixed shipping products</li> <li>2. Establish an uninterruptible power supply system</li> </ol>	<ol style="list-style-type: none"> <li>1. OEM by other divisions within the plant</li> <li>2. OEM by industry competitors</li> </ol>	Sales	<ol style="list-style-type: none"> <li>1. Plant Affairs Division</li> </ol>	<ol style="list-style-type: none"> <li>1. Manufacturing unit</li> </ol>
3	Labor shortage	<ol style="list-style-type: none"> <li>3. Establish a safety inventory for fixed shipping products</li> <li>2. Conduct quarterly human resource evaluations and devise recruitment goals</li> </ol>	<ol style="list-style-type: none"> <li>1. Overtime planning</li> <li>2. Seek support from relevant department personnel</li> <li>3. Process outsourcing services</li> </ol>	N/A	<ol style="list-style-type: none"> <li>1. Manufacturing unit</li> <li>2. Production material managers at each plant</li> </ol>	<ol style="list-style-type: none"> <li>1. Manufacturing unit</li> <li>2. Production material managers at each plant</li> </ol>
4	Product return (general customer complaint)	<ol style="list-style-type: none"> <li>1. Quality assurance unit provides suggestions for improvement</li> </ol>	<ol style="list-style-type: none"> <li>1. Place an urgent order or arrange for restock</li> <li>2. Customer feedback, urgent orders, rework, and restocking inventory</li> <li>3. Strengthen employee training</li> </ol>	Sales	<ol style="list-style-type: none"> <li>1. Quality assurance unit</li> <li>2. Production material managers at each plant</li> </ol>	<ol style="list-style-type: none"> <li>1. Quality assurance unit</li> <li>2. Manufacturing unit</li> </ol>
5	Customer complaint and product return (e.g., for exceeding the hazardous substance threshold)	<ol style="list-style-type: none"> <li>1. Conduct regular internal spot checks for X-ray fluorescence</li> </ol>	<ol style="list-style-type: none"> <li>1. Isolate non-conforming materials/ingredients</li> <li>2. Place an urgent order or arrange for restock</li> </ol>	Sales/Quality assurance unit	<ol style="list-style-type: none"> <li>1. Quality assurance unit</li> </ol>	<ol style="list-style-type: none"> <li>1. Quality assurance unit</li> <li>2. Manufacturing unit</li> <li>3. Procurement unit</li> </ol>

## 03

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 2017, the procurement expenditure for the first category of suppliers was NT\$19.5 billion, and that for the second category was NT\$299 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 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 2017, a total of 49 KA customers visited and audited Advantech. These KA customers were impressed by Advantech's range of data systems, continuous improvement mechanisms, and Linkou smart manufacturing center (Phase 2). A number of customers suggested that quality analysis tools be employed to solve quality-related issues. Accordingly, the quality control departments have subsequently introduced such procedures and reinforced management of internal audits.

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 92 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 2017, onsite audits were conducted and 34 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 595 companies on the PVL, 587 who have signed a contract	Sign the CSR program and execute CSR practice reviews	99%	Specify CSR-related provisions in contract agreements
New suppliers for 2017, totaling 34 companies	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 595 companies on the PVL, 96 who were audited onsite	Review CSR practices according to the CSR and Environmental Safety and Health Declaration	16%	Increase onsite evaluation rates
Contractors	Review human rights policies according to the Contractor Declaration for Environmental Health and Safety and CSR	100%	Specify human rights-related provisions in contract agreements
Security companies			

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 2017, Advantech's procurement expenditure totaled NT\$19.5 billion. The company's Taipei and Kunshan sites source materials, primarily

electronic, mechanical, and peripheral raw materials (product accessories), from a total of 1009 suppliers. Compared to that for 2016, the procurement expenditure for 2017 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 90%, and that for the Kunshan site was 74%. The proportion of local purchases is summarized in Figure 3.1.

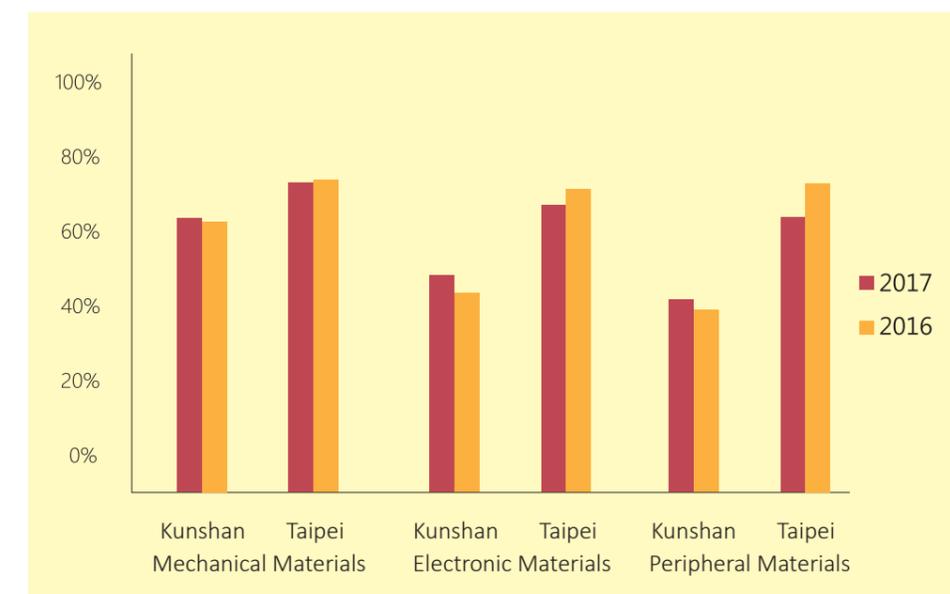


Figure 3.1 Local procurement statistics for Advantech's Taiwan and Kunshan plants

# 04

## 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.

In 2008, Advantech used the life cycle assessment (LCA) method to define the company’s 10-year sustainable development goals for 2008 to 2017 (shown in Figure 4.1). In the 7 years 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 2017, Advantech has voluntarily achieved ENERGY STAR® certifications for 19 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.

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 Computer	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 1) ABOX-120, 2) PPC-1500 II, 3) CM-5200, 4) ZL-1510, ZL-1530, ZL-1511, ZL-1531, ZL-1210, ZL-1211, 5) EP-5500, 6) HP-8210, HP-8510, 7) DP-6500, 8) AP-9900, AP-9230, AP-9530, 9) POS-400 II, POS-400 II 12"		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	UNO-1172A, UNO-1172AE, UNO-1172AH		Embedded Automation Computer for manufacturing executing systems, facility...
17	UNO-2173A, UNO-2171	09/08/2009	
18	UNO-2174A	05/16/2011	
19	UNO-2178A	05/16/2011	
20	UNO-3072LA	07/05/2011	
21	UNO-3074A	07/05/2011	
22	ABOX-122, ABOX-122-S, ABOX-122-DV, PPC-1510, ZL-1221, ZL-1521, POS-410, CM-5220, P-1000 D, DP-6520, AP-9020, AP-9220, AP-9521	06/18/2015	

In 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.

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.

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	Product recycling regulations
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 Recycling Batteries
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 for minimum energy consumption requirements in 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	EU 278/2009/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)

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.



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 2017 shows that most of the materials were electronic materials (86%), followed by mechanical (12%), and packaging materials (2%).

### Environmental Protection Management

Advantech has initiated environmental protection management projects that emphasize energy conservation, carbon reduction, and waste reduction. The company's environmental protection achievements for 2017 are shown in Table 4.3.

Table 4.3 Overview of Advantech's environmental protection investments for 2017

Environmental Management Targets		Achievements
Energy saving and carbon reduction programs	In 2017, electricity usage per manufacturing unit declined by 5%.	Monthly power consumption for each site reduced by 6.3%
Waste reduction program	In 2017, the percentage of waste reported as hazardous industrial waste was less than 3%.	Industrial waste reduced by 16.2%

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 2017 decreased by 0.08 compared with that for 2016. However, after Advantech's various sites in Taiwan are fully integrated with its Linkou iFactory, water-saving strategies such as using intelligent irrigation systems for water conservation and intelligent air-conditioning systems for managing water coolers and chillers will be implemented to reduce total water consumption.

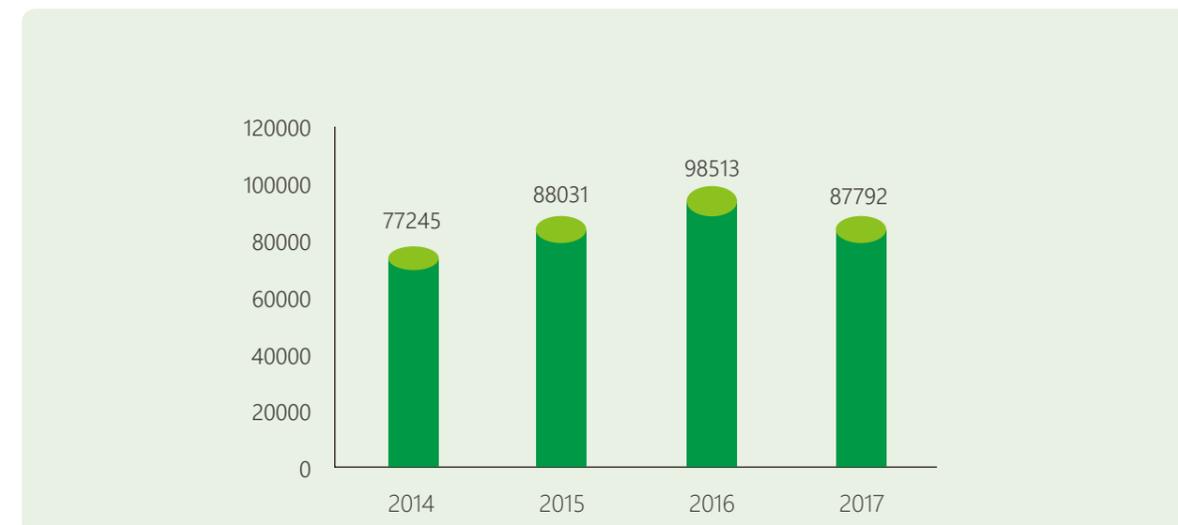


Figure 4.3 Advantech Taiwan's total water consumption

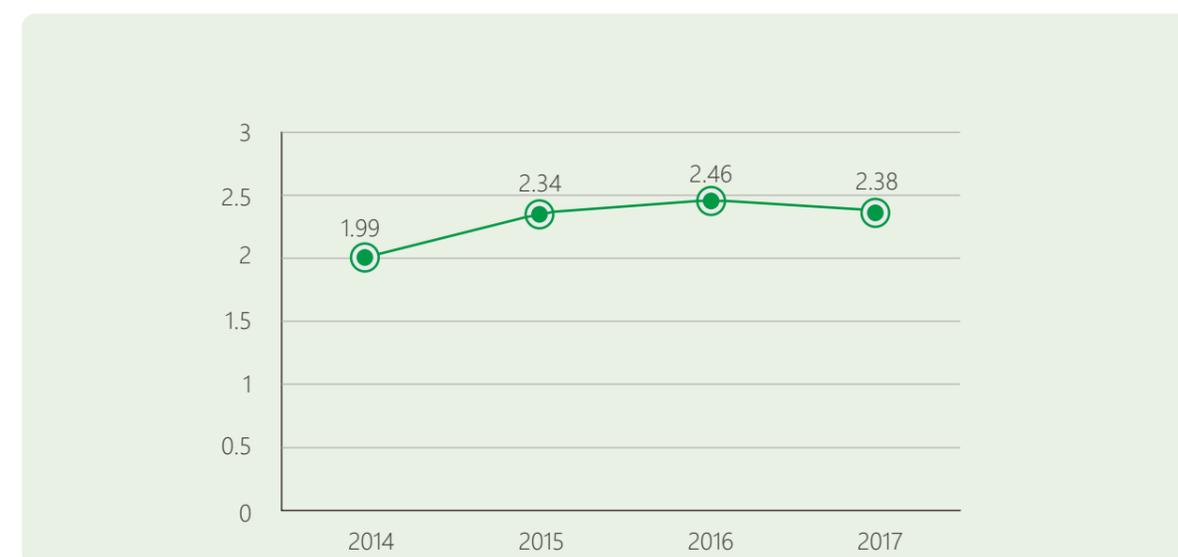


Figure 4.4 Advantech Taiwan's water consumption per capita

The total water consumption at Advantech Kunshan in 2017 was 122,268 tons, increasing by 9,715 tons compared to that for 2016 due to increased site capacity. Advantech will continue installing water-saving faucets as a water conservation measure.

### 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 recyclable resources	Batteries/cartridges/light bulbs	Recycled at headquarters/by photocopier vendor	Recycled
	Kitchen waste	Compost/pig feed	Recycled by management committee	Fertilizer
	Domestic waste	Office waste	Recycled by management committee	Incineration/sanitary landfill
Hazardous industrial waste	General industrial waste	Waste soldering iron/waste sponges/waste tapes	Recycled by professional vendors	Sanitary landfill/incineration
	Hazardous industrial waste	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 2017 was 132.60 metric tons. Because the company's operations are primarily assembly related, the amount of industrial waste generated is comparatively lower, accounting for only 14.93% of total waste. The amount of domestic waste was 112.8 tons, accounting for approximately 85.07% 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 19.80 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.



Figure 4.5 Advantech Taiwan's overall waste production

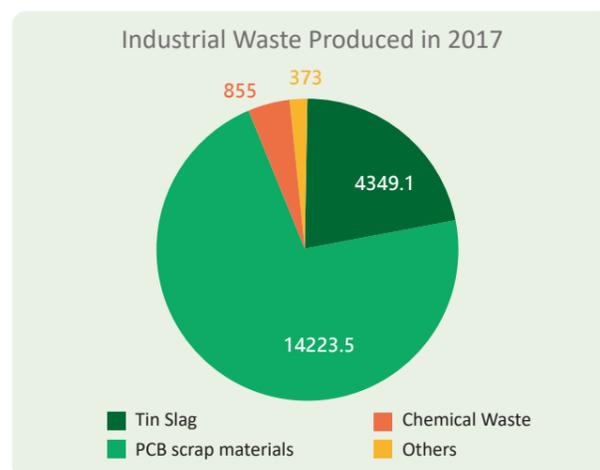


Figure 4.6 Advantech Taiwan's industrial waste output

The amount of waste produced by Advantech Kunshan in 2017 was 471.96 metric tons. The total output of domestic waste was 175 metric tons, accounting for approximately 37.08% of the total waste produced. The total output of industrial waste was 296.96 metric tons, which comprised circuit boards, organic solvents, and stamped iron boards and accounted for 62.92% 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.

## 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 2017, diesel fuel was used primarily for monthly testing, high-voltage substation maintenance, and IT server room emergency power supply testing. Because the Phase 2 Linkou manufacturing center opened in 2017, diesel fuel usage in 2017 was slightly higher than in 2016.

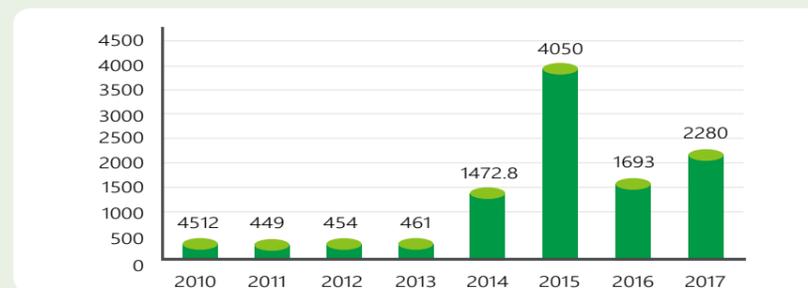


Figure 4.7 Direct energy consumption for Advantech Taiwan (diesel fuel consumption by emergency power generators)



Figure 4.8 Indirect energy consumption for Advantech Taiwan

In 2017, Advantech Taiwan consumed a total of 17,977,622 kWh of electricity, as well as 62 liters of diesel fuel for emergency operations. Advantech Kunshan consumed 18,702,135 kWh 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

The initial construction of Advantech's Linkou Intelligent Campus was completed in 2014. However, the full development of this site has been divided into three phases and is expected to span a total area of 34,470 m<sup>2</sup>. The two phases that have already been completed are Phase 1, which involved the construction of an R&D center and intelligent offices, and Phase 2, which involved the building of a manufacturing center. For our partners, the Linkou Campus provides a co-creation site for conducting collaborative R&D. For our customers, the Linkou Campus provides the opportunity to personally experience Advantech's intelligent building solutions. By visiting the Linkou Campus, customers can gain first-hand knowledge of the various intelligent technologies and applications that must be integrated to achieve an intelligent building, including centralized management, intelligent parking, intelligent reception, and intelligent meeting rooms. 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:

- 1. 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.
- 2. 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.

- 3. 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.
- 4. 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.
- 5. Solar Energy:** Advantech implemented a solar cell at the Linkou Campus that provided 1,430 kWh of electricity in 2017.
- 6. Smart factory real-time situation room:** Advantech's manufacturing centers have been move towards smart management in recent years. Accordingly, sensors have been deployed at operation sites to collect data and directly upload it 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 facility and real-time resource monitoring, Advantech was awarded an ROI Industry 4.0 Award (China) in October 2017.

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

- Migrate to high-performance lighting. Currently, Advantech uses only energy-saving light bulbs at its Linkou Intelligent Campus and Sunny Building offices. All new Advantech buildings are equipped with energy-saving bulbs.
- 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.

A power consumption analysis for the year showed that power consumed by Advantech Taiwan in 2017 decreased by 523,984 kWh as compared with 2016, equivalent to 1,886,342.4 MJ. Using electricity usage statistics calculated per manufacturing unit, in 2017, electricity usage per manufacturing unit was 10.87 KWh. Compared with 2016's figure of 13.47 KWh, this was a reduction of 2.6 KWh per manufacturing unit. This is equivalent to a reduction of 19.32%, as shown in Figure 4.9. The primary reason behind this is that, through Advantech's overall integration of the production systems in Linkou and Donghu, and through production efficiency enhancements and effective use of the Linkou energy conservation system, an overall reduction in electricity was achieved.

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.

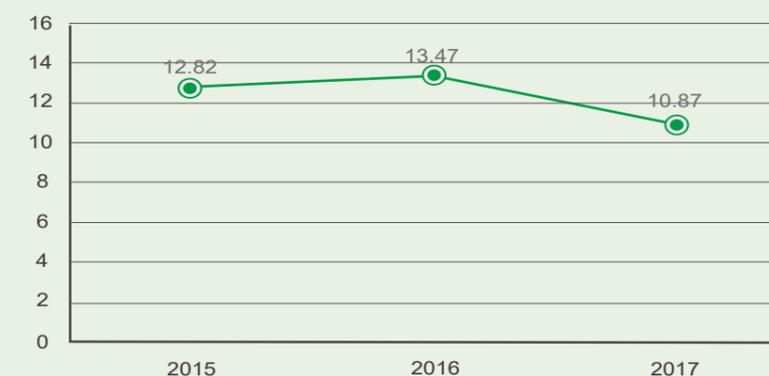


Figure 4.9 Advantech Taiwan 2015-2017 electricity usage statistics calculated per manufacturing unit

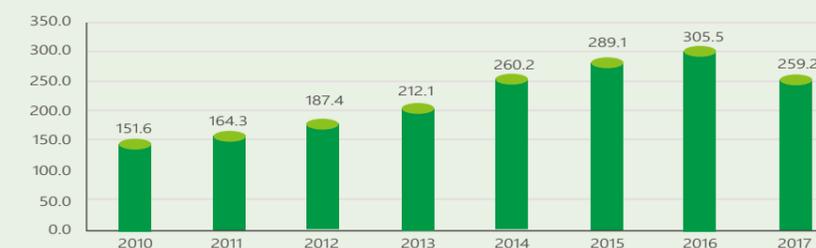


Figure 4.10 Scope 1 GHG emission statistics for Advantech Taiwan

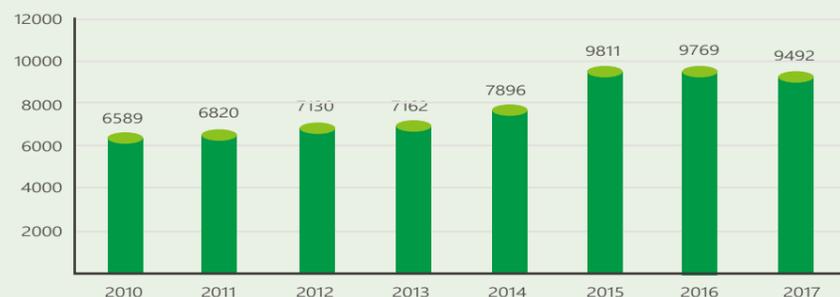


Figure 4.11 Scope 2 GHG emission statistics for Advantech Taiwan

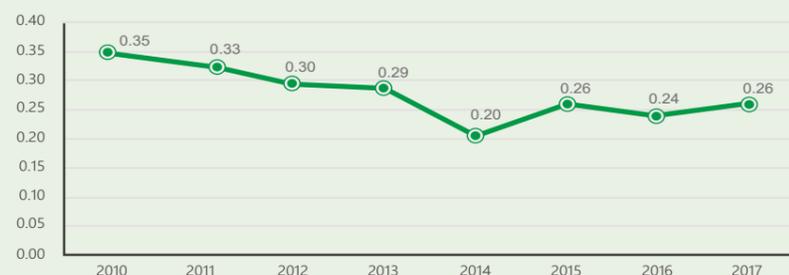


Figure 4.12 Scope 2 GHG average monthly emissions per capita



Figure 4.13 Scope 2 GHG average monthly emissions per capita for Advantech Kunshan

Note: Source of coefficients

- Carbon emissions were calculated based on the 0.521 power coefficient announced by the Bureau of Energy in 2015.
- Considering global warming trends, the coefficient for the radiative impact of specific GHGs was adopted from the Fourth Assessment Report by the IPCC (2007).

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), as well as the qualitative inventory of primary emission sources for Scope 3 (other 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 CO<sub>2</sub>.

Advantech's GHG emissions are primarily CO<sub>2</sub> that results from the use of electricity. This emission source accounted for more than 95% of total emissions in 2017. The GHG emissions inventory results are summarized in Figures 4.10 and 4.11. Figure 4.12 shows the average monthly emissions per capita for Scope 2 GHG emissions from 2010 to 2017.

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 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.

For the Kunshan Campus in 2017, Scope 1 emissions amounted to 1,519 metric tons of CO<sub>2</sub> e/year, and Scope 2 emissions totaled 16,022 metric tons of CO<sub>2</sub> e/year. Scope 3 emissions were not inventoried because various transport activities could not be determined. Finally, Advantech's Kunshan Campus has set 2014 as the baseline year as it begins implementing GHG emission reduction plans.

### 4.3 Caring for Nature

#### Organic Farm

At Advantech, we believe that because nature gives life to all things, it is essential to develop a respectful and humble appreciation of nature.

Therefore, all employees are encouraged to experience and enjoy the natural environment by participating in various sustainable conservation activities organized by Advantech. These activities serve to bring employees and their families closer to nature without damaging the environment or natural ecosystems. Advantech also encourages employees to adopt a plot of land at its organic farm. Planting and tending to a garden provides an opportunity to enjoy the beauty of this planet as well as the joys of a rich harvest.

After careful investigation and planning, the Advantech Organic Farm - Work Holiday program was launched in 2010. Every month, Advantech employees can sign up for an ecological tour of the organic farm. Furthermore, since 2011, plots of land have been made available for employee adoption in order to offer a richer organic farming experience. In addition to providing eager gardeners with organic fertilizer, seeds, and seedlings, Advantech also offers organic produce and eco-friendly daily necessity rewards to employees who take a serious interest

in organic horticulture. The annual organic farm adoption events and harvest activities are some of the happiest times for Advantech employees and their families. Regarding operational costs, company financial reports indicate that the cost of sponsoring and supporting the organic farm between 2010 and 2017 exceeded NT\$7 million.



Figure 4.14 Advantech's organic farm

The aim of Advantech Taiwan's organic farm is to provide employees, their families, and other individuals the opportunity to experience organic farming and healthy recreation. The farm also encourages employees to take better care of themselves, their families, and the planet through sustainable agriculture.

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 2015, Advantech invested RMB 10,000 to support the farm and more than 311 families in Kunshan.

# 05

## 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.

Advantech provides personnel with advance notification of any major operational changes. For

example, to accelerate the company's adoption of Industry 4.0, in 2017 Advantech relocated its manufacturing facilities to the Linkou Campus (establishing the Phase 2 Linkou manufacturing center) to create an Industry 4.0 smart factory. However, to ensure all personnel were prepared for this change, Advantech announced this relocation development strategy and began arranging complementary measures (such as shuttle bus services) as far back as 2015.

As of 2017, the total number of Advantech employees was approximately 8,000, of which 3,068 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 status

Item		Number and percentage (%) of male employees		Number and percentage (%) of female employees		Total
<b>Hired employees</b>	Total number of employees	1,834	59.8%	1,234	40.2%	3,068
<b>Senior executives</b>	Managers, directors, and above	375	12.2%	98	3.2%	473
<b>Age of employees</b>	Under 30	291	9.5%	233	7.6%	524
	31-49	1,426	46.5%	834	27.2%	2,260
	Above 50	117	3.8%	167	5.4%	284
<b>Full time/contractor</b>	Full-time	1,785	58.2%	1,212	39.5%	2,997
	Contractor	24	0.8%	21	0.7%	45
<b>Job type</b>	PM/RD	1,065	34.7%	269	8.8%	1,334
	MKT/Sales	117	3.8%	149	4.9%	266
	Infra	82	2.7%	166	5.4%	248
	MFG/Quality	570	18.6%	650	21.2%	1,220
<b>New employee rate: 18.02%</b>						
<b>New employees</b>	Under 30	124	4.0%	101	3.3%	225
	31-49	180	5.9%	138	4.5%	318
	Above 50	3	0.1%	7	0.2%	10
<b>Departing employee rate: 18.45%</b>						
<b>Departing employees</b>	Under 30	123	4.0%	70	2.3%	193
	31-49	205	6.7%	133	4.3%	338
	Above 50	22	0.7%	13	0.4%	35

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 8% in 2017, with a reinstatement rate of 56%. 55% of employees have worked for over one year after they were reinstated from parental leaves since 2016 (retention rate).

Table 5.3 Statistics regarding employee applications for parental leave

	Male	Female	Total
<b>(a) 2015-2017 eligible for parental leave</b>	319	177	496
<b>(b) 2016 number of applicants</b>	5	33	38
<b>(c) Number of employees due reinstatement in 2017</b>	4	14	18
<b>(d) Number of employees reinstated in 2017</b>	2	8	10
<b>(e) Number of employees reinstated after parental leave in 2016</b>	3	14	17
<b>(f) Number still employed after reinstatement in 2016</b>	2	5	7
<b>Application rate (b/a)</b>	2%	19%	8%
<b>Reinstatement rate (d/c)</b>	50%	57%	56%
<b>Retention rate (f/e)</b>	67%	36%	41%

Advantech Kunshan has 2,228 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
<b>Hired employees</b>	Total number	1,204	54.0%	1,024	46.0%	2,228
<b>Senior executives</b>	Managers/deputy managers or above	74	3.3%	45	2.0%	119
<b>Age of employees</b>	Under 30	574	25.8%	459	20.6%	1,033
	31-49	619	27.8%	561	25.2%	1,180
	Above 50	11	0.5%	4	0.2%	15
<b>Full time/contract hire</b>	Full time	1,204	54.0%	1,024	46.0%	2,228
	Contract hire	0	0.0%	0	0.0%	0
<b>Job type</b>	Product manager/Research and development	93	4.2%	89	4.0%	182
	Marketing/Sales	0	0.0%	0	0.0%	0
	Infrastructure	121	5.4%	128	5.7%	249
	Manufacturing/Quality	990	44.4%	807	36.2%	1,797
<b>New employee rate: 18.67%</b>						
<b>New employees</b>	Under 30	173	7.8%	120	5.4%	293
	31-49	78	3.5%	44	2.0%	122
	Above 50	1	0.0%	0	0.0%	1
<b>Departing employee rate: 26.75%</b>						
<b>Departing employees</b>	Under 30	223	10.0%	145	6.5%	368
	31-49	136	6.1%	91	4.1%	227
	Above 50	1	0.0%	0	0.0%	1

Advantech Dongguan has 119 employees, and all of its high-level executives are of Taiwanese nationality. Table 5.5 shows the distribution of employees by work location, occupation, age, and gender.

Table 5.5 Advantech Dongguan's human resource statistics for 2014

Item	Number and percentage (%) of male employees	Number and percentage (%) of female employees		Total		
		Number	Percentage			
<b>Hired employees</b>	Total number	90	75.6%	29	24.4%	119
<b>Senior executives</b>	Managers/deputy managers or above	5	4.2%	1	0.8%	6
<b>Age of employees</b>	Under 30	56	47.1%	23	19.33%	79
	31-49	32	26.9%	6	5.04%	38
	Above 50	2	1.7%	0	0.0%	2
<b>Full time/contract hire</b>	Full time	89	74.8%	29	24.4%	118
	Contract hire	1	0.8%	0	0.0%	1
<b>Job type</b>	Product manager/ Research and development	35	29.4%	0	0.0%	35
	Marketing/Sales	39	32.8%	6	5.0%	45
	Infrastructure	7	5.9%	14	11.8%	21
	Manufacturing/Quality	9	7.6%	9	7.6%	18
<b>New employee rate: 47.90%</b>						
<b>New employees</b>	Under 30	31	26.1%	13	10.9%	44
	31-49	10	8.4%	3	2.5%	13
	Above 50	0	0.0%	0	0.0%	0
<b>Departing employee rate: 58.82%</b>						
<b>Departing employees</b>	Under 30	24	59%	17	41%	41
	31-49	18	72%	7	28%	25
	Above 50	3	75%	1	25%	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.

Advantech also believes in providing employees equal opportunities and benefits in order to foster employee coherence and sustainable corporate management. Table 5.7 shows how the average salary for full-time male and female employees at Advantech compares to the local minimum wage.

Table 5.6 Performance appraisal rate

Function	Appraisal rate of male employees		Appraisal rate of female employees	
	Rate	Rate	Rate	Rate
<b>Taiwan</b>	Total Percentage	91.88%	91.98%	
	Product manager/ Research and development	93.43%	88.85%	
	Marketing/Sales	94.87%	93.29%	
	Infrastructure	81.71%	83.13%	
	Manufacturing/Quality	89.82%	95.23%	
<b>Dongguan</b>	Total Percentage	100%	100%	
	Marketing/Sales	100%	100%	
	Infrastructure	100%	100%	
	Manufacturing/Quality	100%	100%	
<b>Kunshan</b>	Total Percentage	98.84%	99.61%	
	Infrastructure	100%	98.44%	
	Manufacturing/Quality	99.90%	99.75%	
	Product manager/ Research and development	93.54%	92.13%	

Table 5.7 Lowest salary of Advantech employees compared to the local minimum wage

	Lowest salary for male employees at Advantech and the local minimum wage	Lowest salary for female employees at Advantech and the local minimum wage	Female and male wage ratio
Taiwan	1.8	1.94	1.08
Dongguan	2.31	2.58	1.12
Kunshan	1.52	1.42	0.93

1. Lowest salary for male employees at Advantech and the local minimum wage
2. Lowest salary for female employees at Advantech and the local minimum wage
3. Female and male wage ratio

## ■ 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](mailto: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.

In 2017, e-learning has attracted 1,600 people, and there are 1,550 people joined 10-core courses, and total 18,730 people joined the training program.

Table 5.8 Number of hours training completed by Advantech employees

Position	Number of participants	Hours	Average training hours
Product manager/ Research and development	1,334	34,693	26.01
Marketing/Sales	266	4,266	16.04
Infrastructure	248	2,053	8.28
Manufacturing/Quality	1,220	33,741	27.66

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 5.9 Overview of training programs offered at the Advantech Institute

Item	Overview of course content	Target participants/ objectives
<b>10-Core courses program</b>	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
<b>Case studies</b>	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
<b>E-learning (Learning@ advantech)</b>	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
<b>Champion program</b>	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
<b>Leap camp</b>	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)
<b>Reading club</b>	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
<b>Temporary coverage assignment program (tcap)</b>	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



Figure 5.1 The Advantech Institute’s course structure

Advantech’s 10-Core course Program

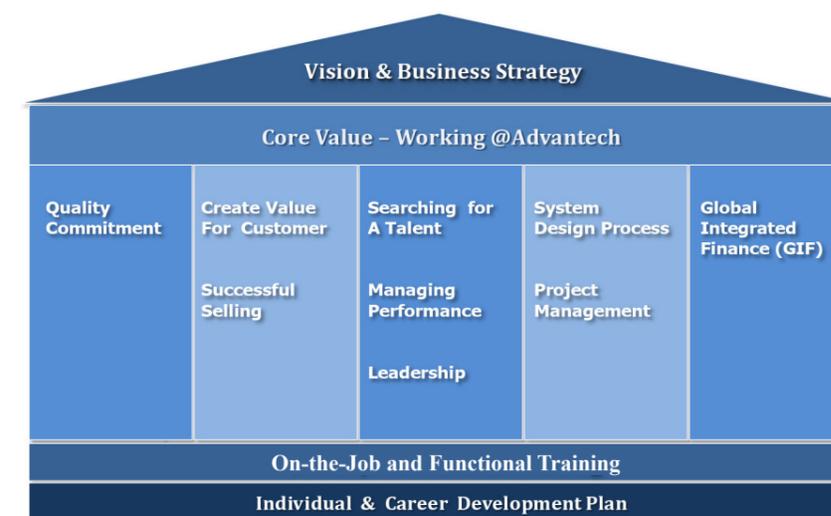


Figure 5.2 Structure of Advantech’s 10-Core courses program



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 2017, a total of 122 videos have been uploaded to the platform, garnering 10,000 views.

## 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 2017 to celebrate the opening of the Advantech Linkou Campus Stadium. Staff and their families were invited to visit the campus, resulting in over 1,000 people participating in the event. Meanwhile, the 2017-2018 New Year's Party attracted nearly 3,000 participants. In 2017, Advantech invested over NT\$15 million into its annual employee events, which were attended by over 5,000 employees. The photographs presented as Figure 5.5 show the content of some of the employee events.



Figure 5.5 Advantech employee relations 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 2017, Advantech invested NT\$6 million into the ABLE Club, which now boasts 1,300 members.



Figure 5.6 Photo highlights of Advantech’s 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. Table 5.10 provides a summary of the overall event/activity contents. Employees can select the activities they prefer. Additionally, to increase the flexibility of distributing employee welfare funds, Advantech established an employee bonus points program that converts welfare funds into bonus points that employees can use to participate in diverse leisure activities.

Table 5.10 Events organized by Advantech’s Welfare Committee

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

## 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.

In addition to improving employees’ health and safety awareness through training programs, Advantech has also 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).

Table 5.11 Absentee and injury rate

	Frequency of workplace injuries rate (FR)	Occupational diseases rate (ODR)	Disabling injury severity rate (SR)	Number of occupational deaths	Absentee rate (AR)
Advantech Taiwan	1.61	0	21	0	1.41%
Advantech Kunshan	0.67	0	31	0	1.67%
Advantech Dongguan	0	0	0	0	2.81%

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%

## 06

## Innovation and Sustainable Development

- 6.1 TiC 100 Smarter City and IoT Competitions
- 6.2 NCTU IoT & Intelligent Systems Research Center
- 6.3 Early Design Campaign
- 6.4 Enterprise-Academy Cross-Over Collaboration
- 6.5 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 TiC 100 Smarter City and IoT Competitions

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.

#### ■ Program Scope

##### 1. Invested resources

The total TiC100 expenditure in 2017 was NT\$3.15 million. Expenditures included competition awards, event promotions, campus lectures, platform establishment, competitions, training activities, and outsourced activities.

##### 2. Number of contestants

- 2017: 61 teams, 271 people from Taiwan; 124 teams, over 1,000 people from China
- 1998 (competition start year) to 2017: 11,470 contestants

##### 3. Competition structure

The contest spanned approximately four months and required contestants to present, demonstrate,

and submit an IoT application solution. During the competition period, training courses, workshops, and one-on-one mentoring tutorials were also provided. This additional support helped students improve their presentation skills and adjust their proposals to the needs of the target market in order to increase the practicality and commercial value of the proposed solutions.

## 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. In 2017, Advantech also invited staff from the Institute for Information Industry, along with Advantech development personnel, to act as mentors and provide technical guidance in order to improve students' practical abilities with the WISE-PaaS IoT software service platform.

### 2. Ideal stage for innovation

TiC100 is designed to offer students a stage to showcase their innovations and cultivate industry connections. With the platform of industry-academia collaboration, TiC100 gives students not only an understanding of real industry scenarios, but also, through participation, cultivates their desire to be involved in the industry, generating sparks of inspiration that foster win-win innovation.

### 3. Makerspace

In 2017, in order to encourage students to practically implement their innovations, TiC100 was transformed into an IoT solution contest. Industrial development tools are offered to allow participating teams to design IoT application

solutions aimed at various vertical industries. During the final presentation, the students showcased their solutions to the judges and audience with live demonstrations. This provided the students with direct feedback, guidance, and encouragement.

### 4. External links

The diversity and open innovation encouraged by the TiC100 are also reflected in the sub-contests, external connections, and sponsored events. For example, TiC100 supports charity events by sponsoring the Fu Jen Catholic University Social Enterprise Research Center in hosting the TiC100 Social Enterprise Competition.

The TiC100 competition is open to contestants from all countries. Exchange students from China have participated every year. Winning teams from China and Taiwan also have the opportunity to conduct exchanges. In support of the arts, the TiC100's finals event has been transformed into an open performance platform for emerging performing talents.

The TiC100 as an innovative competition and training mechanism has gained the approval of various universities and colleges also involved in the cultivation of innovation talents, including the NTU College of Management, NCCU College of Commerce, NCTU College of Management, NCTU College of Electrical Engineering and Computer Science, NTHU College of Electrical Engineering and Computer Science, and NTHU College of Technology Management.

### Future Outlook

Starting in 2018, the TiC100 competition will be combined with the Early Design Campaign to create two summer internship programs that teach students through work experience and foster future talent for the IoT industry. These two internship programs are the UX-ID Early Design program, which emphasizes product innovation and concept design, and the SRP Early Design program, which focuses on early experimental testing of IoT applications. The TiC100 Summer Internship Program will recruit young people with promising skills in industrial design, UXUI design, software development, and marketing.



Figure 6.1 Highlights of the Advantech TiC100 event

## 6.2 NCTU IoT & Intelligent Systems 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 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 2017, 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 2017, Advantech refurbished the IoT & Intelligent Systems Research Center at the National Chiao Tung University and opened it to students to obtain practical experience. Advantech also collaborated with NCTU professors in designing a practical IoT-related curriculum focused on equipment network connectivity applications, as well as a six-hour mini-course jointly provided by the Associate Dean of the NCTU Office of Academic Affairs and Advantech's mentors.

### Future Outlook

Beginning in 2018, Advantech will invest in IoT-related curriculum design. Professors will be commissioned to design the courses based on Advantech's IoT software and hardware. The courses will be divided into four research topics, combine theoretical and practical knowledge of IoT technology, and allow students to comprehensively experience the power of the IoT. In the future, this industry-academia cooperation

will be duplicated throughout Asia's top universities. Advantech hopes to set the benchmark for in-depth curriculum development in IoT education.



Figure 6.2 NCTU IoT & Intelligent Systems Research Center

## 6.3 Early Design Campaign

The Early Design Campaign (ECD) is a prospective design competition jointly organized by the Advantech Foundation and Industrial Design division. This competition involves Advantech's business units compiling innovation requirements for various industries according to recent market trends, and then inviting students from various fields (industrial design, business design, visual transmission, MBA, and marketing) to design innovative products using a user-oriented innovative design process to enhance user contexts and establish a communication channel between industrial design and the end market.

### Program Content

The Early Design Campaign combines part-time internships with a competition. Students must submit a CV along with their creative proposal, according to the application procedures for summer internship programs. Following stringent screening

and assessment, outstanding students are selected and placed into groups to collaborate with Advantech product managers and industrial designers in conducting forward-looking user context research, analysis, and innovation design.

During the summer vacation months, in addition to part-time internships, the students also attend four workshops that involve brainstorming sessions, field surveys, challenges, as well as prompts from industry experts to gain more detailed industry knowledge and devise highly innovative design concepts.

In order to adequately respond to industry demands and expose Taiwanese design talents to the mainstream industry, beginning in 2017, the Early Design Campaign has emphasized deeper investigation of market demands, ecosystems, and competition trends to enhance the design of future-proof products and SRPs. The internship programs initiated are the UX-ID Early Design program, which

emphasizes product innovation and concept design, and the SRP Early Design program, which focuses on early experimental testing of IoT applications.

### Future Outlook

Starting in 2018, the Early Design Campaign will be combined with the TiC100 to become the TiC100 Summer Internship Program, which will recruit young people with promising skills in industrial design, UX/UI

## 6.4 Enterprise-Academy Cross-Over Collaboration

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

### 6.4.1 EACC Case Study

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.

Because business management education programs in Taiwan currently lack quality Chinese enterprise cases, students are limited to examining foreign cases. Thus, 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 teaching method. To cultivate teachers with extensive case study experience, Advantech collaborated with the NCCU College of Commerce and NTU College of Management to devise the following 5-year plan (starting in 2013):

- Between 2013 and 2017, the Advantech Foundation will make annual donations of NT\$1 million to every participating school to sponsor professors in compiling business cases of well-known enterprises in Taiwan and China (five

design, software development, and marketing. This program will teach students through work experience and foster future talent for the IoT industry.

The TiC100 Summer Internship Program will continue the spirit of the EDC and involve project-oriented innovation, interdisciplinary exchanges, and one-to-one tutoring with mentors. These three features will foster top talent for the IoT industry.

cases per country). Over the five years, 50 cases, including cases for Advantech and other enterprises, will be completed.

- To ensure case quality and promote Chinese business cases to external organizations and schools, participating schools should submit their cases to the Chengchi Business Case Center, Taiwan Management Case Center (TMCC), or other representative Chinese case centers, with at least three cases launched and approved per year.
- Professors must use the compiled cases in classroom teaching. Additionally, cases related to Advantech must be provided to Advantech's department managers for use in employee training.

### Future Outlook

The EACC-Case Study program is aimed at achieving a mutually beneficial outcome for both industry and academic institutions through two-way exchanges. In addition to professors guiding students in conducting research, field surveys, experiments, and/or strategies to identify solutions to business challenges, high-level corporate managers will contribute their knowledge and practical experience and assist with the formulation of valuable case studies, master's dissertations, and feasible market development plans. We hope that through the EACC-Case Study program, businesses and schools can establish strong relationships that benefit industry and provide great examples of enterprise-academia cooperation.

From 2018 onwards, EACC-Case Study will collaborate with professors from management colleges in renowned universities in Taiwan. The professors will be directly sponsored to compose case studies and monographs on Taiwanese enterprises,

and in doing so transcend the limitations of single-university collaborative frameworks. Meanwhile, there will also be collaboration with the Traditional Chinese edition of the Harvard Business Review, and publish short case studies and monographs in the Review. This will break new ground for the Traditional Chinese edition, in which Taiwanese content has hitherto been absent, and expand the influence of EACC-Case Study to have a real impact on Taiwanese business management.

### 6.4.2 Advantech Elite Internship Program

Through the foundation's Elite Internship Program, Advantech has recruited outstanding students to conduct in-depth research of Advantech's key topics and propose possible solutions. Thus, graduate students are exposed to high-level core business strategies and acquire practical work experience. In other words, Advantech's Elite Internship Program serves as an avenue for elite talent to enter the real-world work environment.

#### ■ Program Content

In 2017, the Advantech Elite Internship Program admitted a total of 27 students from Taiwan and Mainland China to conduct 10 projects in UX-ID early design and SRP early design, the two themes under the framework of the EDC. Furthermore, Advantech promoted its Elite Internship Program among its overseas offices for the first time. Accordingly, 26 students have joined Advantech's overseas offices in Shanghai, Beijing, Japan, South Korea, the United States, the Netherlands, France, and Italy to conduct 15 projects on the theme of digital marketing.

#### ■ Future Outlook

Beginning in 2017, the Elite Internship Program will be expanded to Advantech's overseas offices, including branches in China, Japan, South Korea, the U.S., and Germany. Students from all domain backgrounds, countries, and cultures will collaborate as a team, giving them a global perspective that will enhance their creative capacities and facilitate the creation of new innovations.

## 6.5 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.

In 2017, Advantech organized five 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 23 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.

#### ■ 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



#### 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.



#### Startup resource matching

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



#### 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.



#### 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.

## 07

## Social Contribution

## 7.1 Arts and Culture Sponsorships

## 7.2 Education and Care



## Promoting Arts and Social Welfare and Encouraging Employee Participation

Advantech is committed to the promotion of culture and education, and through Advantech's ABLE Club, numerous activities have been organized to give back to society and assist those in need. Regarding the promotion of education, Advantech has been a long-time sponsor of the ACT Story Mom Volunteering Project aimed at cultivating reading volunteers at various schools in Taiwan. Scholarships and awards are also offered to disadvantaged children from rural areas and villages in Hsinchu and Miaoli. The seeds of education are planted through various key education projects that we hope will have a positive impact in society.

In terms of cultural heritage, we firmly believe that the arts and humanities are essential elements of living a fulfilling life. Consequently, we have launched a series of arts and culture-related projects designed to cultivate the public's understanding and appreciation of arts and crafts in an effort to contribute to the promotion of Taiwanese culture. We are also committed to advancing the inheritance of traditional arts and culture as well as the development of new talent. By sponsoring a project with the National Taiwan College of Performing Arts, we hope to cultivate talent in traditional arts and crafts and create new opportunities in these fields.

### 7.1 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.



Figure 7.1 Traditional arts performance exhibition

### 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 2017, Advantech invested NT\$3.5 million in Art Salon events, which included 29 art performances with a total of 1,600 participants.

Advantech Kunshan initiated its Art Salon in 2014, and has collaborated with the Kunshan Art and Cultural Center in promoting Advantech's "Beautiful Life" project. In 2017, Advantech invested NT\$1.15 million (RMB250,000) into sponsoring performances of "Hello, Mrs. Money" by the Chinese production company Mahua FunAge, which were attended by over 2,200 Advantech employees.



Figure 7.2 Art salon event



Figure 7.3 Kunshan art salon events

### 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\$100,000 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.

The Advantech Foundation also supports the Taipei City Yang-Chun Watercolor Art Organization by organizing the Continental Watercolor Art Hwa-yang Award.



Figure 7.4 Advantech's public service art gallery

## 7.2 Education and Care

Advantech regards society as one of its crucial stakeholders, and thus, is committed to being a role model of corporate social responsibility by adopting an honest and modest approach, increase the company's corporate altruism, using our achievements to benefit society, and sharing our successes with local communities.

As of the end of 2017, Advantech has invested approximately NT\$6.7 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.

### 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.



Figure 7.5 Photo highlight from the social welfare proposal platform event

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 with NT\$800,000 in 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.

**“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. Each year, six awards valued at NT\$250,000 each are distributed. By the end of 2017, over NT\$10 million in sponsorships had been accumulated. We hope that our efforts enable cultural education groups to complete their projects and provide meaningful contributions to 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.



Figure 7.6 Photo highlight from the social welfare proposal platform event

**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 2017, 1,470 children from 30 schools were awarded a scholarship sponsored by the Advantech Foundation. We hope that the recipients of these scholarships study diligently, create a virtuous cycle, and develop the conviction to express gratitude and give back to society. Thus, the power of love can be magnified and continuously sustained.

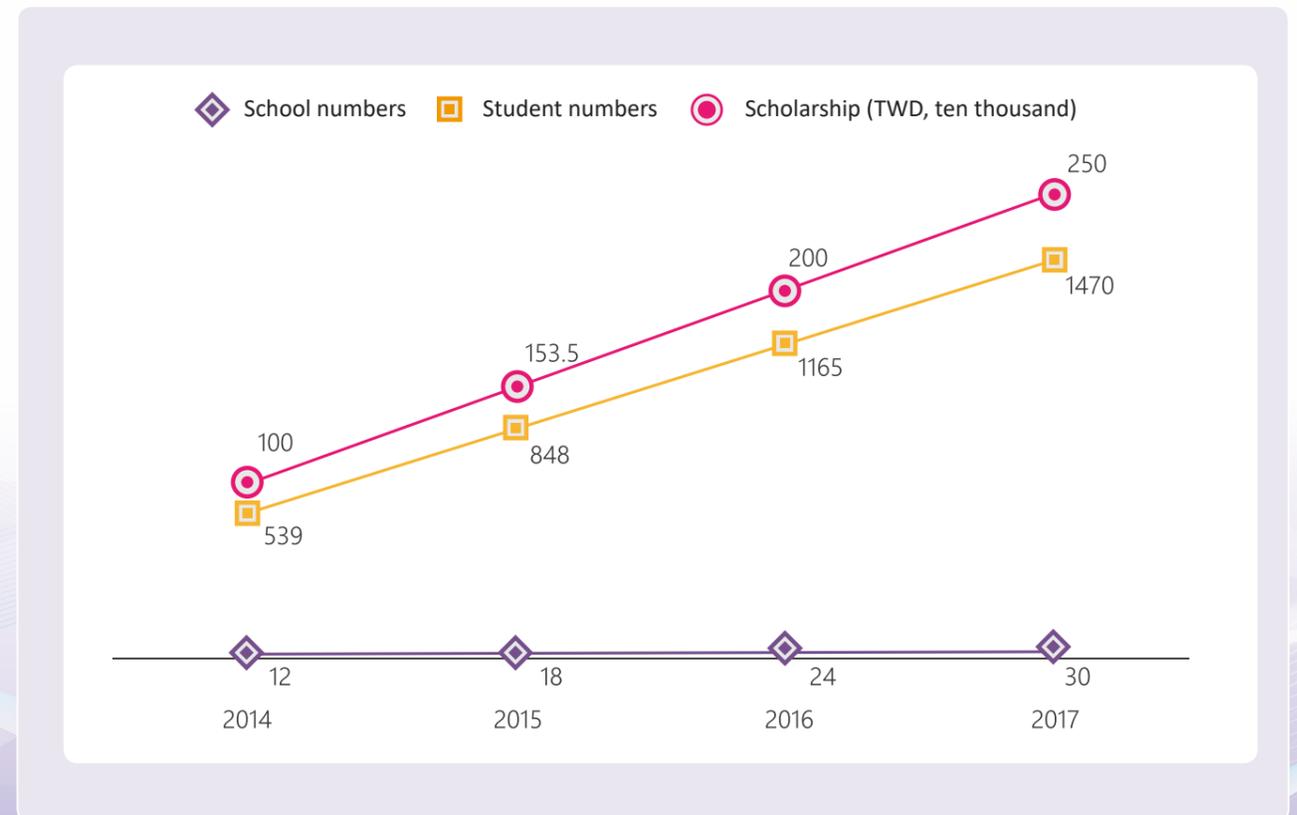


Figure 7.7 The implementation results of caring scholarship program

## Appendix

## ■ Independent Third Party Assurance Statement



## ASSURANCE STATEMENT

**SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE  
ADVANTECH CO., LTD.'S CORPORATE SOCIAL RESPONSIBILITY REPORT  
FOR 2017**
**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 2017 (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 2017 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 2017.

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 2017 verified is accurate, reliable and provides a fair and balanced representation of Advantech sustainability activities in 01/01/2017 to 12/31/2017.

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 2017, 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.

David Huang, Director  
Taipei, Taiwan  
24 May, 2018  
WWW.SGS.COM



AA1000  
Licensed Assurance Provider  
000-8

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Print: November 30, 2018

Website: <http://www.advantech.tw/CSR/>