ADVANTECH

2021 Sustainability Report

About Advantech's 2021
Corporate Sustainability Report

Editorial Principles of the Report

Advantech Corporation ("Advantech") has issued our 2021 Corporate Sustainability Report to openly and transparently present the Company's governance, environmental, and social-related strategies, management policies, practical results, and future direction of progress to stakeholders and the general public. This Report will be published in 2022, and its annual work priorities are to be reported based on the Global Reporting Initiative (GRI) Standards.

Report Boundaries and Scope

This Report's boundaries encompass Advantech Taiwan (Rueiguang and Taipei Sunny Building (HQ) and Donghu, and Linkou (Advantech Taiwan Manufacturing Center, ATMC) as well as Advantech Kunshan Manufacturing Center (AKMC) as principal operating bases, with additional disclosure of Advantech Japan's marketing and sales departments (Advantech Japan, AJP), Advantech Japan Manufacturing Center (AJMC) and Advantech Europe as well as partial performance data of Advantech Taiwan's offices in Hsinchu, Taichung, and Kaohsiung. The manufacturing capacities of the above-mentioned bases account for 100% of the total manufacturing capacity of Advantech, while their number of employees accounts for 73.6% of the total number of employees. In addition, relevant content concerning the Advantech Foundation constitutes voluntary disclosure.

Regarding branches and offices in other regions, even if the associated control rights are greater than 50%, most of them focus on marketing and business activities. Due to the difficulty of data collection and other matters of inaccessibility, they have not yet been included in this Report. In the future, we expect to gradually disclose the ESG (Environmental, Social, Governance)-related content that can be collected.

In addition, Advantech's Annual Report is in compliance with International Financial Reporting Standards (IFRS) with a scope of coverage comprising Advantech and its affiliated companies; the information of affiliated companies is not included in this Report.

Reported Period

Presentation is primarily made of each performance data item for 2021 (January 1, 2021 to December 31, 2021). Partial disclosure will also be made in this Report of information prior to this period or for subsequent strategies, goals, plans, and so on.

Standards Used as a Basis for the Report

This Report follows the Core options of the GRI Standards in disclosing Advantech's strategies, management policies, projects, and performance in corporate sustainability. Financial statement figures in this Report are calculated in New Taiwan Dollars. Performance related to environmental protection, safety and health is expressed in terms of internationally accepted indicators. Any estimates or assumptions will be noted in the relevant chapters. In comparison with the previous version of this Report, the current Report does not modify the prior Report in such a way as to cause material misjudgment among readers.

Report Assurance

In order to provide readers with reliable public information, this Report is verified by Taiwan SGS Limited, an independent third-party organization. It meets the requirements of the AA1000AS* Type 2 high-level assurance, and the relevant declaration form is attached as an appendix of this Report.

*Note: Regarding AA1000AS, it constitutes the AA1000 assurance standard for the principle of accountability for sustainable development issued by the United Kingdom's Account Ability organization and stands as one of the international standards for verification of corporate CSR reports.

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Time of Report issuance: Scheduled to be issued annually

Current edition: Issued June 2022

Prior edition: Issued June 2021

Next edition: Scheduled to be released in June 2023

Report issuance and contact details

In response to environmental concerns and paperless implementation, this Report shall be published in an electronic version on the Company's website. You are welcome to contact us if you have any suggestions or inquiries on related information concerning this Report.

Advantech Corporation

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1

Sustainability Vision and Goals

1.1 Message from Management

1.2 ESG Governance Structure

1.3 Stakeholder Engagement

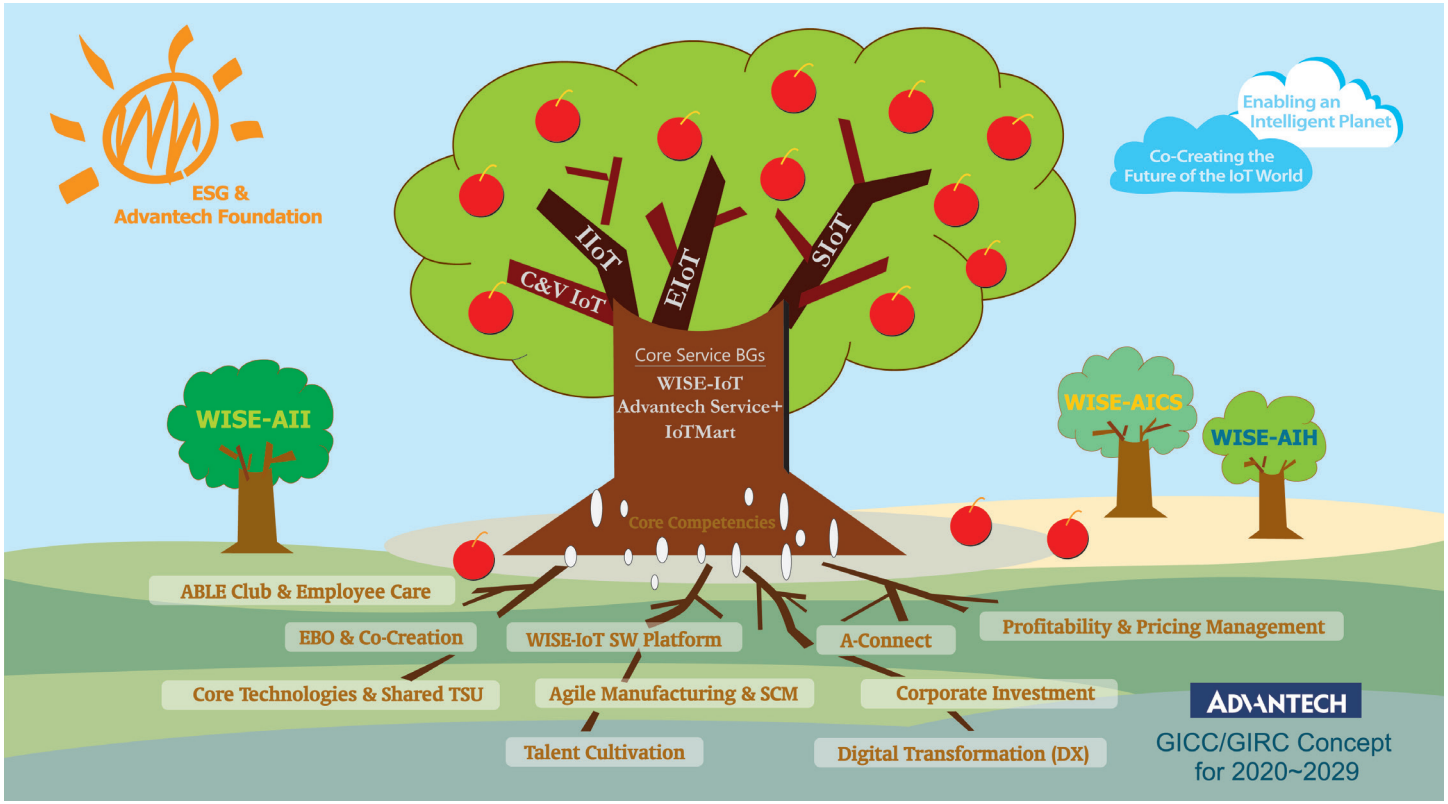
1.4 Sustainability Goals and Material Issues

1.1 Message from Management

Chairman

At the Company's recent Kick-Off Meeting for 2022, I explained Advantech's business vision for the next ten years to all employees using the analogy of the "Company Tree Growth Diagram" pictured below: a company is like a tree, dreaming that it will grow into a vast forest one day. With this in mind, I likened ESG to the sun. When the sun shines, trees can grow and thrive, just like as a company will grow if its ESG is well managed—we can see a natural relationship of cause and effect. Through this diagram, I hope that colleagues can understand the cause and effect involved in management, cherish rewards for good deeds, and do their best for corporate ESG in their individual positions because ESG indeed stands as the key to business cause and effect and the corresponding rewards.

Figure1.1.1 Advantech's Company Tree Growth Diagram



Internationally, a general consensus has formed over the issue of sustainability, such as in the form of the United Nations Sustainable Development Goals (SDGs), and in Taiwan even elementary school children are aware of it. There are also many international development standards that can be followed in the pursuit of corporate ESG (Environmental, Social, and Governance), such as the Dow Jones Sustainability Indices (DJSI). In 2021, we participated in the DJSI questionnaire for the first time. Although we have not yet been selected, we formed a consensus meeting internally and each organization will implement year-by-year, item-by-item improvement plans according to a rigorous process. At this meeting, I saw that colleagues in responsible units already grasp the preliminary concepts of the DJSI management framework, and this is the first step to success. In accordance with our yearly progress plan, I believe that Advantech's selection as a DJSI constituent is just around the corner and we will actively pursue this. Below I have outlined are a few of the key points that I am paying attention to, including corporate governance, supply chain management, energy savings and carbon reduction, employee care, and contributions to society.

- **Contributions to Society**

  Advantech has long used our Foundation's resources to implement various projects that contribute to society, and we are also continuing to strengthen the lineup of Foundation organizations.

- **Employee Care**

  We plan to use our interactive platform "On Demand ABLE Club" to enable employees, customers and other stakeholders to participate in and host various events, enjoy various benefits, or engage in social feedback on this interactive platform.

- **Energy Savings and Carbon Reduction**

  Advantech has made a clear commitment to its own carbon reduction goals. At the same time, we are determined to use Internet of Things technology to enter the Energy Management System industry including energy savings in factories and in services. In addition to saving energy and reducing carbon for our own part, we must also use the core capabilities of the Internet of Things to help global customers save energy as well.

- **Supply chain management**

  Although we do not yet have strong leverage over suppliers, we will still strive to cooperate with them in implementing waste reduction, the reuse of recycled packaging materials, and so on, so as to exert influence on the sustainable management of the supply chain.

- **Corporate Governance**

  The essence of Advantech is found in integrity with sincerity and in upright management. Beyond this, we will continue to make progress based on the requirements of the DJSI.

Even if I step down as Chairman of Advantech in coming years because I have reached retirement age, I nonetheless hope to contribute to the public welfare mission of the Advantech Foundation and continue advancing the cause of sustainable altruism for the Company. In the next few years, meanwhile, I will fully support Advantech's evolution in ESG.

Chairman, Advantech

K.C. Liu February 2022

President of General Management

In 2021, Advantech showed definite progress in terms of ESG. For example, there has been progress in network security, Internet of Things talent cultivation, improvements of Report structure, official website setting, domestic and foreign evaluations, and so on. These projects have been planned and will continue to be carried out by the ESG Office, a formally established organization.

Working priorities for 2022-2023 include:

- Content for the Task Force on Climate-Related Financial Disclosures (TCFD) has been added to the Report. We will communicate with stakeholders about Advantech's identification, organization and management framework for climate risks and opportunities as well as countermeasures.
- We will effectively communicate ESG strategies, progress, results, and future goals to investors, the Board of Directors, and other stakeholders.
- We set a carbon reduction target for the following ten years at the end of 2021 .Our important challenges include how to save energy step by step, make corrections and adjustments at any time, track progress, and then implement carbon reduction.
- In 2021, Advantech participated in the DJSI questionnaire for the first time; the score still has some way away before our incorporation into the index. We have held workshops and reviewed various evaluation indicators in detail and an overall improvement plan was also proposed. I thus expect an improvement of 10-15 points or more in 2022.
- In respect to eco-product design, we began advancing a number of projects by the end of 2021 including improvements in product energy efficiency, packaging material recycling, and so on. This marks a good beginning, and I am hopeful for further expansion in the future. I will work with the two other Presidents, who have also expressed their sense of mission toward eco-product design, and they promise to empower their relevant teams in execution.

Looking to the future, we have clear goals for the use of renewable energy and carbon neutrality, which will be fulfilled and practiced year by year. The expansion of ESG to Advantech's overseas bases is also an important task for us, and we have been in continuous communication with overseas stakeholders. In the initial stages, Advantech's own buildings overseas may be the main focus, such as the second headquarters to be built in North America, the existing Advantech Europe Support Center (AESC) operational base in the Netherlands, the factories and offices in mainland China, and so on. We thus will gradually promote the use of renewable energy in Advantech's overseas bases.

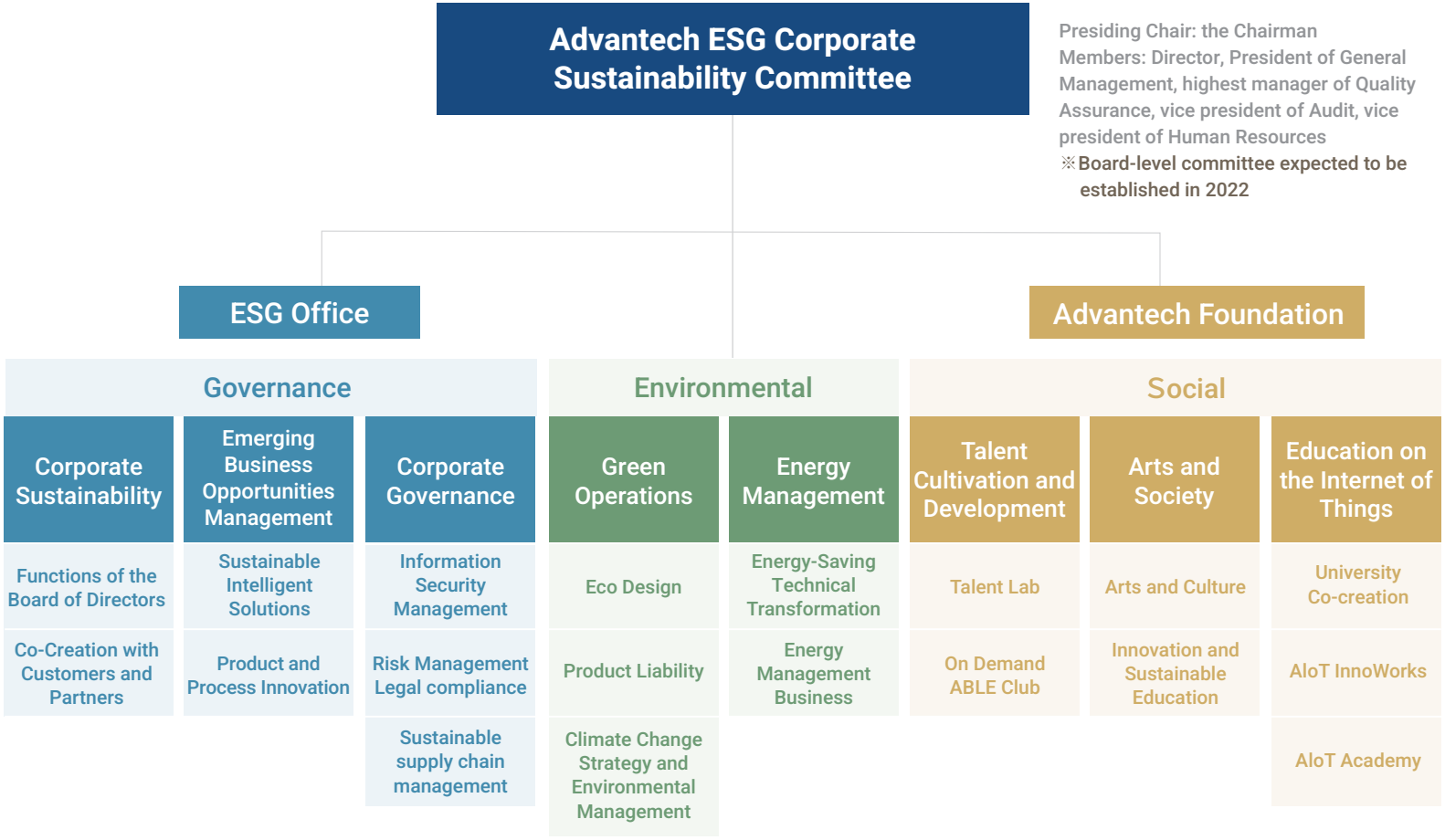
President of General Management, Advantech

Eric Chen February 2022

1.2 ESG Governance Structure

Advantech has issued a Corporate Social Responsibility Report since 2013. The President reports the issuance of the yearly Report and a summary of CSR work priorities to the annual Board of Directors meeting. Meanwhile, the Board of Directors is responsible for reviewing the yearly Report, and the Chairman leads important CSR-related projects.In 2020, Advantech established the ESG Corporate Sustainability Committee and the ESG Office, managing projects related to corporate sustainability from the three aspects of governance, environmental, and social-related. This organization is shown in Figure 1.2.1.

Figure 1.2.1 ESG Organizational Structure of Advantech



Advantech's ESG Corporate Sustainability Committee includes six members in all, including the Chairman (Founder), an external director, the President of General Management, the highest manager of the Quality Assurance Department, the vice president of Audit, and the vice president of Human Resources. The ESG Office draws up an annual plan, reporting the progress of major ESG issues and projects to Committee meetings on a quarterly basis. After a new project is confirmed by the Committee, the responsible team will take action and the ESG Office will regularly track the results and propose improvement plans. In 2021, the ESG Office reported to the Board of Directors on two occasions. Approved matters included the carbon neutrality target of the Taiwan headquarters, the green power investment plan, and the issuance of the yearly report.

Recognitions and Honors

Please refer to the following table for recognitions made in relation to Advantech's efforts in the ESG/CSR fields in 2021:

Item	Unit/Award	Category/Group	Ranking/Honor
1	Global Views Monthly CSR Survey	Electronics and technology industry	Exemplary Award
2	CommonWealth Magazine Corporate Citizen Award	Large enterprise group	32nd
3	Taiwan Corporate Sustainability Awards (TCSA)	Electronics and information manufacturing industry	Outstanding Achievement Award, Sustainability Reporting Gold Award
4	Best Taiwan Global Brands	–	5th
5	Buying Power	Social Innovation Product and Service Procurement Awards	First Prize
6	Common Health Magazine	Healthy Corporate Citizenship CHR	Best Progress Award
7	1111 Job Bank	Happy Enterprise	Gold Award, Special Award
8	SBTi Science Based Targets initiative	response and target announcements	Taiwan's 3rd technology industry member to join
9	Taiwan Stock Exchange 7th Annual Corporate Governance Evaluations, 2020	TWSE listed companies	Top 20%
10	Included in Yuanta FTSE4Good TIP Taiwan ESG ETF, TWSE Corporate Governance 100 Index, and TIP Taiwan Environmental Sustainability Index		

1.3 Stakeholder Engagement

Based on the Company's operational conditions and the selection mechanisms of substantive issues, the ESG Office invites colleagues across departments to identify stakeholders; and, with reference to AA1000 SES (Stakeholder Engagement Standard), identifies priority communication targets as well as their concerns and how to respond to them. Key stakeholders identified by Advantech encompass six types, including: employees, customers and partners, suppliers, shareholders and institutional investors, media and public associations, and community* and non-profit organizations.

We interact with stakeholders by using a range of channels including telephone communication, online customer service (live chat), physical and online meetings/forums, event satisfaction surveys, customer satisfaction surveys, customer visits, supplier audits, participation in public association initiatives, and other means, as well as by using the corporate social responsibility mailbox (csr@advantech.com.tw)and the "Contact Us" section of the CSR official website for stakeholder consultations. Responsible colleagues of each unit shall respectively engage with the demands of our stakeholders and respond accordingly.

*Note: "Community" refers to other stakeholders who are associated with Advantech in various forms such as physical, online, direct, indirect, etc., and who will be influenced by Advantech and interact with Advantech.

Table 1.3.1 Stakeholder Communication Channels of Advantech

Stakeholder	Communication Channel	Frequency	Covered Region
Employees	Employee Welfare Committee	Permanent	Due to different regulations/national conditions
	Physical and online staff meetings	Semiannual	Launched by headquarters and held by each respective global region/business group
	Employee intranet and social networking sites	Permanent	Held by each respective global region
	Employee newsletter	Weekly	Held by each respective global region
	Global electronic dashboard	Permanent	Launched by headquarters and held by each respective global region
	Employee complaint mailbox	Regular	Launched by headquarters and held by each respective global region
	CSR education and training	New hire training	Headquarters
	ABLE Line Community	Permanent	Headquarters
Customers and Partners	Key account quarterly meeting	Quarterly	Held by each respective global region/ business group
	Advantech Connect (online seminar)	Intermittent	Launched by headquarters and held by each respective global region/business group
	Local business and engineering assistance	Immediate	Global
	Activity satisfaction survey	Intermittent	Available for global regions/business groups
	MyAdvantech Magazine	Quarterly	Headquarters/global regions (Chinese, English)
	Customer CSR Audit	Intermittent	Headquarters/global regions
	Corporate Social Responsibility area of the Company's website	Regular	Headquarters (Chinese, English)
	Collect customer opinions and engage in two-way communication with customers through social media	Regular	Launched by headquarters and held by each respective global region/business group
Suppliers	Supplier CSR promotion and evaluation	Annual	Headquarters/Global
	Supplier environmental assessment	Annual	Headquarters/Global
	Supplier conference	Intermittent	Headquarters/Global
	Supplier Evaluation	Annual	Headquarters/Global
	Anti-corruption reporting mailbox	Regular	Headquarters/Global

Stakeholder	Communication Channel	Frequency	Covered Region
Shareholders/ Institutional Investors	Investor service mailbox and telephone on the Company's website	Permanent	Headquarters (Chinese, English)
	Market Observation Post System	Regular	Headquarters
	Shareholders' meeting	Annual	Headquarters
	Major institutional investor conference	Quarterly	Headquarters
	Seminars for domestic and overseas institutional investors as well as face-to-face meetings	Intermittent	Headquarters/Global
	Issuance of the Company's Annual Report	Annual	Global
	Announcement of Company news on the official website	Intermittent	Global
	Investor area of the Company's website	Regular	Global
Media/Public Associations	Interviews, phone interviews, video interviews	Intermittent, averaging once a month	Available globally/regionally
	Media luncheons	Intermittent, averaging once every six months	Available globally/regionally
	Revenue announcements	Monthly	Headquarters (Chinese, English)
	Press conferences	Intermittent, averaging four sessions per year	Headquarters
	Press release	Intermittent, averaging once per month or more	Available globally/regionally
	Company-specific events	Intermittent	Available globally/regionally
	Special person in charge of the media window	Regular	Headquarters (Chinese, English)
	Media-exclusive investor conferences	Quarterly	Headquarters
Community/ Non-Profit Organizations	Community communication	Intermittent	Launched by headquarters and held by each respective global region
	Setup of a CSR mailbox on the Company's website	Regular	Headquarters (Chinese, English)
	Disclosure of CSR Report as well as website information	Regular	Headquarters (Chinese/ English)
	Collect stakeholder opinions through social media and engage in two-way communication	Regular	Launched by headquarters and held by each respective global region

Highlights

A total of four major institutional investor conferences were held in 2021, as well as 12 investment forums inviting the participation of foreign securities companies. Furthermore, we presided over 84 online investor meetings and communicated with more than 1,000 investors

Annual Stakeholder Survey

Through the annual stakeholder survey, we are able to understand sustainability issues that are of concern to our stakeholders. We expanded the scope of our survey in 2021 for the sake of obtaining deeper and more comprehensive insights. In addition to Taiwan and Kunshan, which have been surveyed in the past, this has been updated to include stakeholder surveys for branches in Japan and Europe. Furthermore, we also conducted an impact survey on Advantech's global senior managers.

To encourage more stakeholders to participate in the surveys, we launched the "One Survey, One Tree" project that invites stakeholders to work with Advantech to fight climate change. For every valid survey collected, Advantech will donate NT$100 (or 1 Euro in Europe) to a tree planting fund. This project achieved remarkable results as the number of valid questionnaires received in 2021 (711) was more than double that of the previous year (2020). In the end, the headquarters (globally, excluding European employees) donated Tse-Xin Organic Agriculture Foundation NT$63,400 to plant 106 trees on the Wangzaliaoshan sandbar in Tainan's Taijiang National Park. Meanwhile, Advantech Europe donated a total of 97 euros to One Tree Planted to plant 97 trees. Advantech stakeholders contributed to the planting of 203 trees in total in 2021 through their survey responses.For detailed identification methods of materiality and results of survey analysis, please refer to **1.4 Sustainability Goals and Material Issues.**

Table 1.3.2 Advantech's 2021 Stakeholder Survey and Impact Survey - Number of Valid Surveys Received

Stakeholder	Region	Valid surveys received
Employees	Taiwan	397
	Kunshan	36
	Japan	9
	Europe	77
Customers/Partners	Taiwan	27
	Kunshan	12
	Europe	5
Suppliers	Headquarters	30
Shareholders/ Institutional Investors	Headquarters	29
Media/Public Associations	Headquarters	27
Community/ Non-Profit Organizations	Headquarters	21
Senior Executives (Impact Survey)	Global	41
Total		**711**

Table 1.3.3 Issues of Concern among Advantech's Stakeholders* and Report Response Section

Stakeholder	Issue of Concern	Report Response Section
Employees	Talent cultivation and development	5.1
	Sustainable intelligent solutions	3.1
Customers/Partners	Co-creation with customers and partners	3.3
	Sustainable supply chain management	2.3
Suppliers	Co-creation with customers and partners	3.3
	Information security management	2.2
Shareholders/ Institutional Investors	Sustainable supply chain management	2.3
	Sustainable intelligent solutions	3.1
Media/Public Associations	Sustainable intelligent solutions	3.1
	Risk Management	2.4
Community/Non-Profit Organizations	Talent cultivation and development	5.1
	Neighborhood and community care	6.1

*Note: Top 2 Items with highest scores

1.4 Sustainability Goals and Material Issues

1.4.1 Identification of Material Issues

We identify sustainability issues related to Advantech and conduct a materiality analysis from the two dimensions of a stakeholder degree of concern survey and of an assessment of the level/influence of impact from management and senior executives. The materiality is then checked by the Sustainable Development Committee and the results are used as a reference basis for information disclosure, as well as forming the basis for developing sustainable strategies and planning sustainable projects.

Figure 1.4.1 Advantech's Sustainable Goal Setting and Strategy Development Process

Step1
Collection/identification of Advantech's related sustainability issues

Step2
Stakeholder Engagement

Step3
Stakeholder Survey and Impact Survey

Step4
Materiality Analysis

Step5
Sustainable Goal Setting and sustainable project planning

Step6
Sustainable project implementation

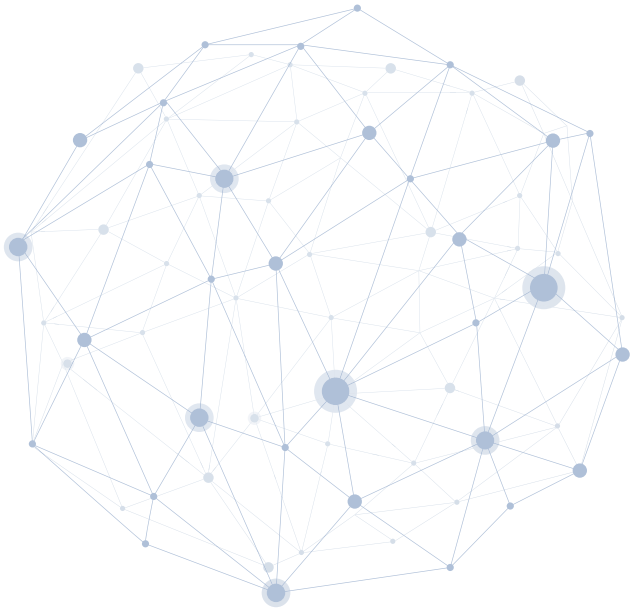
Step7
Report disclosures; effectiveness review, improvements, and adjustments

Collection/identification of Advantech's related sustainability issues

Given the breadth of sustainability issues, we collect and identify Advantech-related sustainability issues from both internal and external sources. Collection sources are shown in Table 1.4.1 below.

Table 1.4.1: Sources of Advantech's Sustainability Issues

External	Internal
• Stakeholder feedback • GRI indicators • United Nations Sustainable Development Goals (SDGs)	• Advantech's operational strategy and objectives • Advantech's ESG vision



Before conducting the stakeholder survey this time, we added a new link for the collection of stakeholder opinions. For example, through many meetings with customers and institutional investors, we learned that they attach great importance to issues such as human capital and related potential risks, product energy consumption standards and eco design, Advantech's overall carbon reduction goals, and so on. Therefore, such relevant content was especially detailed in the survey. In addition, through the responsible unit of each stakeholder (Business, Public Relations, Employee Relations, Investor Relations, etc.), we asked stakeholders whether there are other topics they wish to add or topics they wish to discuss drawn from the first draft of the topics, which in turn is based on the GRI and on the SDGs. In this way, we could understand stakeholders' views on the survey's design and on their importance to Advantech. For example, on the topic of sustainable supply chain management, the opinions of stakeholders are included to make the survey more complete.

On the other hand, starting from Advantech's ESG vision to "Enable an Intelligent and Sustainable Planet," we believe that Advantech's core IoT technologies and solutions, as well as our corporate culture of open innovation and co-creation with partners and our long-standing IoT industry-university cooperation, shall enable us to effectively utilize the core capabilities of the business to respond to the United Nations Sustainable Development Goals (SDGs) stipulated under 4 Quality Education, 7 Affordable and Clean Energy, 13 Climate Action, and 17 Partnerships for the Goals. In addition, beyond focusing on SDGs 4, 7, 13, and 17, we also respond to other SDG projects in respect to other major issues. For details, see Table 1.4.5: Goals and Management Guidelines for Major Issues.

Figure 1.4.2 Advantech's ESG Vision

The ESG Office has selected 14 Sustainability Topics in 2021 (Table 1.4.2) and formulated survey content accordingly based stakeholder input, external reference indicators and international initiatives (Table 1.4.1), and internal development strategies and goals (Figure 1.4.2).

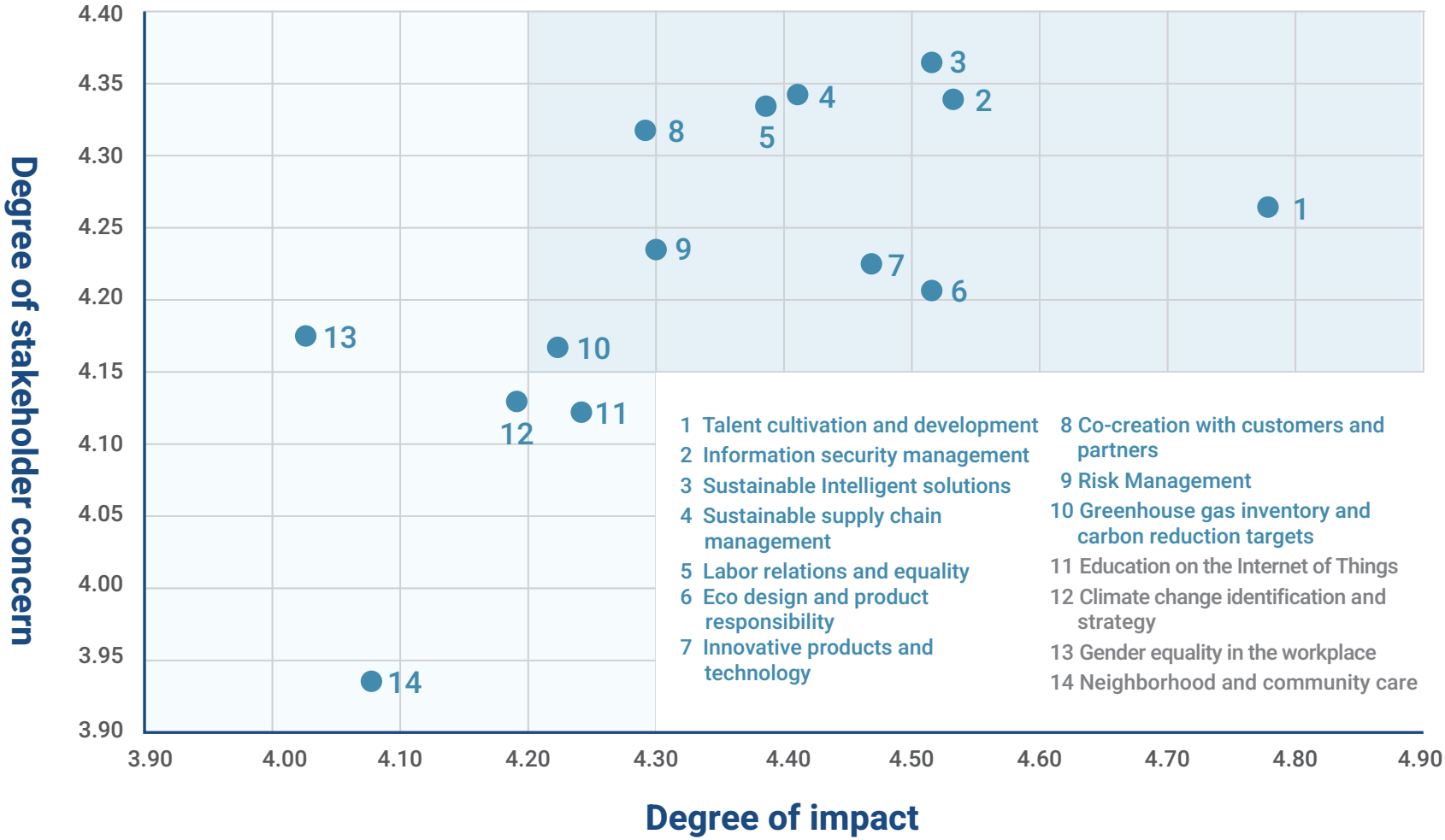
Table 1.4.2 Sustainability Topics in Advantech's 2021 Survey

Governance		Environmental		Social	
No.01	Innovative products and technology	No.08	Climate change identification and strategy	No.11	Labor relations and equality
No.02	Sustainable Intelligent solutions	No.09	Greenhouse gas inventory and carbon reduction targets	No.12	Talent cultivation and development
No.03	Co-creation with customers and partners	No.10	Eco design and product responsibility	No.13	Education on the Internet of Things
No.04	Sustainable supply chain management			No.14	Neighborhood and community care
No.05	Risk Management				
No.06	Information security management				
No.07	Gender equality in the workplace				

Stakeholder Survey, Impact Survey, and Materiality Analysis

As explained in **1.3 Stakeholder Engagement**, Advantech's stakeholder survey and high-level executive impact survey in 2021 received a total of 711 valid surveys, and the survey content included 14 sustainability issues and detailed descriptions of each issue (Table 1.4.2) .Considering the differences in the numbers of valid surveys received from stakeholders, there were gaps between these groups. We averaged the survey results of each stakeholder group first and then provided weightings according to the degree of the relationship between the stakeholders and Advantech. The respective weightings of Employees, Customers/Partners, Suppliers, Shareholders/Institutional Investors, Media/Public Associations, and Community/Non-Profit Organizations were 3:2:2:2:1:1. The analysis results are shown in Figure 1.4.3.

Figure 1.4.3 Materiality Analysis Results



As shown in the figure above, we added the two scores to get the ranking of the issues; and for those whose impact level is higher than 4.20 and the stakeholder degree of concern is higher than 4.15, these are regarded as material issues for Advantech. Based on the above analysis results, the ESG Office has measured the Company's core development strategies. After communicating with the Sustainable Development Committee in writing, nine material issues have been adjusted and agreed to as follows (in order of importance), and these will be fully disclosed in this Report:

Table 1.4.3: Nine Major Issues Addressed in the Report

1	Talent cultivation and development
2	Information security management
3	Sustainable intelligent solutions
4	Sustainable supply chain management
5	Eco design and product liability
6	Innovation mechanisms
7	Co-creation with customers and partners
8	Risk Management
9	Greenhouse gas inventory and energy management actions

Among them, "Eco Design and Product Liability" was not included in the range of material topics in 2020 but was agreed by the Committee to be a material topic in 2021 with its importance jumping significantly. Likewise, “Risk Management” was not surveyed in 2020 but it entered the range of material topics to be surveyed in 2021. This shows that the importance of these two items has been recognized by stakeholders and by senior executives. For other adjustments, please refer to the explanation below:

1.“Labor Relations and Equality” Incorporated into: "Talent Cultivation and Development"

As the importance of Talent Cultivation and Development has risen to first place, we will give a more complete description. Furthermore, this also covers Labor Relations and Equality.

2.“Innovative Products and Technologies” Renamed to: "Innovative Mechanisms"

The key to Advantech's continuous growth and provision of solid remuneration to stakeholders stems not only from Innovative Products and Technologies, but also from diversified Innovation Mechanisms as a strong backing. Therefore, the coverage of this materiality is expanded.

3.“Greenhouse Gas Inventory and Carbon Reduction Targets” Renamed to: "Greenhouse Gas Inventory and Energy Management Actions"

The name change is implemented in order to more accurately explain the management framework, target setting, progress, and inspection standards of the Company's energy strategy.

In addition, in comparison with material issues disclosed in the 2020 report, the content of "Education on the Internet of Things" was incorporated into "Innovation Mechanisms." For two consecutive years, the materiality analysis results of "Neighborhood and Community Care" were not included in the range of material issues and so it was deleted from materiality issues but will still be voluntarily disclosed in the Report. Other information such as economic performance, corporate governance, waste and water treatment, occupational safety and health, and so on will also be voluntarily disclosed in the Report.

Issue Boundaries

For each material issue, we assess the magnitude of the impact and whether it has an impact inside or outside the organization, and determine the level of disclosure. Table 1.4.4 defines the internal and external boundaries of the organization that each issue discloses.

Table 1.4.4: Issue Boundaries, Scope of Influence/Impact, and Corresponding GRI Issue

		Internal				External		Range of Influence/ Impact	GRI
		Advantech Taiwan	Advantech Kunshan	Advantech Japan*	Advantech Europe	Suppliers	Customers		
Economy Governance	Information security management	●	●	●	●		◒	Employees/Suppliers/ Customers	GRI103
	Sustainable intelligent solutions	●	●	●	●		◒	Customers	GRI103
	Sustainable supply chain management	●	●			◒		Supplier/Customer	GRI103 GRI204 GRI308 GRI414
	Innovation mechanisms	●	●	●	●			Supplier/Customer	GRI103
	Co-creation with customers and partners	●	●	●	●		◒	Supplier/Customer	GRI103 GRI418
	Risk Management	●	●	●	●	◒	◒	Employees/Suppliers/ Customers	GRI103
Environment	Eco design and product liability	●	●	●	●	●	●	Supplier/Customer	GRI103
	Greenhouse gas inventory and energy management actions	●	●	◒			◒	Employees/Suppliers/ Customers	GRI103 GRI302 GRI305
Social	Talent cultivation and development	●	●	◒				Employees	GRI103 GRI401 GRI404

● Fully disclosed in this report ◒ May be partially disclosed in this report

*Note:

1. Advantech Japan (AJP) includes Advantech Japan's marketing and sales departments in Japan as well as Advantech Japan Manufacturing Center (AJMC). For details on the scope of disclosure, please refer to the Editorial Principles of the Report.
2. Among the nine major issues, five are self-defined topics and correspond only to GRI 103; namely, information security management, sustainable intelligent solutions, innovation mechanisms, risk management, and eco design and product liability.

1.4.2 Management Guidelines for Major Issues

The ESG Office cooperates with the responsible units for each major issue, formulating management policies, setting goals, and implementing and tracking results for major issues; see the table below for details.

Table 1.4.5: Goals and Management Guidelines for Major Issues

1.Information security management

Report section 2.2

Materiality	Advantech is a global IoT leader. Information security issues involves a company's operational stability, product security, privacy and other aspects. Regarding Advantech's brand value, it is extremely important to stakeholders such as employees, customers, and investors.		
Management strategy	Establish a cross-departmental information security governance team, which is to promoted by the quality control and information security teams, and should coordinate information security issues including computer information, physical environment, product information security, supply chain, regulatory compliance, and so on; and it should regularly report the implementation status to the Risk Management Committee and integrate information security into the organization's operational management.		
2021 achievements	• Critical IT services (ERP, PLM, Mail) had 99.9% uptime. • Disaster recovery time was within 24 hours.		2020 goals achieved
2022 goals	• Complete ISO 27001 information security management system expansion (OT expands to IT room management and backbone network). • Complete the headquarters information security risk assessment. • Establishment of virtual host backup mechanism (establishment of Linkou second backup center). • Management personnel information security awareness education training (target completion rate of more than 95%).	2025 goals	• Complete Advantech's US and European information security risk assessments. • Establish a systematic information asset management mechanism. • Establish an SOC dedicated to information security monitoring capabilities.

2.Sustainable intelligent solutions

Report section 3.1

Materiality	Advantech's software and hardware products and integrated solutions can be used in growing markets such as renewable energy, climate mitigation, climate adaptation, telemedicine, and education. Aside from improving Advantech's corporate competitiveness, continuously developing products for sustainable use can also contribute to sustainability.		
Management strategy	Recruit possible sustainable business opportunities worldwide from Advantech branches around the world via the Emerging Business Opportunity (EBO) proposal management mechanism, and conduct product development and market expansion. For existing products and markets, re-inventory customers and solutions for sustainable use, and inject resources to support the expansion and development of their business opportunities.		
2021 achievements	12.1%* of revenue from products for sustainable use. (Calculation basis is different from 2020)		2020 goals not met
2022 goals	13%	2025 goals	15%

3.Sustainable supply chain management

Report section 2.3

Materiality	We have established the stable development of friendly relations with supply chain partners under our business philosophy of sustainable corporate development. In addition to taking quality into account, we also hope that by building a sustainable supply chain we will fulfill our corporate social responsibilities together with our partners while working together for environmental protection.		
Management strategy	• Suppliers should follow the Advantech's Supplier Code of Conduct, making them aware of the standards the Company is expected to follow. • The Company sets short and medium-term key goals and formulates specific practices to effectively promote and implement. • Regularly identify high-risk suppliers, require audits and deadlines for improvement, and reduce to medium and low risks.		
2021 achievements	• Preferred Vendor List: 100% in line with Advantech's Supplier Code of Conduct; 100% do not use conflict minerals; zero environmental pollution, human rights violations, and major occupational incidents. • Sustainability high-risk suppliers: 100% obtained ISO 14001 environmental management system certification.		2020 goals achieved
2022 goals	• Preferred Vendor List: Provide key supplier ESG courses and complete 10% key supplier carbon data collection. • Sustainability high-risk suppliers: On-site assessment and coaching of suppliers that are sustainability high-risk, to improve their deficiencies and eliminate suppliers that are sustainability high-risk and cannot be coached.	**2025 goals**	• Preferred Vendor List: 100% completed ESG risk assessments. • Sustainability high-risk suppliers: Improvement shortfall rate more than 70%.

4.Innovation mechanisms

Report section 3.2

Materiality	Advantech is characterized by our innovation mechanisms, and they also form the source of our competitiveness. Technological innovation can reduce R&D and resource waste, while business model innovation can improve synergies.		
Management strategy	Use discipline to drive the business group level with various innovative projects, and with cross-business technology and projects involving emerging business opportunities.		
2021 achievements	• The Emerging Business Opportunities (EBO) process mechanism was established in 2021Q4 and has been promoted through official announcements. • We completed two business plans for emerging business, and established two exclusive business organizations. These include Advanced Computer Vision, whose main product is edge intelligent imaging equipment, and Advantech Service Plus, which has changed customer service from support into commercial operations.		2020 goals achieved
2022 goals	• Promote the selection of EBO topics domestically and abroad twice a year, implementing the EBO process mechanism. • Complete three or more business plans for EBO emerging business, and begin preparations for commercialization. • Expand the mechanism of A+X executive guidance. In addition to the President of General Management, the presidents of the business groups shall personally promote the ideas and development of innovative products.	**2025 goals**	Establish at least three business units with revenue of US$50 million through EBO and achieve more than 80% of the business goals.

5.Co-creation with customers and partners

Report section 3.3

Materiality	Good customer relationships can enhance Advantech's corporate competitiveness; high-quality partnerships can enhance the creativity of the IoT industry as a whole		
Management strategy	● Treat customers as partners, to jointly manage the market with customers through a co-creation mechanism. ● Continuously improve channel distribution management, optimize global customer relationship management systems and technical service platforms, and provide more diverse online training courses. ● Ensure that customer privacy is fully protected, and ensure that customers' rights and interests do not suffer during the pandemic.		
2021 achievements	Due to the pandemic's impact, we failed to achieve the double-digit brand value growth target set in 2020 but we still ranked fifth among Taiwan's international brands.		2020 goals not met
2022 goals	The overall target setting for 2022 is related to distribution channels (dealers), including the following: ● Overall distribution channel revenue should continue to expand, and the total performance should increase by 50% with each region targeting double-digit growth. ● Continue to develop industry-focused distribution partners and system integration partners, with the number of new dealers recruited accounting for more than 10% of the total number. ● Introduce online teaching materials for quality management courses and list them as training courses that are obligatory for authorized dealers.	2025 goals	Average global customer satisfaction score to remain above 90 points.

6.Risk Management

Report section 2.4

Materiality	The purpose of risk management is to protect and enhance corporate value, being able to structure and systematically assess existing and potential risks that may be faced, making timely and responsive decisions that meet the Company's operational goals, and ensuring that goals are achieved while enabling continuous improvement. As a global leader in our industry, Advantech has had a continuous focus and drive for significant strategic and operational risk management.		
Management strategy	Develop risk management policies and operational continuity plans; formulate and promote various risk avoidance and response measures in advance; define handling mechanisms for when risk occurs in order to minimize their potential impact and influence; and achieve subsequent correction and management.		
2021 achievements	Additions to Materiality in 2021		
2022 goals	● Expand the risk project survey scope from the original focus on directors, accountants, and senior executives to a survey of all employees. ● Strengthen the education and training of employees.	2025 goals	Additionally strengthen the risk management organization and management mechanisms in line with the evolution of global corporate governance and sustainable development standards.

7.Eco design and product responsibility

Report section 4.1

Materiality	By advocating eco design standards, providing environmentally friendly products, operating for a long time and building a sustainable supply chain, and fulfilling the responsibility of eco product management, we not only can enhance Advantech's competitiveness, but can also reduce losses caused by non-compliance with customers' environmental protection requirements.		
Management strategy	Starting from product design, eco design is carried out from the four aspects of raw materials, packaging materials, energy consumption, and recycling; and it is introduced into the product development process, taking international regulations as a benchmark and launching an eco-design award system; and a visual eco product dashboard is established.		
2021 achievements	● 100% of raw materials comply with mandatory international regulations and Advantech's standards for regulated substances. ● Improve the eco design standard guidelines and introduce them into the product development process. (Unmet goals set for 2020: 10% of newly introduced standard products to meet the four major aspects of Advantech's eco design standards.)		2020 goals not met
2022 goals	● 20% of newly introduced standard products to meet the four requirements of Advantech's eco design standards. ● Introduce low energy consumption design to 15 new models.	2025 goals	● 80% of newly introduced standard products to meet the four requirements of Advantech's eco design standards. ● Strengthen low-energy design and expand horizontally (introducing compliance with Energy Stars/ErP European Energy-Related Products Directive).

8.Greenhouse gas inventory and energy management actions

Report section 4.2

Materiality	Global climate change is an important issue for humankind at present. We are committed to reducing greenhouse gas emissions and energy consumption, implementing greenhouse gas inventory, and promoting energy and resource conservation and management. We look forward to fulfilling our responsibilities for global environmental protection and creating a sustainable green industry.
Management strategy	● Comply with all energy and carbon management regulations and target zero violations. ● Identify risks posed by climate change and respond accordingly. ● Set short-, medium- and long-term goals for energy conservation and carbon reduction and formulate practical practices and promote them.
2021 achievements	● Advantech's overall GHG emission density per unit of revenue decreased by 16.49% compared with 2020. ● Introduce Building Energy Management System (BEMS) to Linkou and Kunshan. ● Solar panel power generation at Linkou Plant to account for 4.5% of total electricity consumption. (All three of the above have achieved goals set in 2020) ● The annual reduction of energy consumption per unit of output value in the Taiwan manufacturing area is 16.32%; the annual reduction of energy consumption per unit area in the office area is 6.60%; and the annual reduction of absolute electricity consumption is 1.51%. ● Due to the expansion of waste gas treatment equipment in Kunshan, the annual increase in energy consumption per unit output value in the manufacturing area is 16.70%; the annual increase in energy consumption per unit area in the office area is 9.24%; and the annual increase in absolute electricity consumption is 42.92%. ● Announce green energy targets and invest in solar power plants. **2020 goals achieved**
2022 goals	● The targeted annual reduction of energy consumption per unit output value in the Taiwan manufacturing area is 7.77%, and the annual reduction target of energy consumption per unit area in the office area is 2.21%. Due to expected factory expansion, absolute electricity consumption is expected to increase by 6.25% annually. ● The annual reduction target of energy consumption per unit output value in the Kunshan manufacturing area is 16.47%; the annual reduction target of energy consumption per unit area in the office area is 2.13%; and the absolute electricity consumption is expected to decrease by 5.61% annually. ● Complete the construction of invested green energy power generation facilities in Taiwan.
2025 goals	● Advantech's overall GHG emission density per unit of revenue to decrease by 30% compared with 2019. ● Advantech Taiwan to use renewable energy to account for 46% of its total electricity consumption.

9.Talent cultivation and development

Report section 5.1

Materiality	Due to the characteristics of our industry (with a small amount of diversity and high demand for innovation and flexibility), there is high demand for specialized, interdisciplinary talent. The attraction, cultivation, and retention of talent are thus extremely important to Advantech's operations.
Management strategy	● A “Right People on the Bus” recruitment mechanism, attracting the best people first and then finding the right jobs for them. ● Providing interdisciplinary, cross-border, and diverse opportunities along with job rotation and comprehensive learning programs to develop outstanding talent. ● Establishing a mutual growth model between employee personal development and organizational strategic development, creating excellence and building a sustainable foundation.
2021 achievements	● Build a Human Capital Management (HCM) digital talent database. ● E-Learning's global employee participation rate (indirect employees) is 31%. ● LEAP Workout senior executive promotion rate of 21%. ● Retention rate of key global talent is 100%. **2020 goals achieved**
2022 goals	● More than 10% of new full-time employees come from the Elite program. More than 30% of Elite100 Internship students extend their internships and turn them into full-time jobs after graduation. ● E-Learning's global employee participation rate (indirect employees) to be 60%. ● LEAP Workout senior executive promotion rate of 20%. ● Retention rate of key global talent to be 90%.
2025 goals	● At least 25% of vice president (AVP) and above to be promoted after rotation. ● Global talent to be visualized using Human Capital Management (HCM). ● Fifteen percent of new hires worldwide recruited via the Right People on the Bus pipeline. ● E-Learning's global employee participation rate (indirect employees) to be 75%. ● LEAP Workout senior executive promotion rate of 20%. ● Retention rate of key global talent to be 95%.

2

Company Management and Governance

2.1 Operational Performance and Corporate Governance Structure

2.2 Information Security Management

2.3 Supply Chain Sustainability Management

2.4 Risk Management

2.5 Appendix : Participation in Public Associations

2.1 Operational Performance and Corporate Governance Structure

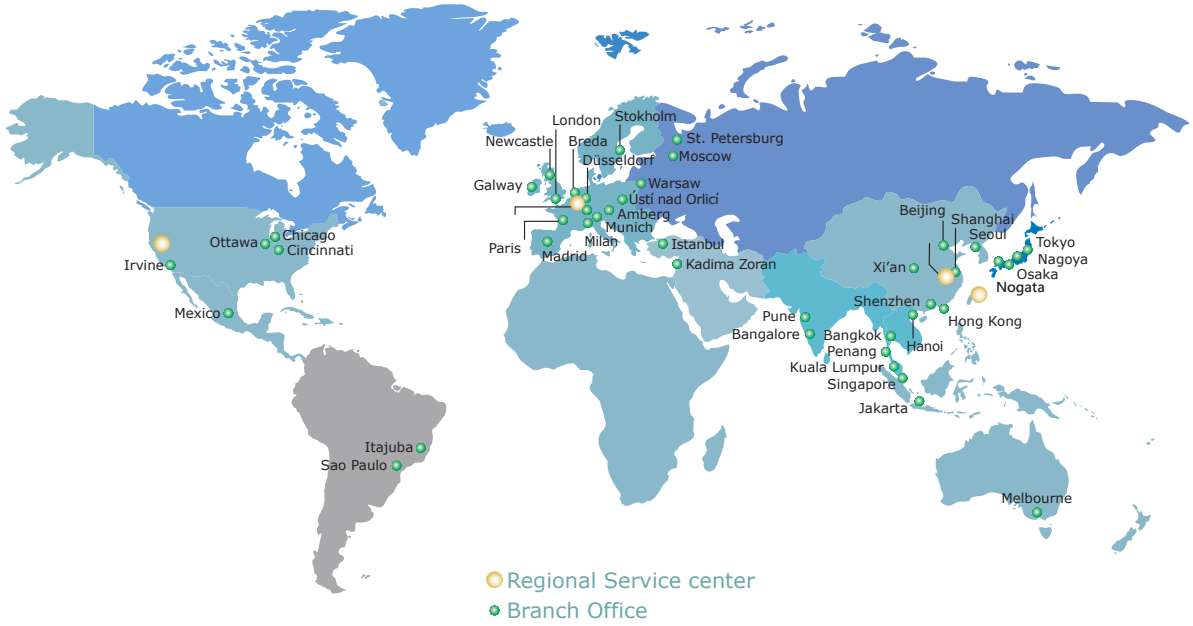
2.1.1 Company Profile

Since Advantech's establishment in 1983, we have played the role of innovator in the development and manufacture of high-quality and high-performance computing platforms. We provide comprehensive software and hardware system integration, customer-oriented design services, global logistics support, and other applications and services.

Advantech was listed in Taiwan in 1999 and our operating headquarters is located in the Neihu Technology Park in Taipei, Taiwan. Our business base spans 28 countries in Europe, the Americas, Asia, and other regions.* Our three major manufacturing centers are located in Linkou (Taiwan), Kunshan (China), and Fukuoka (Japan). Furthermore, we have built four logistics management centers and 14 local service centers to provide global customers with real-time and comprehensive integrated services via a complete service system.

*Note: For details of operating locations, please refer to Advantech's official website https://www.advantech.com/contact
(Please select region/country from the top left menu.)

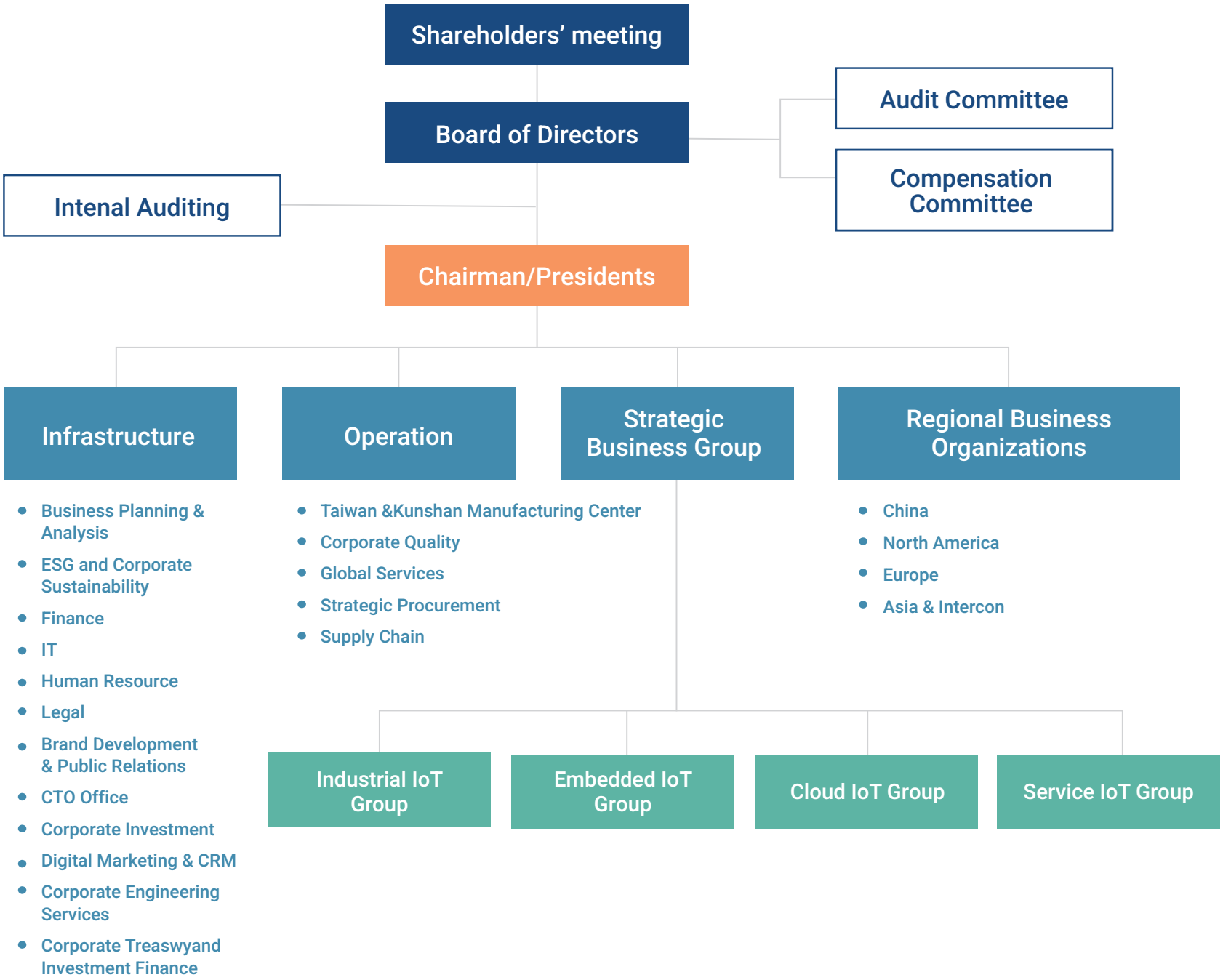
Figure 2.1.1 Distribution of Advantech's Operating Locations



Advantech stands as a global leader in the IoT intelligent system and embedded platform industries, and holds "Enabling an Intelligent Planet" as its corporate brand vision. In accordance with our customers' needs, our Company is divided into four major business groups: the Industrial IoT Group, the Embedded IoT Group, the Service IoT Group, and the Cloud IoT Group. To meet the broad trends of the Internet of Things, Big Data, and artificial intelligence, Advantech advances IoT software and hardware solutions centered on the WISE-PaaS industrial IoT cloud platform to help partners and customers connect the industry value chain. In addition, we actively "co-create" an industrial ecosystem with various industrial partners in order to accelerate the realization of the goal of industrial intelligence. Please refer to this video to learn more about Advantech's vision of "Enabling an Intelligent Planet".

The industries that Advantech and its affiliated companies work on are mainly in the manufacture, assembly, sales and after-sales service of industrial computer-related products. Some affiliated companies invest in related technologies and business activities connected to the aforementioned products to form their business scopes. The organization chart of the Company is shown in Figure 2.1.2.

Figure 2.1.2 Organization Chart of Advantech



Economic Performance and Brand Value

Despite the challenges of the pandemic and the supply chain in 2021, Advantech continued to create excellent operating results. Full-year revenue officially exceeded the US$2 billion mark, and record highs were set for December, for the fourth quarter and for the full year. In terms of profit performance, the Company's gross margin, operating margin, and return on shareholders' equity have grown steadily over the years.

Table 2.1.1 summarizes the Company's products and revenue distribution in 2021. For details, please refer to page 63 of our Annual Report. Production value can be found on page 83.

Table 2.1.1 Advantech's Products and Revenue Distributions in 2021

Major Products	2021	
	Sales unit (NT$ thousand)	%
Embedded boards and chassis	25,410,695	43
Industrial computers and industrial controls	26,238,637	45
After-sales service and others	6,972,718	12
Total	**58,622,050**	**100**

For detailed economic performances including net revenue, operating profit and operating margin, shareholders' equity and return on shareholders' equity, and total assets and return on assets, please refer to Advantech's official website: Performance Overview.

Since our establishment, Advantech has continually focused on the management of our own brand and our brand value has been ranked among the top five international brands* in Taiwan for four consecutive years. In 2021, we achieved fifth place as our brand value increased by 1% annually to US$ 632 million.

*Note:
Best Taiwan Global Brands constitutes an evaluation conducted by Interbrand, an internationally renowned brand evaluation agency commissioned by the Industrial Development Bureau of the Ministry of Economic Affairs. Please refer to the website for more information.

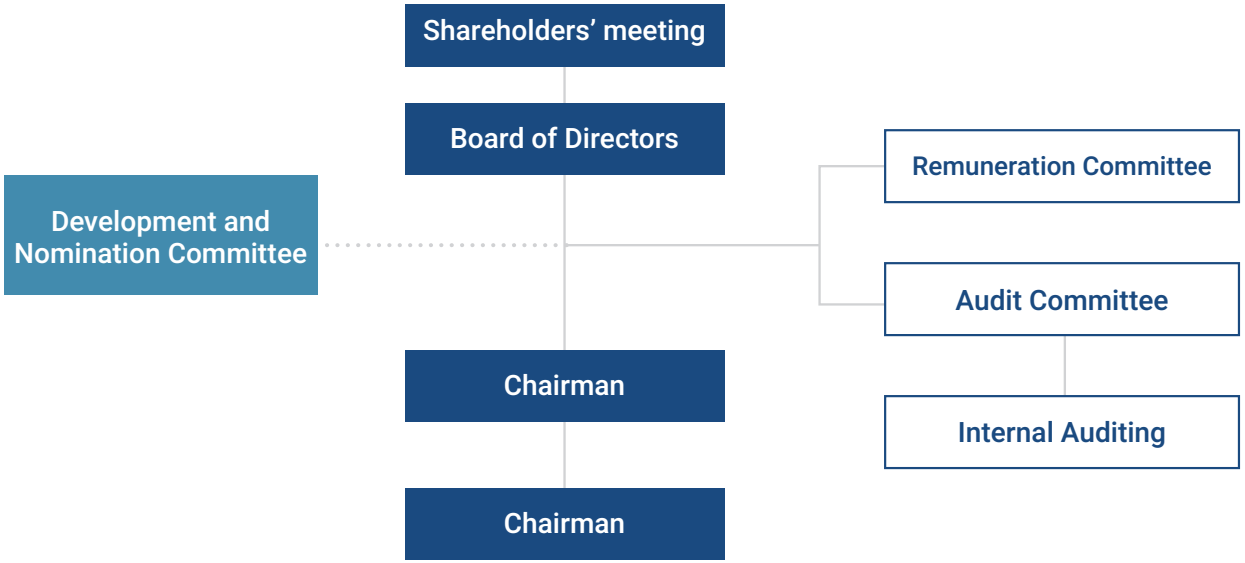
2.1.2 Corporate Governance

Advantech attaches great importance to corporate governance and a spirit of altruism, and we continuously strengthen the composition and functions of our Board of Directors. In addition to protecting the legitimate rights and interests of shareholders, we also take the interests of other stakeholders into account. Advantech's Board of Directors not only formulates regulations and measures in accordance with relevant laws and regulations and the powers entrusted by the shareholders' meeting, but also supervises the implementation results of each business plan and objective. In addition, Advantech holds an expanded Board of Directors meeting every six months to discuss important issues such as industrial and organizational reform, business model innovation, business heritage, and medium and long-term vision.

Regarding functional committees, the Company has set up an Audit Committee, a Remuneration Committee, and so on to implement each supervisory and internal audit functions as well as compensation incentives and training of high-level talent. Established in 2020, the ESG Corporate Sustainability Committee and ESG office are headed by the Chairman to promote Advantech's environmental sustainability, social responsibility, and feedback across a wider range, as well as our substantial progress in all aspects of corporate governance.

Advantech upholds our commitment to sustainability and we plan to formally establish a Board-level Sustainability Committee in 2022. In the future, it will promote major issues such as ESG long-term strategy, succession plans, and nomination of the Board of Directors and senior managers to make corporate governance more sound and complete.

Figure 2.1.3 Advantech's Corporate Governance Structure



For legal compliance and anti-corruption related information, please refer to Advantech's official website: Major Internal Policies

1. Advantech Code of Ethics and Business Conduct
2. Guideline for Insider Trading Prevention Management

For information about our internal audit system, please refer to Advantech's official website: Internal Audit

Composition and Operation of the Board of Directors

The Board of Directors of the Company consists of seven directors, including four directors and three independent directors. The term of office is three years, adopting a candidate nomination system as stipulated in Article 192-1 of the Company Act, with election by the shareholders' meeting from the slate of director candidates. Re-election was carried out by the 2020 shareholders' meeting.

The team on the Company's Board of Directors combines elites from industry and academia, with diversity and professionalism fully considered. One of the independent directors of the Board of Directors is a well-known professor in the academic world and a professional in accounting and finance. The remaining six have extensive experience in Advantech's core industries. Three of them were presidents or senior managers of world-renowned foreign companies, having extensive practical experience in international business management. The composition of the functional committees also invites experts from various fields to serve as consultants or regular members to enhance professionalism and diversity. The Board of Directors functioned well in 2021, and a total of five Board meetings and two expanded board meetings were held. All Board members had 100% attendance.

Advantech continues to enhance the functions of the Board of Directors. In addition to fully participating in the formal meetings mentioned above, members of the Board of Directors are also frequently invited to participate in discussions on forward-looking issues, interviews with senior managers, and industry forums organized by the Company. The Company also encourages directors to continue in their educations, providing monthly information on governance courses for directors to refer to as electives, organized by professional organizations such as the Taiwan Corporate Governance Association, the Securities & Futures Institute, Taiwan Institute of Directors, and so on. At the same time, the Company has evaluation mechanisms for the Board of Directors and for functional committees and conducts self-evaluations every year. In 2021, overall satisfaction of Board members with Board operations reached 95%. A third-party professional organization conducts an overall board performance evaluation every three years; and in 2020, the Taiwan Corporate Governance Association was entrusted to conduct this evaluation. In addition, Advantech ranked in the top 6%-20% of corporate governance evaluations in 2021, and we regularly review indicators to be improved. The management team strives to improve every year by coordinating resources and promoting this together across departments.

For more information, please refer to Advantech's official website: Board of Directors.

Tax Policy

Advantech adheres to a spirit of altruism and expects and commits to giving back to society while the Company's operations are prosperous. Therefore, in terms of tax policy, it is our responsibility to pay reasonable taxes and give back to the local social and economic environment of the countries where we operate. We do not engage in aggressive tax arrangements, and we comply with all relevant tax laws and regulations.

For tax policy related information, please refer to Advantech's official website: Major Internal Policies–Tax Policy.

Table 2.1.2 2021Revenue, Net Profit before Tax, Tax Payment and Income Tax Payable (Unit: NT$ thousand)

Region	Revenue	Net profit before tax	Income tax paid	GST/VAT/Other business tax paid	Total tax paid	Current income tax accrued
United States	15,981,791	864,101	180,406	188,914	369,320	8,892
Europe	9,949,283	120,891	44,305	236,895	281,200	43,945
Taiwan HQ	43,500,231	10,056,787	1,586,710	385,094	1,971,804	1,501,671
China	30,948,961	1,054,485	-37,312	648,431	611,119	90,940
Japan	3,084,953	88,748	2,165	16,861	19,027	41,415
South Korea	2,306,810	186,464	17,060	61,794	78,854	39,637
Others	2,343,890	144,002	12,351	156,278	168,629	32,199
Global	**108,115,918**	**12,515,477**	**1,805,684**	**1,694,267**	**3,499,951**	**1,758,699**

*Note:

1. Tax information in this table comes from the aggregate of local financial figures, and transactions with related parties within the Group are not excluded; it therefore differs from the consolidated financial figures.
2. Out of net profit after tax for Taiwan in the above table, 18% came from investment interests recognized under the equity method.

2.2 Information Security Management

Management Guidelines for Major Topics

Materiality	With the increasing threats of cyberattacks, information security has become one of the major risks in global business operations. ESG rating agencies including the Dow Jones Sustainability Indies (DJSI) have included information security management in their evaluation items. Clearly, this has become a topic requiring greater attention on the part of corporate senior executives. Advantech is a global IoT leader. Information security issues involves a company's operational stability, product security, privacy and other aspects. Regarding Advantech's brand value, it is extremely important to stakeholders such as employees, customers, and investors.
Policies/ Commitments	Information security forms an integral part of business operations and risk management. The implementation of information security requires management's awareness and adequate support. Advantech has formulated information security policies and related management specifications. Furthermore, we have established a cross-departmental information security governance team, which is to promoted by the quality control and information security teams, and should coordinate information security issues including computer information, physical environment, product information security, supply chain, regulatory compliance, and so on; and it should regularly report the implementation status to the Risk Management Committee and integrate information security into the organization's operational management.
Management Objectives	1.Maintain the continuous and effective operation of the Company's operations-related information systems, network equipment, connection services, and so on, and ensure the safety of all information assets. 2.Improve the security of the Company's products, and deal with and improve possible weaknesses in a timely manner. 3.Improve preventive measures for each item of information security risk, and establish a response and handling mechanism for information security incidents to reduce their impact.
Management Policy/Action Plan	**1.Comprehensive Assessment of Information Security Risks** Regularly handle system vulnerability scanning, website security detection, penetration testing, firewall rule inspection and other operations; continuously assess the information risks that may arise from internal and external threats. **2.Improve Information Security Management Capabilities** Allocate information security personnel and establish a cross-departmental information security governance group. For the organization chart, please refer to Advantech's official website: Risk Management. **3.Raise Employee Security Awareness** Continue to organize information security education courses and social engineering drills for colleagues, raise information security awareness among colleagues, and reduce human-made security risks. **4.Strengthen Data Security** Strengthen the backup of R&D data. Important systems are backed up with 8/12/24 3-Tier Snapshot and important database fields are encrypted.

Management Policy/Action Plan

5.Enhance Network and Endpoint Protection
Projects have been implemented such as strengthening OT network border control, deploying EDR endpoint protection tools, introducing privileged account management, and multi-factor authentication mechanisms.

6.Improve Resilience of Information Services
Establish a High Availability (HA) mechanism for key information systems, and plan to establish an off-site backup center.

7.Introduce Information Security Management Systems
The internal information operation is imported into the ISO/IEC 27001 international information security management system, and the maturity of information security management is continuously improved through PDCA (Plan-Do-Check-Act).

8.Introduce Product Safety Development System
Implement and verify the IEC 62443-4-1 standard (Secure Product Development Lifecycle Requirements) to respond to supply chain requirements for product information security.

Effectiveness Assessment

Advantech has been introducing the ISO/IEC 27001 international information security management standard for three years. Looking at external audit data in the past three years, the missing/observed items show a decreasing trend each year. This indicates that the PDCA of ISO27001 has been continuously implemented and the Company's overall information security structure has become increasingly stable.

	Deficiency	Observed instances	Subtotal
2019	6	21	27
2020	4	12	16
2021	1	8	9

Project Highlights

In order to strengthen computer endpoint protection of the Company, Microsoft's Endpoint Detection and Response (EDR) solution has been introduced since 2020 Q4. This solution has been deployed in Advantech's computer equipment around the world for a total of over 8,000 units. Using EDR monitoring and alarm mechanisms, we provide stronger information security risk early warning capabilities and visibility. Advantech uses Microsoft information security solutions to improve our overall protection, and has won the attention of Microsoft Corporation. In 2021, we garnered the attention of Microsoft's headquarters as we were interviewed for a customer success story feature.

Improvement Plans

In 2021, there were two information security incidents affecting the Company:

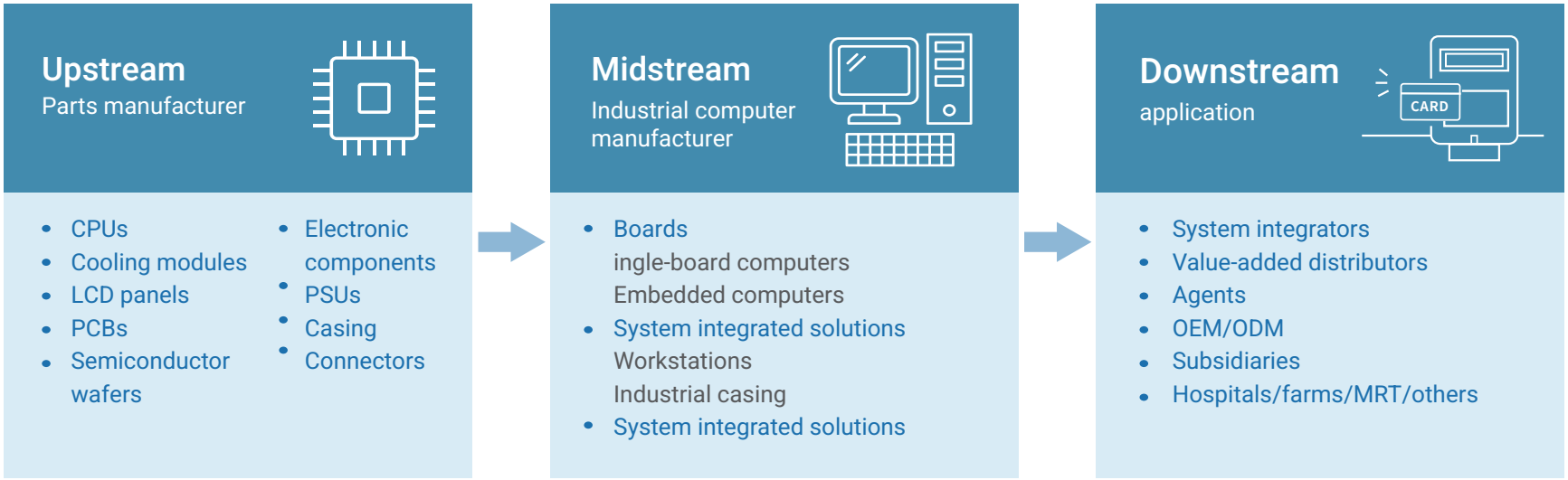
1. In May 2021, following an interruption in Taipower's power supply, the mainframe and network equipment in the computer room stopped service after the UPS power was exhausted due to the failure of the generator to start smoothly in the headquarters building.
   Improvements: Regularly test the operation of the generator, and develop an external co-location method for important mainframes.

2. In July 2021, due to an attacked by SQL injection, some website systems could not function properly.
   Fixes and improvements: Check whether each system contains SQL injection vulnerabilities and repair them; regularly conduct system vulnerability scans and evaluate to implement source code review tools.

2.3 Supply Chain Sustainability Management

Advantech's business philosophy is to create a win-win situation with suppliers and customers by establishing a sustainable IoT supply chain ecosystem and always ensuring ethical and environmentally compliant supply chain and production principles. The Company belongs to the industrial Internet of Things industry service category, mainly involving the process of purchasing components from upstream component manufacturers, assembling and manufacturing them in the Company, and then delivering them to customers. Due to the characteristics of the industry, the company purchases a wide variety of items that are highly customized. At present, supply materials in the supplier database number in the tens of thousands or more. We regularly conduct supplier assessments through our procurement and quality assurance units to ensure the stability of the supply chain and supply quality while at the same time understanding suppliers' process capabilities. In addition to regularly evaluating suppliers for their product quality, on-time delivery rates, cooperation, industrial safety management, business conditions, ESG management, and so on, we also engage in instant communications with them as we strive to impart the concepts of Corporate Social Responsibility and Supply Chain Sustainability Management into supply chain assessment standards. In this way, we cooperate with suppliers to create high-quality products and services and create sustainable value.

Figure 2.3.1 Advantech's Industrial Value Chain



Management Guidelines for Major Topics

Materiality	We have established the stable development of friendly relations with supply chain partners under our business philosophy of sustainable corporate development. In addition to taking quality into account, we also hope that by building a sustainable supply chain we will fulfill our corporate social responsibilities together with our partners while working together for environmental protection.
Management Policy/Action Plan	• Suppliers should follow the Advantech's Supplier Code of Conduct, making them aware of the standards the Company is expected to follow. • The Company sets short and medium-term key goals and formulates specific practices to effectively promote and implement. • Regularly identify high-risk suppliers, require audits and deadlines for improvement, and reduce to medium and low risks.
Effectiveness Assessments	In accordance with management policy objectives, every year we evaluate whether achievement of key performance indicators (KPIs) has improved in comparison with the previous year as a means of improving management.

Table 2.3.1 Short- and Medium-Term Goals of Supply Chain Sustainability Management

Item	2021 Results 100% achievement of goals set for 2020	2022 goals	2025 goals
Preferred Vendor List(PVL)	• 100% compliant with Advantech Supplier Code of Conduct • 100% do not use conflict minerals • Zero environmental pollution, human rights violations, and major occupational incidents	• Delivery of ESG courses to Preferred Vendor List • Complete carbon data collection for 10% of Preferred Vendor List	100% completed ESG risk assessment
Sustainability High-Risk Suppliers*	100% obtained ISO 14001 environmental certification	• On-the-spot assessment and coaching of suppliers with sustainability high-risk to improve their shortcomings • Eliminate suppliers with sustainability high-risk that cannot be mentored	Deficiency improvement rate of more than 70%

*Note:
A sustainability high-risk supplier is defined as a supplier with higher sustainability risk as identified through the Advantech ESG Risk Assessment Audit Form; see Supplier Management Strategy for details.

Project Highlights/Performance

100% All Preferred Vendor List (PVL) members completed signing of the Supplier Code of Conduct Acceptance Form

100% New suppliers are 100% compliant with environmental guidelines

100% 100% of Preferred Vendor List signed the Declaration of Non-Use of Conflict Minerals

74% The proportion of local procurement reached 74%

100% Among suppliers planning to perform supplier audits in 2021, the proportion of final implementation of written audits reached 100%

2.3.1 Supplier Management

Supplier Composition

Products and services provided by Advantech cover the fields of Internet of Things, automation, and embedded computing. As a result, we work with about 1,000 suppliers around the world. Advantech's main suppliers are divided into raw material and packaging material suppliers, as well as contractors for maintenance, cleaning, engineering, and so on. Among them, raw material suppliers have a clear impact on operations and production. Therefore, we further divide raw material suppliers into two categories according to their attributes, encompassing suppliers of direct materials (materials directly related to production) and packaging materials (materials or packaging materials not directly related to production).

In order to effectively manage raw material suppliers and resource allocation, we screen suppliers with high annual purchase amounts, key raw materials, and irreplaceable suppliers to make up the Preferred Vendor List, identifying key raw material manufacturers through integrated management.

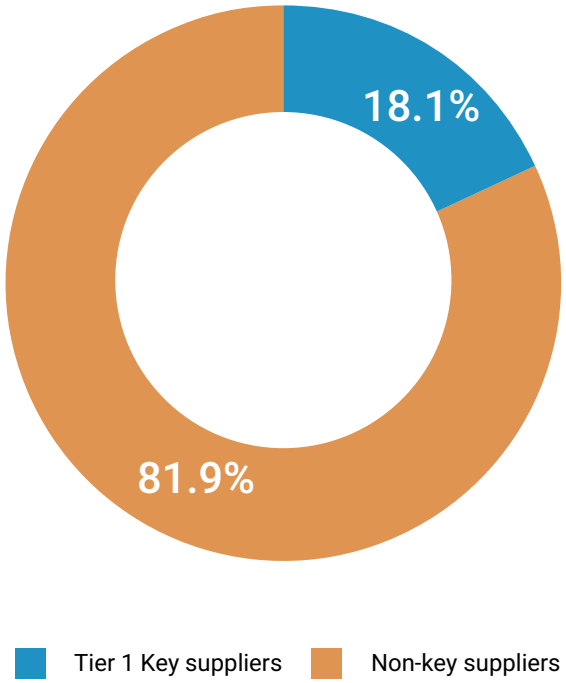
Tier 1 suppliers

Suppliers who provide Advantech with direct or indirect materials

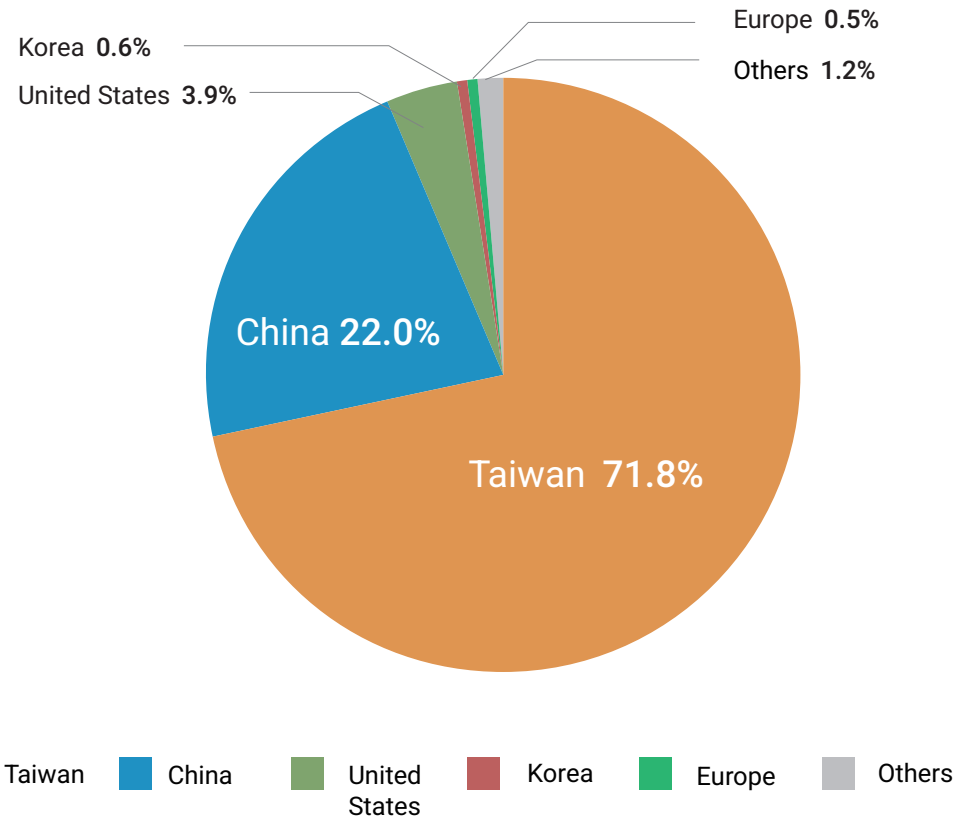
Key suppliers

High-volume suppliers and those who provide critical raw materials that cannot be replaced. These are our PVL(Preferred vendor list) suppliers.

2021 distribution of tier 1 suppliers



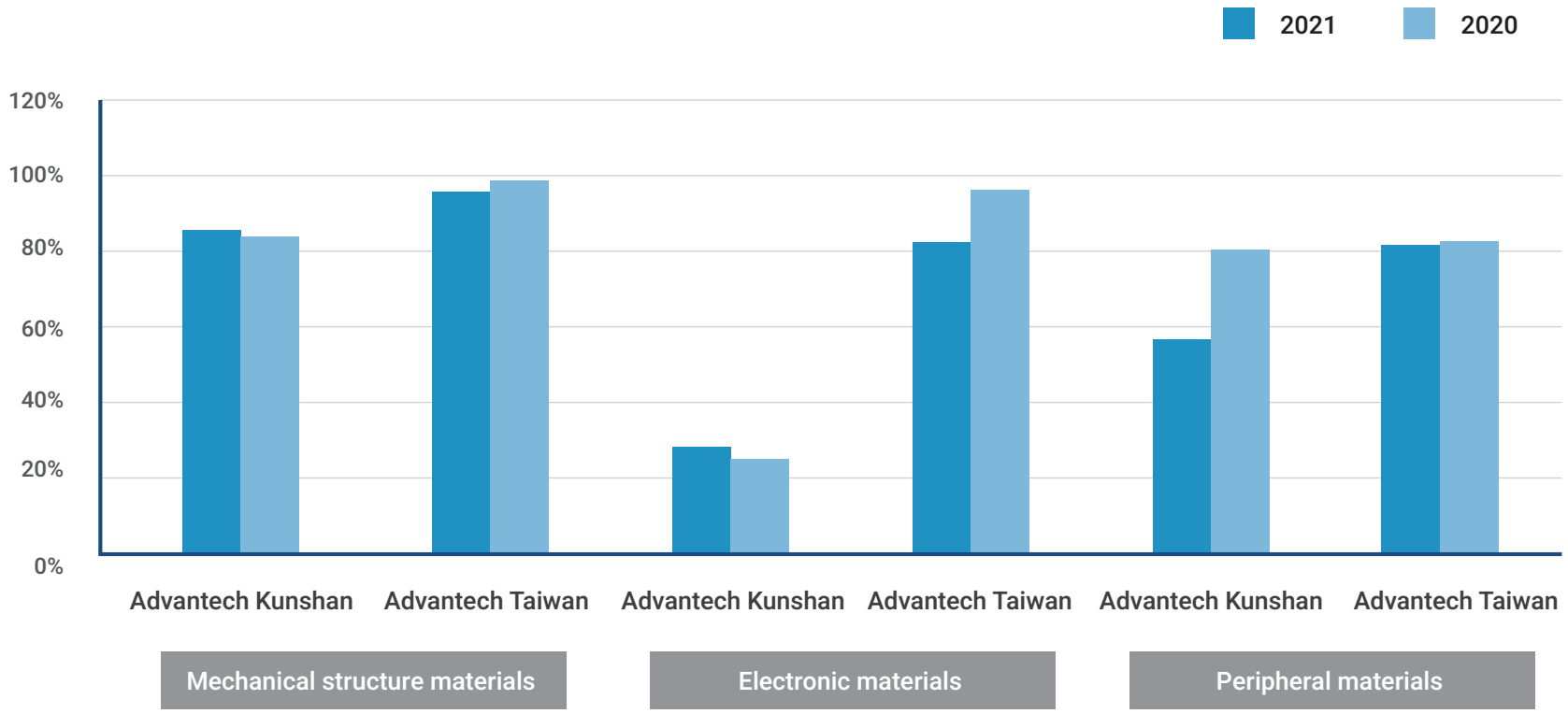
2021 distribution of raw material suppliers



Support for Local Suppliers

Advantech continues to use localized procurement strategies in order to establish close relationships with local partners and create local employment opportunities while also reducing carbon dioxide emissions to the environment during manufacturing and transportation. Over the years, our procurement has always been based on local suppliers and products comply with RoHS/HSF specifications. Overall, Advantech Taiwan's local procurement ratio was about 84% in 2021. Local procurement at Advantech Kunshan Manufacturing Center reflected the fact that some electronic and peripheral raw materials were purchased by Advantech Taiwan. The local procurement ratio only accounted for about 53% of the total amount*, and the overall local procurement ratio was 74%. Figure 2.3.2 shows the proportions of the Company's local purchase amounts in recent years.

Figure 2.3.2: Proportions of Local Procurement for Advantech Taiwan and AKMC in 2020-2021



*Note:

1.Local procurement definitions: Advantech Taiwan – transaction counterparty is a manufacturer having a uniform invoice number for a for-profit enterprise in Taiwan; AKMC – transaction counterparty is a Mainland China domestic manufacturer.

2.The decrease in the proportion of local procurement of electronic materials in Kunshan is mainly due to the switch to a self-purchasing strategy in 2020. However, most of the self-purchasing suppliers are agents registered in Taiwan.

Supplier Management Strategy

Advantech starts from the new supplier recognition stage; that is, we require suppliers to sign a purchase contract to ensure their delivery, quality, and warranty specifications. Among these, delivery delays caused by natural and man-made disasters are of greater concern and suppliers are required to make immediate notifications.The Company's procurement strategy adopts an approach of sourcing supplies from over two suppliers, in order that they can be replaced and compete with one another so as to diversify procurement risks and reduce costs. For electronic parts with high commonality, Advantech has established a second source management mechanism. Safety stocks are also established for primary materials to avoid risks caused by material shortages or quality problems.

Advantech differentiates by material grades in assigning dedicated procurement colleagues to analyze market information and regularly review market dynamics through weekly and monthly meetings. Furthermore, we adopt a centralized procurement strategy, establish a Preferred Vendor List, improve cooperation efficiency through convergence and concentration, and then obtain high-quality materials and stable delivery.

In addition to paying attention to suppliers in terms of cost, quality, delivery, continuous supply, and so on, we have formulated the Advantech Supplier Code of Conduct and require that suppliers comply with it. We require suppliers to sign a Supplier Code of Conduct Acceptance Form. In addition to requiring full compliance with the laws and regulations of the countries in which we operate, we also put forward regulations on business conduct in terms of labor rights, health and safety, environment, corporate ethics, management systems, and other aspects. At the same time, suppliers are also required to communicate these requirements to their next-tier suppliers and monitor the compliance of these next-tier suppliers.

In addition, in 2021, we stipulated that materials suppliers should complete an ESG sustainability risk assessment survey that covered legal compliance, sustainability management, supplier management, conflict mineral management, environmental protection, health and safety, labor rights, human rights, and so on. In order to grasp the sustainability risks of suppliers, on-site audits will be conducted when necessary to ensure that the sustainability of suppliers meets our standards. At the same time, Advantech expects suppliers to continuously improve their sustainable performances. Therefore, we require and encourage existing suppliers and new suppliers to obtain relevant international certification standards such as ISO 9001, ISO 14001, ISO 45001, ISO 14064-1, QC 080000, IATF 16949, and ISO13485.

Cost consideration
Obtain competitive prices on goods and services from suppliers
Quality consideration
Obtain high-quality products and services from suppliers
Delivery time consideration
Consider supplier lead times to ensure that they meet the company's expectation
Advantech supplier management strategy
Continuous supply consideration
Consider whether suppliers can supply products consistently
Sustainable procurement
Co-establish ESG sustainable operations with suppliers
Strategic cooperation
Cocreate resources and capabilities with suppliers and innovate together

Supplier Environmental Management

In addition to the strict incorporation of environmental protection principles into the supplier management mechanism, since 2010 we have introduced the management system of the Responsible Business Alliance (RBA) (previously known as the Electronic Industry Citizenship Coalition, EICC). This expands our call for suppliers to pay attention to and promote corporate social responsibility (such as conflict minerals regulations). Currently, the Company's management of all supplier selection indicators includes important indicators such as RoHS (HSF) QC080000, ISO14001, ISO 45001 and even the localization of suppliers within RBA as well as other important corporate social responsibility indicators. Advantech requires suppliers to safeguard basic human rights and abide by labor standards. The aforementioned indicators are also included among new supplier audit items in our Supplier Audit Form.

In addition, in order to ensure that suppliers can adhere to the principle of equality of the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy of the International Labor Organization, the relevant management of suppliers and contractors (including security companies) has been carried out through the purchasing unit and the general affairs unit. The overall management overview is shown in Table 2.3.2. In the future, the Company will gradually increase the proportion of suppliers that meet the relevant requirements of Corporate Social Responsibility.

Table 2.3.2 Overview of Supplier and Contractor Management

Type	Management Principles	Implementation Ratio	Future Management Priorities
All members of Preferred Vendor List (PVL) Out of a total of 271, 271 companies have	Conduct supplier profile review by signing the Supplier Code of Conduct Acceptance Form	100%	Include CSR clauses in contract
New Suppliers of 2021 Out of a total of 211, 37 have undergone audits	through the Supplier Audit Form evaluation (16 items of EHS environmental safety and health management, 16 items of labor and ethics, 13 items of HSF management of hazardous chemical substances)	17.2%	Maintain on-site assessment ratio
	Evaluate new suppliers using environmental criteria. (Environmental assessment includes environmental safety and health policy, high-level support and commitment, employees' true achievements, compliance with environmental protection laws and regulations, external communication, and so on.)	100%	Maintain on-site assessment ratio
	Evaluate new suppliers using social criteria. (Social assessment includes employees' free choice of occupation, whether child labor is used, paying wages according to regulations, prohibiting discrimination, and so on.)	100%	Maintain on-site assessment ratio
Audits of existing suppliers in 2021 The total number of planned implementations	through the Supplier Audit Form evaluation (16 items of EHS environmental safety and health management, 16 items of labor and ethics, 13 items of HSF management of hazardous chemical substances)	100%	Increase the proportion of on-site evaluations
Maintenance, Cleaning and Engineering Contractors	Sign the Contractor Environmental Safety and Health and Supplier Code of Conduct Acceptance Form	100% (Does not include data for the Kunshan factory)	Include human rights clauses in contract

*Note: The COVID-19 pandemic made it impossible to go into the field for audits, so all here is based on written audits.

Substance Management Related to Product Environment

Advantech's main factories have introduced the IECQ QC 080000 system and implemented the Green Product Management (GPM) system to implement incoming material management according to material risk levels. Regarding the selection of suppliers of raw materials and packaging materials, both Advantech Taiwan and the Kunshan factory have established Hazardous Substance Free Management Workflows for them to follow. All raw materials must comply with international environmental protection directives/regulations such as RoHS and the EU's new chemicals policy (REACH), as well as those for substances of very high concern (SVHC) and for persistent organic pollutants (POPs).

Since 2010, the Company has established a Green Supply Chain management system that uses our green product information management system as a supply chain environmental information sharing platform. Advantech simultaneously sends the latest international environmental protection requirements to its supplier partners as a reference for regulatory compliance and construction of material supply system management. On this supply chain platform, suppliers must promise and guarantee that their products do not contain hazardous substances listed by the Company, and they must provide the following information:

- Collection of toxicity and prohibition information for related chemicals (MSDS/MCD)
- Present audit results of green product management systems among suppliers

2.3.2 Sustainable Supply Chain Management

Advantech expects to deepen the relationship with global customers and partners through a consistent global brand, and we are committed to creating sustainable corporate value. In addition to our own compliance with the RBA Code of Conduct to assess the labor, environmental, and ethical management of our operations, at the same time we also actively require sustainable management of the supply chain and promotion of the sustainable development of the supply chain. For example, suppliers are not allowed to use forced labor or child labor. If circumstances are serious, the relationship will be terminated. In 2021, no supplier terminated a partnership due to forced labor or child labor.

Supply Chain Risk Strategies and Countermeasures

Supply chain disruptions (including those for raw materials and machinery equipment) would affect the Company's operations and our commitments to customers. Therefore, in terms of sustainable risk control, we require our suppliers to take the Advantech Supplier Code of Conduct as the basis for action for the sake of improving labor rights, safety and hygiene, environmental protection, business ethics, and management system performance, while continuously reducing the risk of operational interruptions. Furthermore, we have formulated risk response plans to ensure that there are optimal response measures in place when risks do occur. Please refer to Figure 2.3.3 for details.

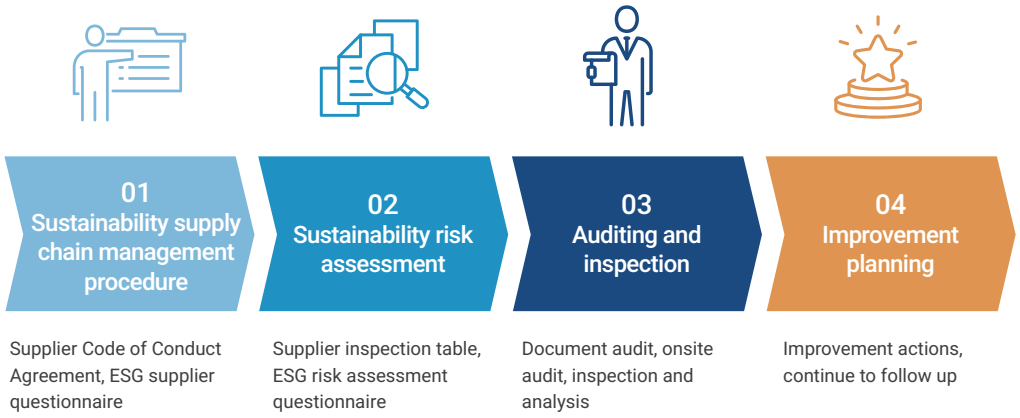
Figure 2.3.3: Advantech's Supply Chain Risk Response Plan

01	02	03	04	05
External supply chain changes and uncertainty	**Backlog order received exceed forecast**	**Insufficient capability and cannot timely expand**	**Diversified products with small volume, high variety nature**	**Raw material pull-in plan**
• Market intelligence • Diversify suppliers • Alliance eco-system	• AI forecast & blanket order • Constrained supply plans • Allocation / optimization plans	• Factory capacity expansion • Increase direct labor input • Divesify manufactoy sites	• Product/materials phase-out • Adopt prevailing materials • Replace long-tail vendors • Alternative materials	• Clear escalation path • All teams' effort & SCRUM • Open market sourcing/ investigation

Supplier Sustainability Management Process

In order to implement Advantech's procurement and supply chain policy, we have established a four-stage supply chain sustainable management process. Through continuous rolling improvement and cycling every year, we ensure that our suppliers meet our standards and thereby improve the sustainable performance of our suppliers.

Separately, we initiated a supplier ESG risk evaluation in 2021 to supplement our original supplier evaluation so that we might understand the sustainable development status of the supply chain and grasp its sustainability risks. Through a survey of ESG questionnaires, we can identify potentially high-risk suppliers in terms of the economy, the environment, and society, while ensuring that their risks can be effectively controlled and reduced. At present, the distribution of surveys for all of the Preferred Vendor List has been completed and about 46 suppliers have been preliminarily identified as being sustainability high-risk. In the future, we will start to conduct high-sustainability risk supplier coaching operations in order to grasp the sustainability risk of suppliers. On-site audits will be conducted when necessary to ensure that the sustainability of suppliers meets our standards.



Sustainable Risk Evaluations

Advantech conducts sustainable risk evaluations from three aspects: economic, environmental, and social. Evaluation risk factors include:

Economic Aspect

- Business ethics
- Integrity management
- Information disclosure
- Intellectual property management
- Identity protection
- Conflict minerals management

Environmental Aspect

- Environmental regulation compliance
- Environmental management system
- Energy resource management
- Waste and air pollution management
- Carbon management
- Hazardous substance management

Social Aspect

- Labor law compliance
- Occupational health and safety management system
- Employee health and safety
- Human rights
- Labor practices
- Emergency response procedures

Supplier Evaluation

In terms of supplier management, Advantech conducts annual on-site inspections of high-risk suppliers in accordance with our procurement procedures. We confirm the manufacturer's process, quality, environmental safety, labor conditions, and CSR controls according to the checklist, and conduct quarterly supplier evaluations through the supplier management platform. We compile comprehensive scores for quality, delivery times, and business conditions, and take corresponding measures in line with the evaluation results. If the score is lower than 70 points, the purchasing unit will begin seeking new supply sources and immediately halt purchases after these findings until improvement is confirmed. For high-risk component manufacturers, we conduct key audits of safety compliance. For at-risk manufacturers with sustainability problems in the previous year, supervision or counseling on quality problems will be carried out.

Advantech supplier assessment item category

Advantech products are more diversified, and there are 984 suppliers of materials. In 2021, Advantech screened 77 existing suppliers based on transaction volume and quality risk (53 in Taiwan and 24 in mainland China) in conducting on-site supplier inspections. In response to any deficiencies uncovered, we counsel suppliers to improve their quality and request improvement and submission of supporting materials within a specified time limit. Further analysis shows that most of the missing categories lie in quality and process control, and there is no major deficiency in social responsibility performance after on-site inspection. For example, there are no serious incidents of forced or compulsory labor, no recruitment of child labor, and any PCB factory belonging to the high-risk category is subject to waste liquid treatment in accordance with the regulations.

For the selection method of new suppliers, except for those whose manufacturer's products have been widely used by the industry in the market and whose quality systems must be verified by international standards, they can be approved by the evaluation team for inclusion among qualified manufacturers via supporting documentation. The remainder are subject to on-site inspections focusing on areas such as quality, environmental safety and hygiene, and corporate social responsibility. According to our statistics, a total of 215 new suppliers were to be implemented in 2021 with 211 approved.

Table 2.3.3: Supplier Audit Deficiencies and Improvement Actions in 2021

Classification	Primary Deficiency Uncovered	Improvement Action
EHS Management	The supplier has established environmental safety and health policies for its activities, products, and services, but has not publicized their implementation	Require to strengthen the publicity of environmental safety and health policies and guidelines
	The supplier's environmental safety and health goals and indicators have been formulated with consideration of major environmental factors related to its activities, products and services, but there is no third-party certification	Manufacturers are requested to apply for ISO 14001 related certification
	Suppliers do not have systems in place to reduce waste and save energy	The manufacturer is requested to conduct regular inspections to ensure the classification and storage of hazardous substances
Social Responsibility	The supplier has established procedures to identify, assess and control worker safety hazards, but these have not been actually implemented	The manufacturer is requested to strengthen implementation
Hazardous Substances Free Management	The supplier has established Hazardous Substances Free (HSF) policies and objectives, but the policies and objectives are not regularly reviewed	Require strengthened management
	The supplier has carried out normative identification of the machines, work tables, equipment and fixtures used in the production of HSF products; however, regular inspections have not been carried out to ensure that the classification of hazardous substances is implemented	The supplier is required to conduct regular inspections to ensure the classification and storage of hazardous substances

Conflict Minerals Sourcing Strategy

Advantech follows the Responsible Business Alliance (RBA) Code of Conduct to implement the policy of not using conflict minerals. In addition to our own declaration and commitment not to accept the use of metals from conflict mining areas, we also require Advantech's suppliers to abide by and make commitments to ensure that Advantech's supply chain respects human rights and does not have involvement in conflict activities. As of 2021, 100% of Advantech Preferred Vendor List had signed the Declaration of Non-Use of Conflict Minerals In addition, none of Advantech's own products use conflict minerals.

Advantech communicates its policies and requirements for not using conflict minerals to suppliers through the Company's green procurement website, requiring the Preferred Vendor List to comply with and communicate to their next-level suppliers. In addition, we require suppliers to conduct a reasonable degree of mineral source country investigation (RCOI) to identify and confirm the source of conflict minerals in manufacturing and service products (3TG*) to determine whether they come from conflict areas. RCOI investigation consists of the following steps:

01 Signing of pledge

Members of the Preferred Vendor List have signed a letter of commitment to confirm compliance with Advantech's conflict minerals policy, guaranteeing correct and complete disclosure of their smelter sources.

02 Investigate

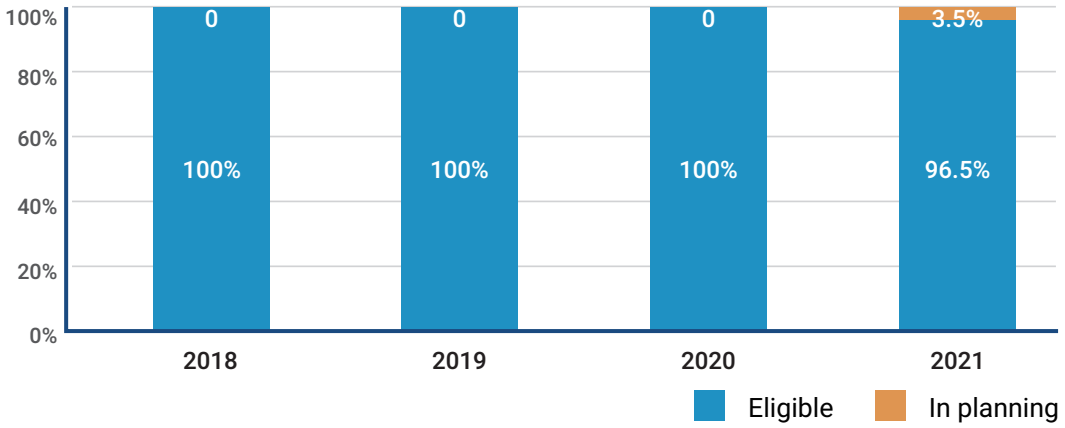
Through the Conflict Minerals Reporting Template (CMRT), conduct an investigation on the source of minerals used by suppliers and identify the source of the 3TG smelter.

03 Due diligence

Advantech's supplier risk identification and evaluations are carried out in accordance with the due diligence guidelines procedures formulated by the Organization for Economic Cooperation and Development (OECD).

According to the 2021 conflict minerals due diligence results, we have identified 255 smelters in our supply chain. Among them, a total of 246 smelters are eligible-compliant per the standards of the Responsible Minerals Assurance Process (RMAP) (or equivalent cross-accreditation assessment) and a total of nine are participating in the plan, and the qualified smelter ratio is 96%.

*Note: 3TG refers to minerals mined from the Democratic Republic of Congo and surrounding countries, such as: tantalum, tin, tungsten, gold, and other minerals.



2.4 Risk Management

Management Guidelines for Major Topics

Materiality	The purpose of risk management is to protect and enhance corporate value, being able to structure and systematically assess existing and potential risks that may be faced, making timely and responsive decisions that meet the Company's operational goals, and ensuring that goals are achieved while enabling continuous improvement. As a global leader in our industry, Advantech has had a continuous focus and drive for significant strategic and operational risk management.
Policies/ Commitments	Develop risk management policies and operational continuity plans; formulate and promote various risk avoidance and response measures in advance; define handling mechanisms for when risk occurs in order to minimize their potential impact and influence; and achieve subsequent correction and management. In addition, regarding the content and response methods of the Company's main pan-strategic and pan-operational risks, Advantech strives to provide transparent and immediate messaging and communication to stakeholders who are potentially affected.
Management Objectives	In view of rapid changes in the global industry, the international situation, and the wave of digitalization, as well as the impact of the COVID-19 pandemic and of information security incidents, Advantech believed that it was necessary to strengthen the original risk management mechanism, review the risk management governance structure, the composition and operation of the Risk Management Task Force, and the risk management operation process by the end of 2020, and promote it in a more systematic and structured way starting from 2021.
Management Policy/Action Plan	The Board of Directors and the Audit Committee are the highest governance units for risk management. The risk management team is responsible for the promotion of the risk management process and for quarterly review of risk tracking implementation. The responsible supervisor is in charge of formulating response measures and the actual implementation of risk projects. For details, please refer to Figure 2.4.1: Advantech's Risk Governance Structure and Figure 2.4.2: Risk Management Task Force. Please also refer to Advantech's official website for the annual operation process of risk management: Risk Management-Risk Management Mechanisms.
Effectiveness Assessment	• The risk team meets quarterly to track the progress and effectiveness of key risk responses. • The risk team explains the annual risk management plan and the actual promotion effect to the Board of Directors every year. Major risk items will also be included in the report of the Board of Directors or the Audit Committee depending on the materiality and nature of the risk. • Climate change risk, information security risk, and supply chain risk are all important risk management issues for Advantech; please refer to sections 4.2, 2.2, and 2.3 for details. • Please refer to Figure 2.4.3 below for the 2021 risk map.

Figure 2.4.1 Advantech's Risk Management Governance Structure

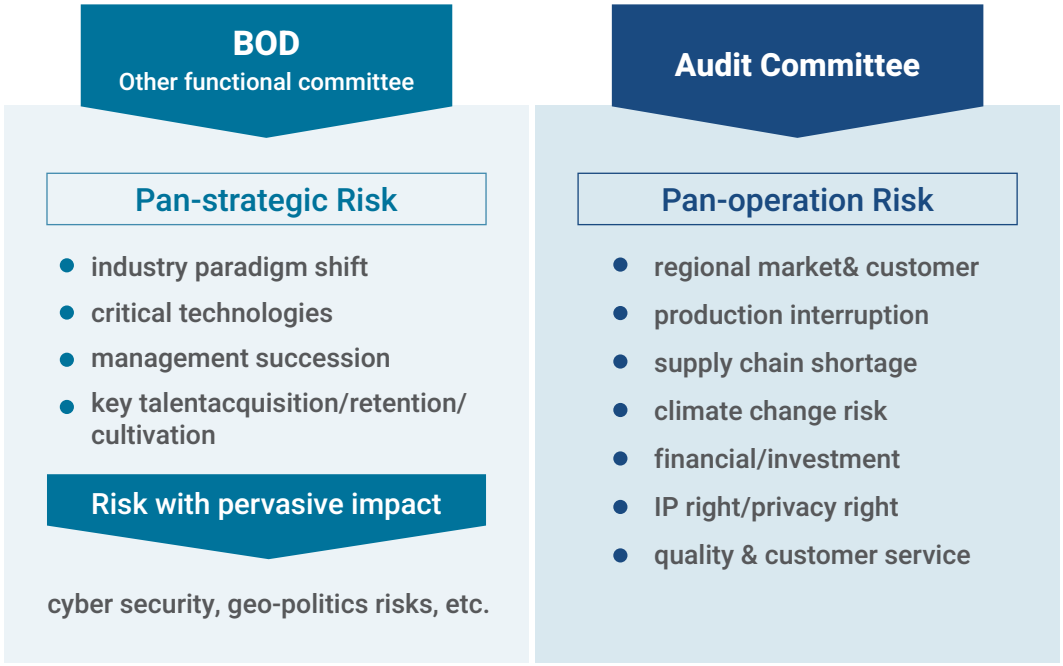


Figure 2.4.2 Risk Management Task Force

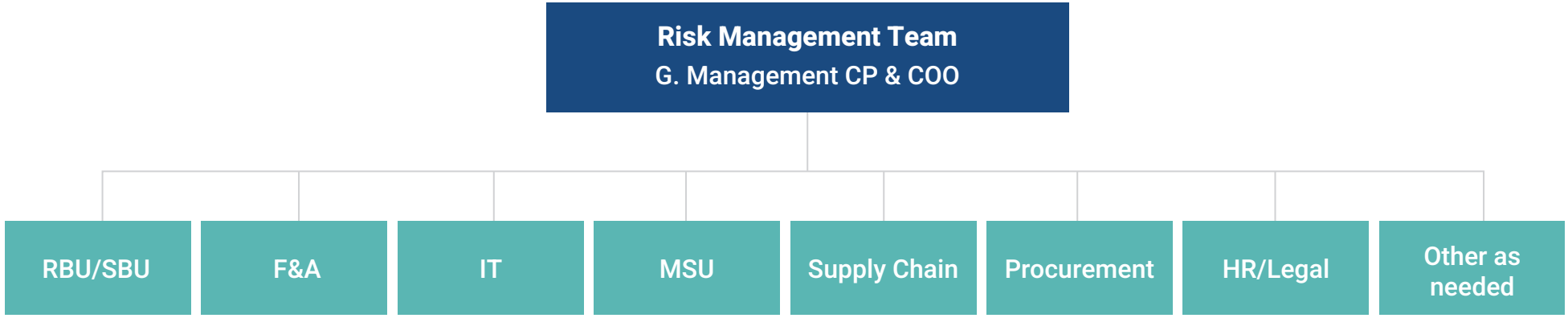
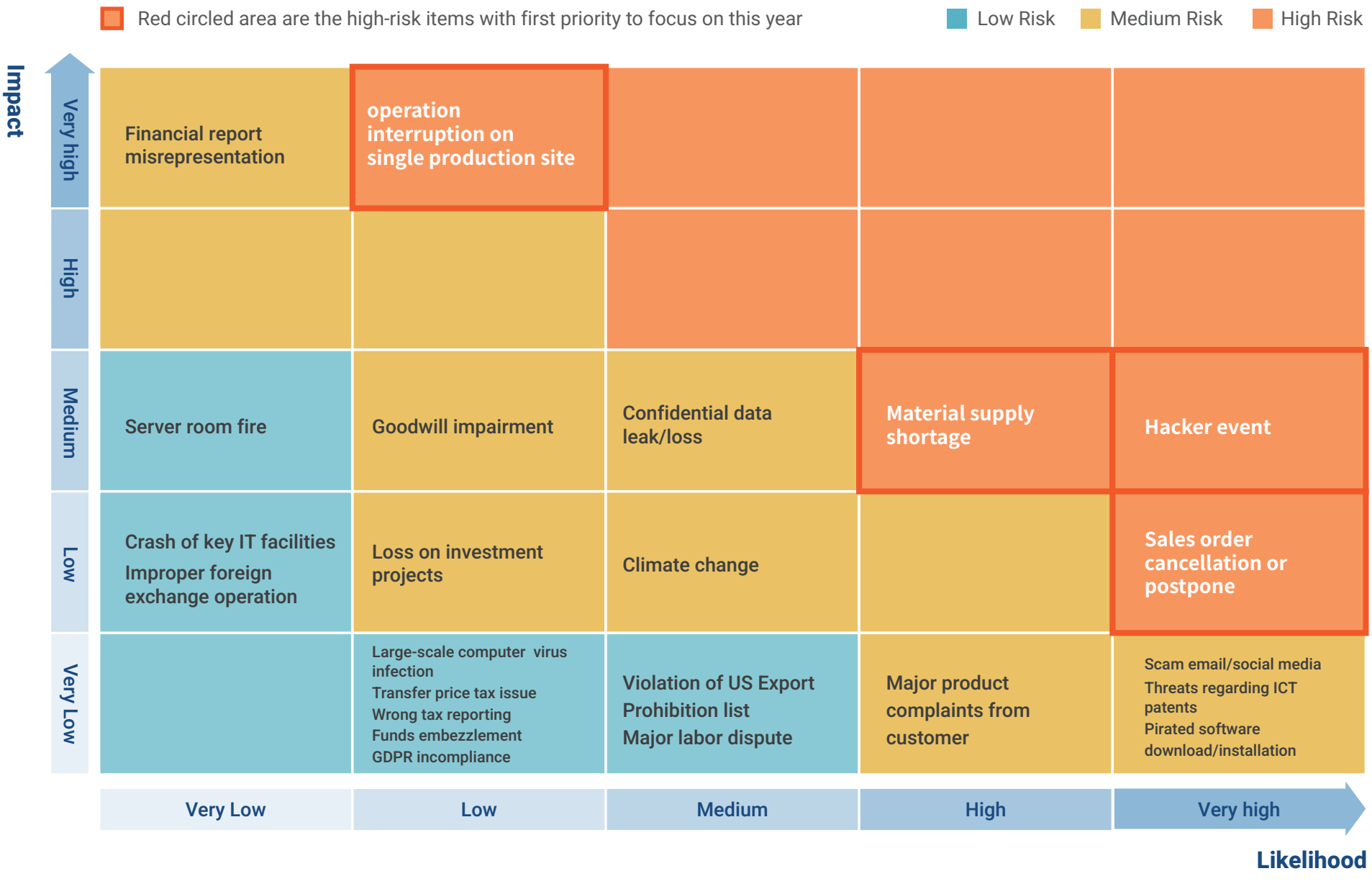


Figure 2.4.3 2021 Risk Map



2.5 Appendix : Participation in Public Associations

Advantech still adheres to its corporate vision of “Enabling an Intelligent Planet” and upholds this as our core goal. We participate in official and non-governmental organizations domestically and abroad to promote issues related to Industrial Internet of Things; these include intelligent buildings, environment and energy, intelligent healthcare, intelligent retail, intelligent logistics, intelligent transportation, and Industry 4.0. Furthermore, we actively co-create with various industry partners to accelerate the formation of industrial ecological chains in a range of industries to assist Taiwan and the global industry amid this paradigm shift.

Performance Overview

We continued to participate in nearly **40** industrial IoT industry application and technology promotion associations and alliances domestically and abroad (see Table 2.5.1 for details).

We had annual fixed investment of **at least NT$3 million** or more to support the promotion of related industrial technologies, issues, and trends (see Table 2.5.2 for details).

Project Highlights

Launched 5G+ Accelerated Intelligent Manufacturing Forum

Sharing Advantech's industry experience in intelligent manufacturing, we joined the Taiwan Electronic Equipment Industry Association to launch and promote 5G in intelligent manufacturing applications. The meeting was attended by 87 industry-related heavyweight industry experts.

Intelligent Machine Cloud Platform Business Launch Ceremony

Together with the Ministry of Economic Affairs, the Taiwan Association of Machinery Industry, Autodesk, Mitsubishi Electric, Moldex3d, Microsoft, and other units of manufacturing, government, academia, and research, Advantech jointly announced that the Intelligent Machine Cloud Platform had officially entered the market. The Intelligent Machine Cloud Platform currently has 23 store-in-stores, 152 apps, and thousands of manufacturers joining as members, while 41 manufacturers have introduced and used it while driving NT$361 million of investment.

FDA Medical Cold Chain Technology Online Forum

Advantech joined the Taiwan Cold Chain Association and system integrator Allion to jointly hold the FDA Medical Cold Chain Technology Online Forum, sharing medical cold chain solutions of the greatest concern and necessity with industry experts, and then promoting and explaining how to use AIoT solutions to solve the real needs of society. The live broadcast saw the participation of 159 individuals online, while the YouTube playback rate has exceeded 1K so far.

Anticipating a Big Future-Intelligent Technology Series: AIoT Digital Transformation Drivers

Advantech was invited to join in the Anticipating a Big Future-Intelligent Technology Series produced by the Mt. Dadu Industrial Innovation Foundation. Here, we shared how to carry out digital transformation through AIoT, and we talked about the role of AIoT technology and how it affects human life in the era of G2 competition, carbon neutrality, and the post-pandemic era, as well as discussing how companies make decisions in response to a changing world. This series was broadcast on LINE TV and YouTube, Central Taiwan News, CTS, and other online and cable TV platforms.

Table 2.5.1: List of Advantech's Annual Participation in Associations

Public association	Dues	Membership category	Strategic significance
Taiwan Intelligent Building Association	✓	Organization membership	Promote intelligent building ecosystems and industrial development
Cloud Computing & IoT Association in Taiwan	✓	Tier 2 membership	Promote cloud application services while enhancing the value of the national information and communication industry
Taipei Computer Association	✓	At-large membership serving as director	Promote computer applications, promote economic development, and coordinate industry solidarity
Taiwan Automation Intelligence and Robotics Association	✓	Tier 1 membership Serving as director	Signed a memorandum of cooperation in 2014 Served as practical lecturer for Association courses on several occasions
Taiwan Electrical and Electronic Manufacturers' Association	✓	Tier 1 membership	Promote IoT platform and intelligent manufacturing development
Taiwan Electronic Equipment Industry Association (TEEIA)	✓	-	Promote the construction of the Internet of Things platform and improve the cooperation ecosystem of Taiwan's electronic equipment
Taiwan Printed Circuit Association	✓	-	Industrial cooperation and marketing promotions
Chinese International Economic Cooperation Association (CIECA), Taiwan	✓	-	By participating in the international economic cooperation affairs of the organization, we assist in expanding the substantive relationship between Taiwan's industrial IoT applications and countries around the world
Taiwan Association of Machinery Industry (TAMI)	✓	-	Assist the machine tool industry and other machinery industries in introducing intelligent machinery applications.Expand Taiwan's intelligent machinery cloud ecosystem.
Taiwan High-Tech Facility Association	-	Founding member	Promote the IoT industry ecological chain
Taiwan Telematics Industry Association	✓	Tier 2 membership Serving as director	Promote the development of Taiwan's IoV industry and enhance the industry's international competitiveness
Taiwan Cold Chain Association	✓	Tier 1 membership	Formed a national cold chain team with the advanced industry, government, and academic circles in the Association to establish a foothold in Taiwan and promote the southbound market
Preparatory Advisory Committee, Global Organization of Smart Cities (GO SMART)	-	Preparatory Advisory Committee	Promote the implementation of smart city application solutions and export Taiwan related products overseas
Taiwan Smart City Solutions Alliance	-	Founding member	Promote Taiwan Real Site Demo.Promote Smart City Exhibition Promote the key role of Taiwanese manufacturers in smart cities
Asia Silicon Valley Development Agency	-	At-large membership	Establish a new IoT industry by promoting the application of IoT technology
Edgecross Consortium (Japan)	-	Founding member	Realize the connection and integration of factory automation (FA) and information technology (IT) to jump start Industry 4.0
e-F@ctory Alliance	-	At-large membership	Promote factory automation and Industry 4.0 applications
Embedded Linux & Android Alliance (ELAA)	-	Founding member	Promote open and standardized Linux and Android hardware and software architectures; establish and improve the software and hardware industry ecosystem
LoRa Alliance	-	Member	Layout of wide-area low-power wireless networks in the development of IoT applications

Public association	Dues	Membership category	Strategic significance
Intelligent Industry Computer IoT Association	✓	Tier 1 membership	This is a joint establishment of Taiwan's industrial computer industry, hoping to jointly promote AIoT-related policies and form industry promotion consensus and direction
Association for Advancing Automation (AIA) (US)	✓	At-large membership	An association for deepening industrial automation technology
OPC Foundation (US)	✓	At-large membership	Definition of future technical standards for the industrial Internet of Things
Open Device Net Vendors Association (ODVA) (US)	✓	At-large membership	Promote industrial automation related technologies and standards
Control System Integrators Association (CSIA)	✓	At-large membership	Promote industrial automation related technologies and standards
Association for High Technology Distribution (AHTD) (US)	✓	At-large membership	Promote industrial automation related technologies and standards
American Public Transportation Association (APTA) (US)	✓	At-large membership	Promote smart transportation-related technologies and strategies
Intelligent Transportation System America (ITS America) (US)	✓	At-large membership	Promote smart transportation-related technologies and strategies
MyIoT Consortium (Japan)	-	At-large membership	Promote IoT-related technologies
Kyudai Global Open Innovation Network Engine (KOINE) (Japan)	-	At-large membership	Promote IoT-related technologies
Waseda University IPS Kitakyushu Consortium (Japan)	-	At-large membership	Promote IoT-related technologies
DX Corporate Strategy Research Consortium (Japan)	-	At-large membership	Promote IoT-related technologies
Fukuoka Prefectural Robotics & Advanced System Industry Development Council (Japan)	-	At-large membership	Promote industrial IoT and robotics-related technologies
SoftBank ONE SHIP (SoftBank IoT Business Partner Consortium)	-	At-large membership	Promote IoT-related trends
Alliance of Industrial Internet (China)	✓	Chairperson	Promote IIoT-related technologies and trends
China Communications Standards Association (CCSA) (China)	✓	At-large membership	Promote industrial IoT policy
Edge Computing Consortium (China)	✓	At-large membership	Promote IIoT-related technologies and trends
China Artificial Intelligence Industry Alliance (China)	✓	At-large membership	Promote AI-related technologies and trends
Machine Vision Industry Union (China)	✓	At-large membership	Promote machine vision related technologies and trends

Table 2.5.2: Advantech's Annual Investment in Public Association Unit Resources

Public Association	Details	Amount Invested
Taiwan Intelligent Building Association	2021 dues	10,000
Cloud Computing & IoT Association in Taiwan	Annual membership fee for Tier 2 members in 2021	50,000
Taipei Computer Association	Annual membership fee in 2021	15,000
Taiwan Automation Intelligence and Robotics Association	Annual membership fee in 2021	40,000
Taiwan Electrical and Electronic Manufacturers' Association	2021 first installment dues, January-June	21,000
Taiwan Electrical and Electronic Manufacturers' Association	2021 second installment dues, July-December	21,000
Taiwan Electronic Equipment Industry Association (TEEIA)	2021 annual membership fees	30,000
Taiwan Printed Circuit Association	2021 annual membership fees	48,000
Chinese International Economic Cooperation Association (CIECA), Taiwan	2021 annual membership fees	20,000
Taiwan Association of Machinery Industry	2021 annual membership fees	52,800
Taiwan Telematics Industry Association	2021 annual membership fees	20,000
Taiwan Cold Chain Association	2021 annual membership fees	20,000
Edgecross Consortium (Japan)	2021 annual membership fees	132,000 / JPY 550,000
Intelligent Industry Computer IoT Association	2021 membership entry fee + 2021 annual membership fee	100,000
Association for Advancing Automation (AIA) (US)	2021 annual membership fees	50,058 / USD 1,800
OPC Foundation (US)	2021 annual membership fees	500,580 / USD18,000
Open Device Net Vendors Association (ODVA) (US)	2021 annual membership fees	216,918 / USD 7,800
Control System Integrators Association (CSIA)	2021 annual membership fees	86,211 / USD 3,100
Association for High Technology Distribution (AHTD) (US)	2021 annual membership fees	34,763 / USD 1,250
American Public Transportation Association (APTA) (US)	2021 annual membership fees	38,239 / USD 1,375
Intelligent Transportation System America (ITS America) (US)	2021 annual membership fees	139,050 / USD 5,000
Japan Railway Engineers' Association (Japan)	2021 annual membership fees	5,760 / JPY 24,000
Alliance of Industrial Internet (China)	2021 annual membership fees	1,005,100 / CNY 230,000
China Communications Standards Association (CCSA) (China)	2021 annual membership fees	218,500 / CNY 50,000
Edge Computing Consortium (China)	2021 annual membership fees	87,400 / CNY 20,000
China Artificial Intelligence Industry Alliance (China)	2021 annual membership fees	56,810 / CNY 13,000
Machine Vision Industry Union (China)	2021 annual membership fees	52,440 / CNY 12,000
Total amount		**NTD 3,071,628**

*Note: Exchange rates as of 1/28/2022, as follows: NTD/USD, NTD 27.81; NTD/JPY, NTD 0.24; NTD/CNY, NTD 4.37

3

Innovation and Service

3.1 Sustainable Intelligent Solutions

3.2 Innovation Mechanisms

3.3 Co-Creation with Customers and Partners

3.1 Sustainable Intelligent Solutions

Management Guidelines for Major Topics

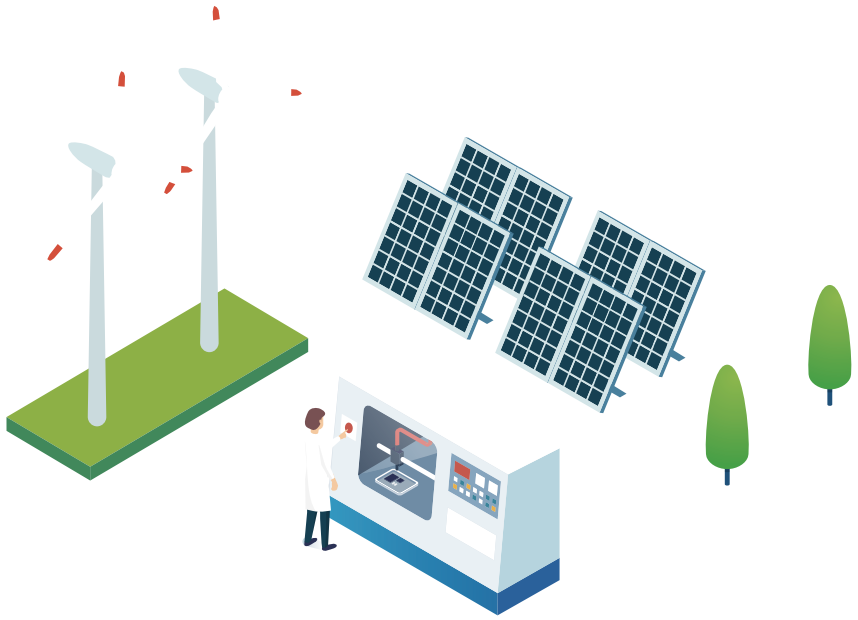
Materiality	Advantech's software and hardware products and integrated solutions can be used in growing markets such as renewable energy, climate mitigation, climate adaptation, telemedicine, and education. Aside from improving Advantech's corporate competitiveness, continuously developing products for sustainable use can also contribute to sustainability.
Policies/ Commitments	Incorporate the concept of sustainability into new product development for business units and strategic blueprints for market expansion; formulate sustainable product and service quantification plans, expand the establishment and performance goals of related product divisions (Environmental Protection and Energy, Intelligent Healthcare), and then expand the positive impact on the environment and society through Advantech's products and services.
Management Objectives	• 2022: 13% of revenue to come from the sale of products or solutions for sustainable use • 2025: 15% of revenue to come from the sale of products or solutions for sustainable use
Management Policy/ Action Plan	Recruit possible sustainable business opportunities worldwide from Advantech branches around the world via the Emerging Business Opportunity (EBO) proposal management mechanism, and conduct product development and market expansion. For existing products and markets, re-inventory customers and solutions for sustainable use, and inject resources to support the expansion and development of their business opportunities.
Effectiveness Assessment	In the past, Advantech reported the product models for sustainable use and the proportion of sustainable use reported by the headquarters product divisions, and then calculated the proportions of revenues from sustainable use; this figure came to 14.76% in 2019 and 15.79% in 2020. Advantech products currently collected for sustainable use include: energy efficiency (solar energy, wind energy, smart grid, electric vehicle charging stations, building energy savings, energy saving displays, energy storage), flood and disaster prevention, sewage treatment, pollution prevention, distance teaching, public safety, traffic safety, public health, telemedicine, food safety cold chain management, intelligent agriculture, information security, cloud computing, and so on. However, without actually investigating the business side's cooperation with customers, this revenue share data may be underestimated or overestimated. Currently, we start from the market side and ask key accounts (important customers) to take responsibility for listing customers and projects whose global business returns are actually used for sustainable purposes. It is expected that the proportion of revenue of this part will be more accurately quantified, and the calculation result in 2021 was 12.1% (there is still the possibility of underestimation). In the future, we hope to expand sustainable use business opportunities and combine them with the KPIs and incentives of product divisions. In the longer term, we also hope to quantify the benefits of these solutions that actually help customers reduce their carbon footprint or environmental impact and so on.

Advantech AMiS-22 Mobile Healthcare Workstation Facilitates Remote Medical Care for Offshore Wind Farm Power Employees

A well-known leading offshore wind power company is building a large offshore wind farm in Taiwan. Expected to generate 900 MW of wind power, this represents a big step for Taiwan's development of renewable energy. During construction, crew members and technicians live on the offshore engineering vessel (Construction Support Vessel, CSV) for a long period of time. It is thus important to provide them with timely health care. Telemedicine video consultations are available using Advantech's AMiS-22 telehealth suitcase including an industrial-grade all-in-one tablet with high-definition camera, omnidirectional microphone, otoscope, wireless handheld ultrasound, digital stethoscope, and 12-lead ECG. Under ordinary circumstances, the professional nurse on board can make confirmations by phone with the doctor of the designated clinic in Norway. In case of urgent medical need, simple treatments can first be performed and then sent to the partner hospital in Taichung. In addition to meeting the basic medical needs of staff, this telemedicine device can be used in an emergency during the 2-4 hours of sea transport to the hospital, keeping in constant touch with local hospitals in Taichung and providing long-distance care as it continuously monitors the patient's physiological data and maintains the patient's health condition en route to medical treatment.

The company said that after the introduction of this set of solutions, it has provided employees with a sense of psychological stability on offshore engineering ships. Especially during the Covid-19 period, maintaining employee health, allowing employees to work with peace of mind, and avoiding potential health risks will help improve employee satisfaction and work efficiency.This also responds to SDG 3. Good Health and Well-Being and SDG 7. Affordable and Sustainable Energy.

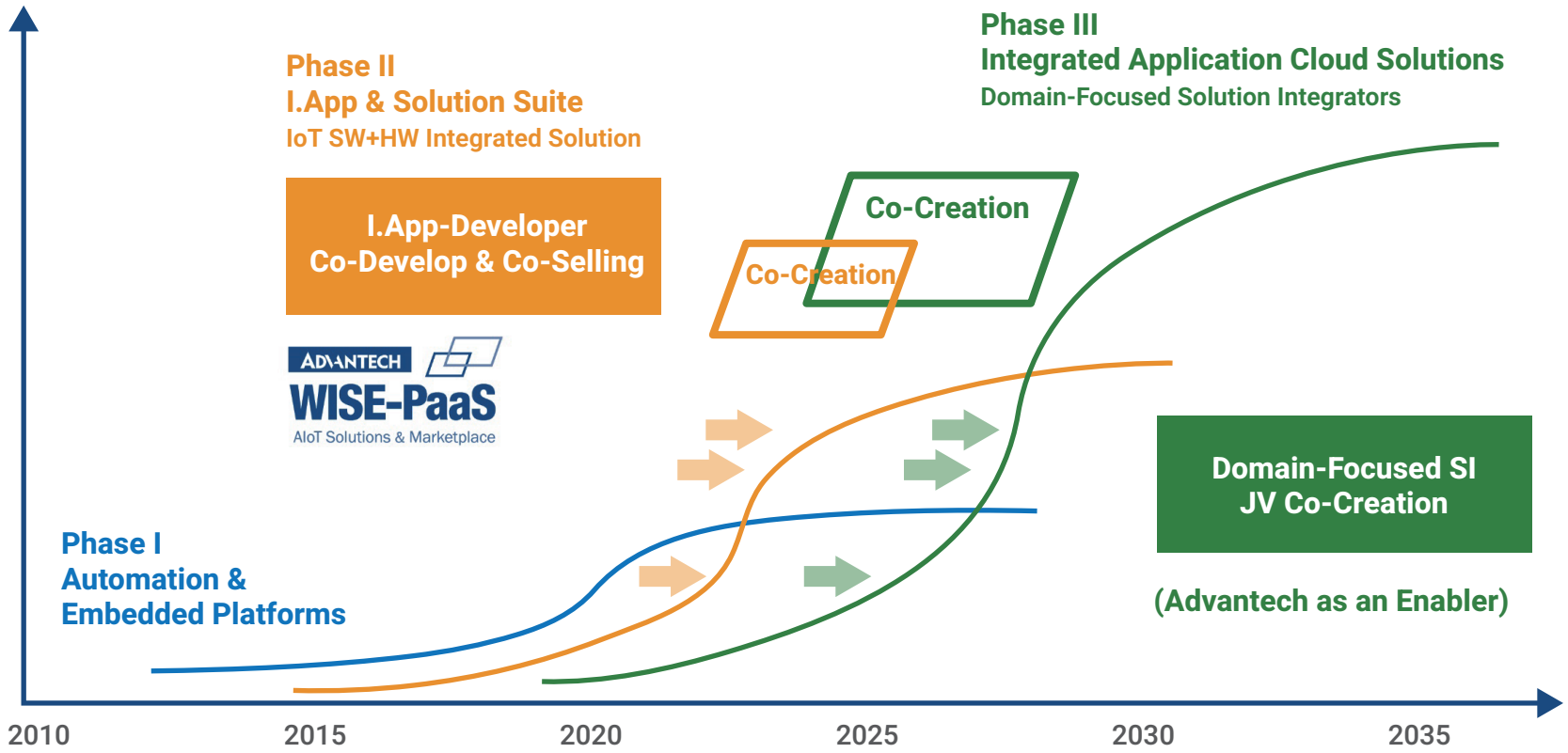
For more information, please refer to Advantech's official website.



3.2 Innovation Mechanisms

Since 2010, Advantech has adhered to its corporate vision of “Enabling an Intelligent Planet.” Under this strategy, we actively invest in product and technological innovation as well as in mechanisms for co-creation and co-prosperity with R&D and business ecological partners. Advantech further outlined our vision in three stages in 2015 with the "AIoT Internet of Things Development Blueprint.” This set the tone for artificial intelligence and the Internet of Things as our engine of future industrial growth; and through continuous innovation, we are gradually transforming the Company from an industrial computer manufacturer into a technology supplier and service provider that provides overall solutions from the industrial Internet of Things to the cloud.

Figure 3.2.1 Three Stages of Advantech’s "AIoT Internet of Things Development Blueprint"



Several important innovation mechanisms all held by Advantech now are personally led by the Chairman and senior executives, including those concerning products, technology, careers, and academic cooperation. Furthermore, they involve pragmatic long-term promotion encompassing three categories and six projects:

Business Innovation Associated with Emerging Business Opportunities	Innovative Products and Technology	Industry-University Research and Academia Co-Creation
IMAX-C : Innovation strategies and practical plans of the business units, such as those involving reform breakthroughs in products, business, and organization. **EBO** : Advantech's global colleagues formulate business plans for Advantech's new growth curve through rigorous analysis and planning of emerging opportunities that have been observed.	**A+X** : The CEO directly empowers product innovation and directs resources to accelerate new product development. **MCT/TSU** : A technical committee composed of R&D supervisors to centrally and horizontally manage the core technologies of each business unit, as well as a Technical Sharing Unit (TSU).	**University co-creation** : In-depth research and development with domestic and foreign universities and actual field verification, co-creating new technology and application breakthroughs. **InnoWorks** : Providing global universities and colleges with software, computing resources, online teaching, etc., to encourage the new generation of students to develop and implement their creativity.

Among these, the "C" in the IMAX-C for innovative business stands for "Co-Creation," a newly-added initiative over the past two years. That is to say, in the second stage of the "AIoT Internet of Things Development Blueprint," co-creation must be clearly described in the annual plan of a business unit once it begins work. EBO has been simultaneously advancing this blueprint. As Advantech has transformed from a manufacturer of equipment and hardware to build an AIoT ecosystem, we have begun to explore and develop new opportunities from a new business perspective. A+X and TSU/MCU support this AIoT development blueprint from an innovative perspective on the product side, and achieve this through high-level empowerment and cross-unit integration. Along with InnoWorks, industry-university co-creation also lies in the direction of the Blueprint's development. Through cooperation with external academia and research, we may stimulate new ideas that form a departure from traditional thinking. This includes the new social generation's ideas and product concepts for the future Internet of Things to help prepare Advantech for the third phase of AIoT to envision new integrated applications and services and to undertake preliminary ideas and exploration.

Advantech's innovation mechanism has fostered many new business units and launches hundreds of new products or more every year. In addition to winning awards and creating outstanding business results, we continue to expand our leadership in the Industrial IoT industry. While promoting the co-creation of the Internet of Things, it is one of Advantech's important tasks to enable our core business to grow through mainstream trends and innovative growth rates of leading R&D technologies. Through in-house innovation projects, we examine innovation effectiveness and trends, encourage the development of innovative products, and nimbly adjust our product strategies.

Effective Management of Innovation

In the promotion of many innovative mechanisms, Advantech will provide different effectiveness indicators according to the attributes of the issues each mechanism focuses on. This will ensure that these innovative measures and mechanisms can maximize their benefits. In addition to defining a basic quantitative goal (KPI) for each innovation mechanism, we shall also define conditions for achieving the goal as well as follow-up actions. For example, the University Co-Creation industry-university research projects shall establish how many research projects of value are to be proposed, and the final results must also have a certain percentage of output that can be transferred or that can see continued cooperation in technology with the internal business units of Advantech. Another example is in product innovation. For industrial design, additional rewards will be given based on whether industrial design awards such as IF are obtained; and we shall track the revenue benefits of new products after commercialization. For the EBO mechanism of business innovation, Advantech also has a special steering committee composed of senior executives.

This Executive Committee is established for the planning or achievement of innovative businesses and business models, and to provide substantive suggestions, resources, and rewards as well as tracking the development results of business units.Through various innovative mechanisms and corresponding management by objectives, Advantech pragmatically drives the creativity, innovation, and breakthroughs of the Company's team in terms of products, technology, or business.

3.2.1 Business Innovation and Emerging Business Opportunities

IMAX-C

Objectives

Advantech has constructed an organization in the form of Business Units working together to promote business management operations, including a Strategic Business Unit (SBU) focused on strategy and product development as well as Regional Business Units (RBUs) focused on sales and regional development. Within this framework, we hold onto the idea of conveying innovation and business development to the SBU through the mechanism of "IMAX-C." Here, "I" stands for the "incubation" of new organizations; "M" stands for "mergers and acquisitions" and "A" stands for "alliances, together representing links with external partners; "X" stands for "X-Product," the development of new products and services; and "C" stands for "Convergence and Consolidation," indicating the consolidation of internal resources to avoid duplication of products or of units.

Practices

After the Headquarters launches the initial quarter of each year, each SBU product unit shall submit an IMAX-C proposal based on its business level and on the bottom-up focus of the market. Furthermore, the strategic policy of the SBU's overall innovation and operation shall be derived from a convergence and hierarchical integration of individual product line, product divisions comprising multiple product lines, and business groups comprising multiple product divisions.

After the product unit proposes an IMAX-C innovation action, it will connect with other units of the Company including the sales team, Advantech Corporate Investment (ACI), the Project Management Office (PMO), and Human Resources (HR). Together, they shall conduct research, analysis, and discussion on product service innovation, business model innovation, and organizational innovation. After a decision is reached, the Annual Business Plan (ABP) of the SBU shall be launched successively, becoming the cornerstone of the SBU's continued growth and development.

Achievements

IMAX-C strategic policy plan for 50+ business units per year.

EBO

Objectives

In the past 30 years, Advantech has been following a growth pattern of "niche business unit clusters," driving core business goals with our vision, focusing on industries, and concentrating on business strategies. Such a business policy enables Advantech to continue to grow and develop in niche markets. In recent years, market trends have shifted rapidly and emerging business opportunities have flourished. In response, Advantech has introduced an Emerging Business Opportunity (EBO) proposal management mechanism, whose goals are to explore new business opportunities beyond Advantech's legacy business while verifying innovative business models and their technical feasibility. These efforts in turn are aimed at expanding our business territory and increasing our sources of revenue.

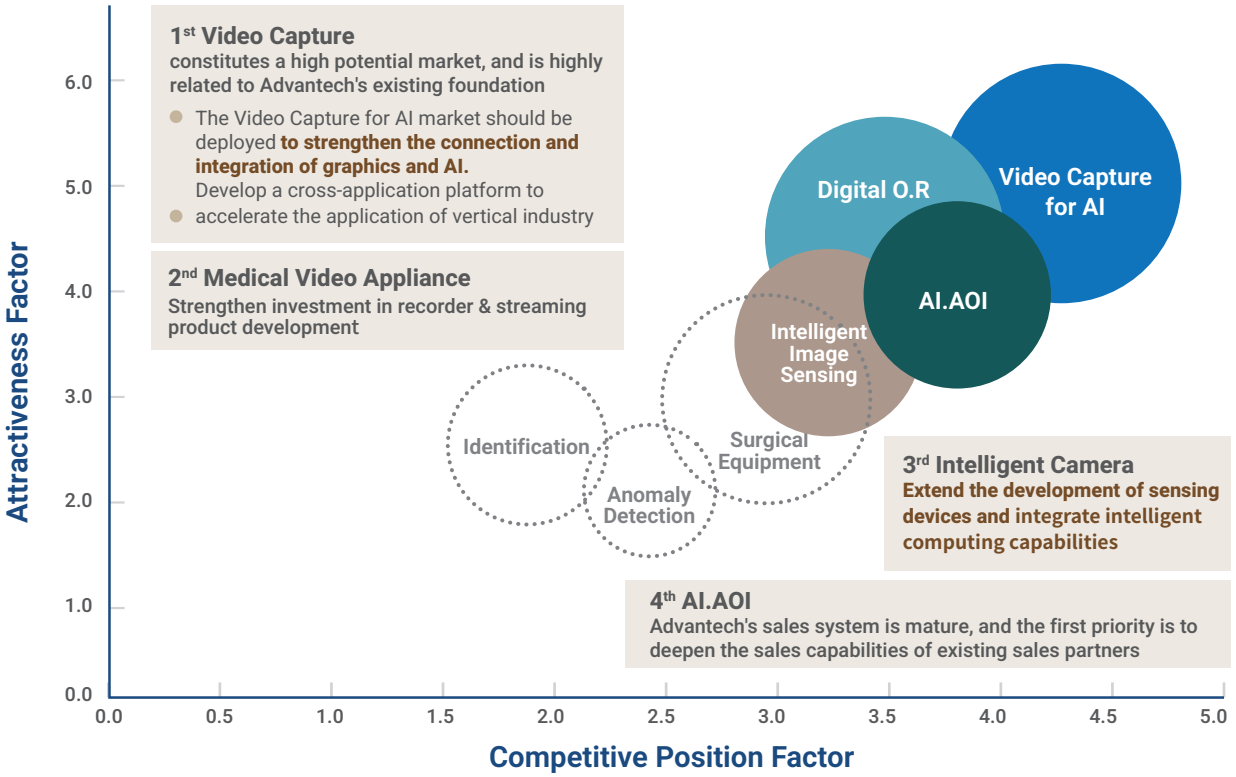
Practices

The Headquarters raises the process of emerging business opportunities domestically and abroad in the second and fourth quarters of every year; and after two stages of evaluation by senior executives, selection is made of the top five topics with the greatest commercial potential and innovation. After a detailed business plan is made for the new businesses, resources are invested to establish the new business units.

Achievements

Twenty or more EBO topics are raised on each of the two occasions every year. They are screened rigorously to a short list, constituting the Top 5 EBO Topics with awards and a process to further develop the EBO Business Plan (BP).

Figure 3.2.2 EBO "SPAN Analysis of Advanced Computer Vision"



3.2.2 Innovative products and technology

A+X

Objectives

A+X represents an innovative product strategy development mechanism. By means of IMAX-C, kick-off meetings (KOMs), EBO, Business Leadership Model (BLM), and other innovation and management mechanisms, the SBU puts forward new product strategy proposals for specific markets, technologies, or industries, and develops A+ product plans in the A+X mechanism to determine target markets, product positioning, industrial design, business development, and cross-departmental cooperation.

Practices

The Headquarters regularly collects A+ new product issues based on market development, technology trends, and so on. It invites the Product Division to conduct business and technical feasibility analyses and formulate strategic guidelines and new product goals aimed at market needs and opportunities; and it conducts a series of discussions on new product concept design, functional application planning, business promotion, and resource allocation. After completion of the A+ new product planning, parallel discussions are conducted through internal inter-departmental communication and the guidance of senior executives, and the A+ product strategy is set at the decision-making meeting and delivered to SBU to implement development.

Achievements

40+ new product strategy plans every year.

Figure 3.2.3 2021 A+X

MCT/TSU

Objectives

The Meeting of Corp. Technology and Engineering (MCT) was established by senior R&D executives to centrally manage the core technologies of each business unit horizontally. Advantech's Technical Sharing Unit (TSU) focuses on three key points: digital transformation of research and development, shared intellectual property (IP) across SBG technologies, and core technology management and collaboration platforms.

Practices

In setting up the Share TSU sharing and interoperability mechanism, the R&D teams affiliated with each business group will connect their respective core technologies to achieve synergy through horizontal connection and interoperability. Topics are divided into "Engineering," which focuses on the expansion and breakthrough of TSU R&D, including IP Sharing; and "Innovation," which focuses on advanced technology research, develops forward-looking topics, and allows various business groups to create a complete design and shorten the research and development time, thereby empowering product innovation.

Achievements

In each of the past five years, Advantech has developed more than 400 new products with this mechanism, including industrial computers, embedded modules, edge computing equipment, network equipment, sensing devices, industry software and hardware integration solutions, etc.
Currently, the MCT R&D Technical Committee is convened by senior R&D executives every two months to oversee long-term implementation of three major technology-oriented strategy topics. Please refer to Table 3.2.1 for details.

Table 3.2.1 MCT/TSU Technical Strategy Topics

R&D Interoperability Mechanism	Intelligent Material Selection and Component Development Blueprint	Product Development Platform
● A complete digital all-round IP digital platform provides overall service solutions required by various industries ● Intelligent automatic generation of design blueprints and intelligent IP to complete line development ● Homologous shared data transparency platform	● Accurate mainstream material recommendations make products precise and accurate in mass production and win the trust of customers ● The use of concentrated materials is shortened to achieve usage with economies of scale, enabling a rapid drop in material purchase costs	● With real-time data transparency of all R&D data and all elements, PM/R&D/manufacturing face no barriers to communication, and this saves time and increases efficiency ● Digital design with building block modules, linking processes to accelerate product development

3.2.3 Industry-University Research and Co-Creation

University Co-creation

Objectives

Industry-university cooperation is an important approach of Advantech's external innovation. By linking the resources of university and research institutes, we accumulate an innovative talent pool and establish a corporate R&D center that facilitates the productization and commercialization of R&D collaboration achievements.

Practices

In 2015, Advantech established an " IoT Intelligent System Research Center" at National Chiao Tung University (now National Yang Ming Chiao Tung University) and we have invested about NT$10 million each year in the development of key technologies and applications of the Industrial IoT verticals. Projects initiated in this collaboration are based on Advantech's technical and business requirements that forge deep connections between the market demands and the R&D strength of universities, and combines the actual vertical domains of Advantech's internal and external (customer) premises to carry out proof of concept (POC) for innovative applications of the Internet of Things.

In response to the academic merger creating National Yang Ming Chiao Tung University in 2021, Advantech expanded its scale of industry-university cooperation and invested in the establishment of the Industry Academy Innovation School, National Yang Ming Chiao Tung University. Supplementing the co-creation model for business and academia, a new mechanism will be used to bridge the gap between industry and academia in cultivating school talent and promoting industry-university cooperation in the field of AIoT. This shall include sponsoring existing Internet of Things innovation projects in schools, connecting business resources in stages, and promoting the productization of academic research outcomes. It will additionally feature an industry-university initiative for graduate student programs as well as internships; that is, one of the features of the Industry Academy Innovation School shall be the degree program of practice. Through the early investment of master and doctoral students into corporate projects, and with their incorporation into a system of internships, we will work with the school to cultivate talent in AIoT applications and ensure the commercial potential of R&D projects. In the past two years, such an industry-university project mechanism has also expanded to National Taiwan University, National Taiwan University of Science and Technology, and other schools.

Figure 3.2.4 Advantech's Industry-University Co-Creation Mechanism

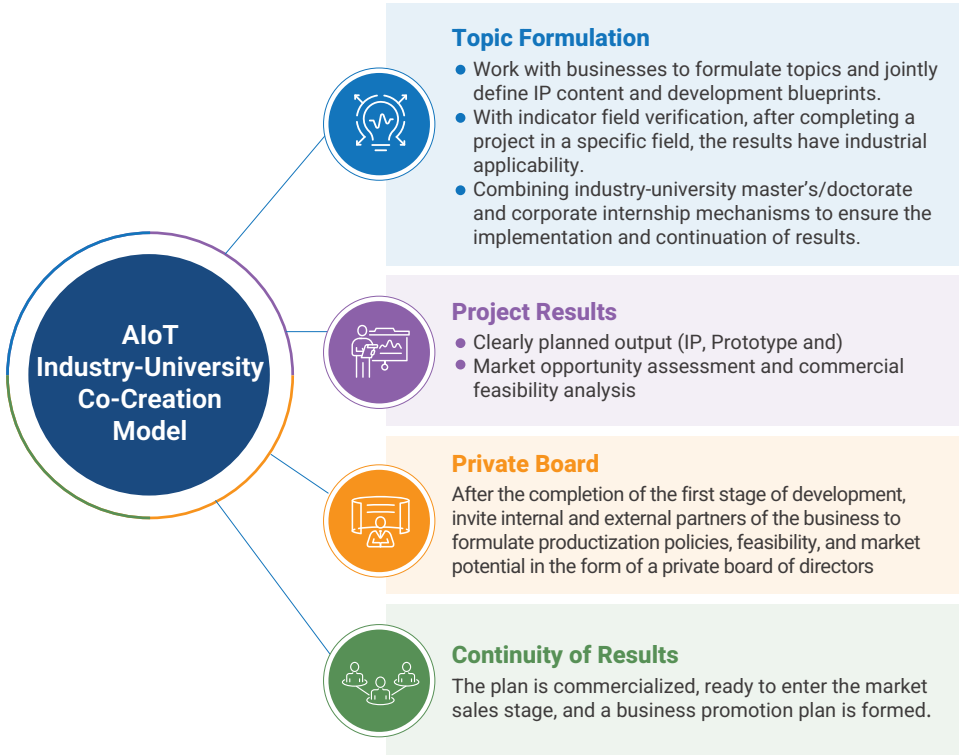
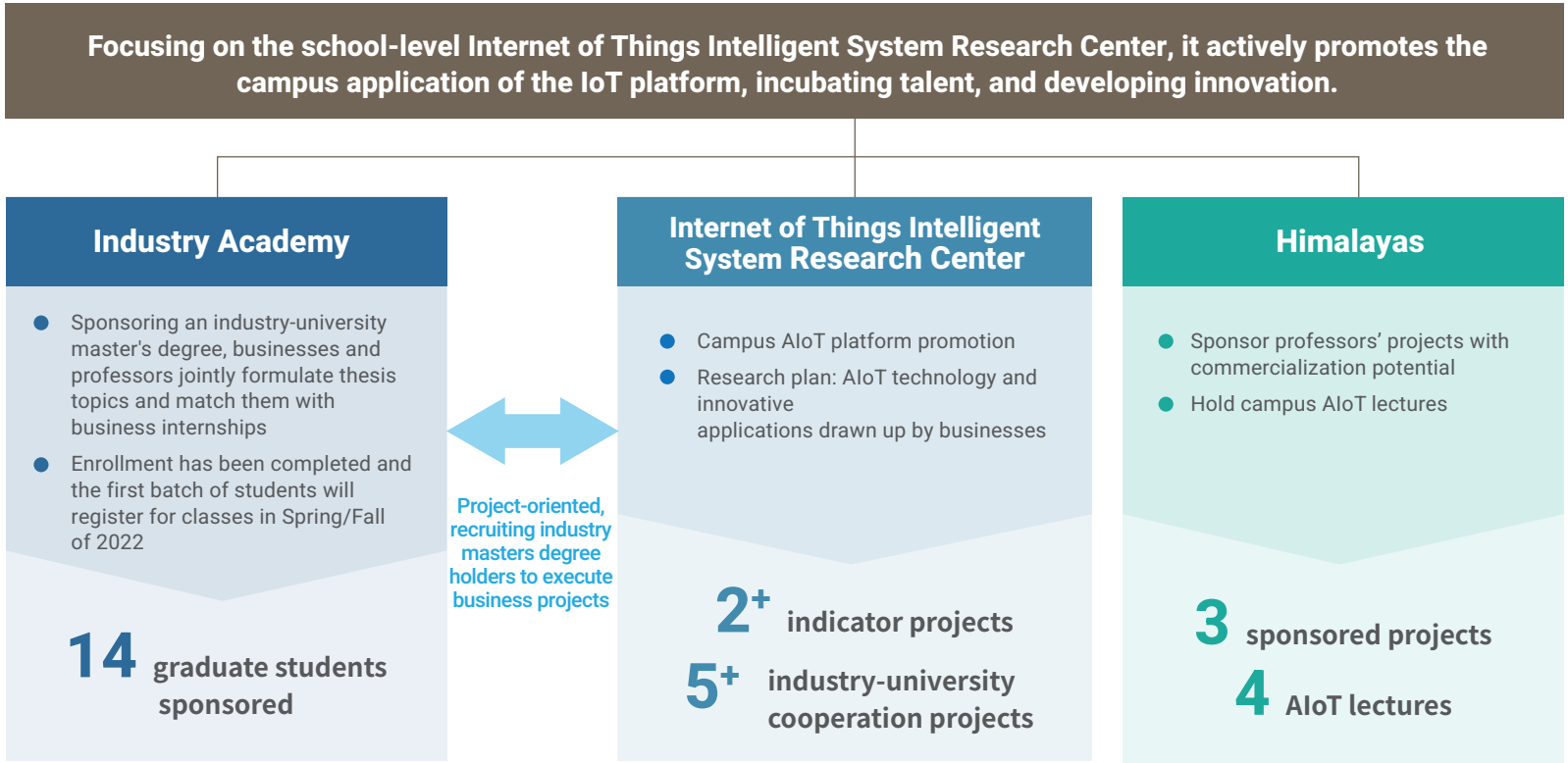


Figure 3.2.5 Structure of Advantech's participation in the Academy Innovation School, National Yang Ming Chiao Tung University



Achievements

By 2021, 38 cooperation projects had been accomplished since its launch. Some project results have also been commercialized as part of Advantech's solution offers to the market, and a few practical cases in the industrial AIoT segments have been established. R&D topics in the University Co-Creation program mainly address intelligent video analytics, Industrial 4.0, IoT embedded PaaS, and AIoT domain applications.

The key goal of Advantech's industry-university cooperation is to increase the business value of academic reseach and potential for commercialization, which mitigates the gap between industry and academia. For example, the project "Meta-Learning on Prognostics and Health Management (PHM) for vibration data" (undertaken in cooperation with National Yang Ming Chiao Tung University in 2020) has seen its completed integration with Advantech's edge computing platform as a commercial product. Furthermore, it constitutes the core of Advantech's AIFS/PHM Suite product series, which have been successfully introduced into selected traditional industries, semiconductor factories, and others.

Table 3.2.2: Advantech's Research Plan at the Internet of Things Intelligent System Research Center of National Yang Ming Chiao Tung University

Field	Number of Projects
Intelligent video analytics	14
Industrial 4.0	4
IoT embedded PaaS	17
AIoT domain applications	3
Total	**38**

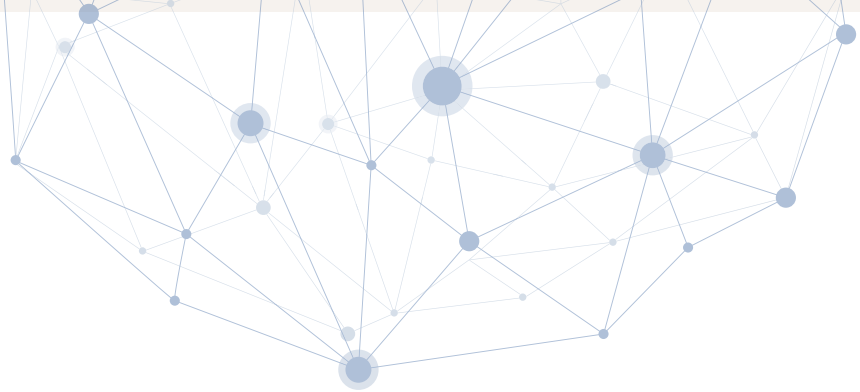


Figure 3.2.6: Industry-University Benchmark Case: Productization Architecture of Industry-University Achievements

Innoworks

Objectives

As a world-renowned and leading company for industrial computers and the Internet of Things, Advantech takes IoT talent cultivation and innovation as the focus of our business competitiveness and sustainable development. We therefore launched the AIoT InnoWorks developer program, where Advantech WISE-PaaS IoT cloud platform and technical resources are provided free of charge to university students for application development. Our goal is to support 50 universities worldwide by 2025.

Practices

This program is planned by Advantech Headquarters, and the branch offices in each country/region work directly with local schools to implement the program. As part of a different approach toward industry-university cooperation, the organizer (usually a research lab or a professor in the university) invites student teams to participate the program. Our branch office provides guidance to students and solves any difficulties they might encounter in the process, and provides technical support or advice on business direction.

Every year, our regional teams issue surveys to gain student feedback worldwide either verbally or through questionnaires. We also collect feedback from Advantech colleagues who serve as mentors or technical supports in these InnoWorks projects and review the outcomes for opportunities and directions of improvement.

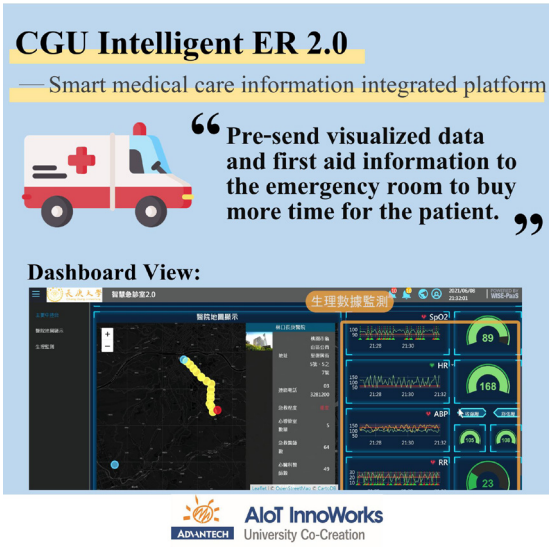
We received feedback in 2021 such as: students said that InnoWorks provides opportunities and technology to implement ideas; they are more determined to become multi-talented professionals, and it is very rare to actually communicate with and interact with the industry and with industry teachers. Furthermore, 90% of the respondents thought that that learning and using a new tool (the WISE-PaaS industrial IoT cloud platform) offered the greatest benefit. At the same time, we also received many suggestions for improving the platform and technical documents. These suggestions will also be fed back to Advantech's technical department as a direction for future improvement.

Achievements

In 2021, participating schools of AIoT InnoWorks covered five areas around the world including Taiwan, mainland China, Indonesia, Vietnam, and Malaysia, comprising a total of 238 students from 17 schools. A total of 52 projects were created and implemented, covering topics such as intelligent manufacturing, intelligent cities, intelligent medical care, and intelligent agriculture.

Figure 3.2.7 Success Case - AI Turtle

Figure 3.2.8 Success Case - CGU Intelligent ER 2.0



For more 2021 AIoT InnoWorks special achievements, please refer to the InnoWorks website.

3.3 Co-Creation with Customers and Partners

Management Guidelines for Major Topics

Materiality	Good customer relationships can enhance Advantech's corporate competitiveness; high-quality partnerships can enhance the creativity of the IoT industry as a whole.
Policies/ Commitments	• Treat customers as partners, to jointly manage the market with customers through a co-creation mechanism. • Continuously improve channel distribution management, optimize global customer relationship management systems and technical service platforms, and provide more diverse online training courses. • Ensure that customer privacy is fully protected, and ensure that customers' rights and interests do not suffer during the pandemic.

3.3.1 Trends, Strategy Sharing, and Co-Creation

Advantech Connect

Every two years, Advantech's Headquarters holds a large-scale World Partner Summit with more than 1,000 people, and every year branches in various countries also hold large-scale customer forums, various conferences and exhibitions, distributor conferences, and so on. Through these activities, we share the latest development strategies of the Company as well as technological breakthroughs and new product launches with customers. In addition, industry experts are invited to give lectures on industry insights and market prospects to customers, and important clients are also invited as speakers to talk about IoT applications from customers' perspectives. In 2020, all of Advantech's activities were conducted online due to the pandemic, including our launch of the Advantech Connect forum series. We expanded the scale of online forums in 2021, adopting the iKala Cloud platform in the first half of the year to be able to meet the needs of 1,000 simultaneous online forum participants and to also provide online chat and timely voting functions. A total of 48 forums were held in Europe and the United States, in the first half of 2021, including 240 lectures, and the total number of registrants exceeded 12,000.

We adjusted our online forum model in the second half of 2021 to adopt a strategy of flourishing on a large scale; and we replaced the platform to instead provide GoToWebinar and Zoom Meeting platforms that give global subsidiaries the capability of quickly arranging small online forums. A total of 84 forums were thus held around the world in the second half of the year, including 420 lectures. In 2021, more than 22,000 people altogether signed up for the Advantech Connect series of forums. The Advantech Connect on demand program was launched in the same year to increase customers' return visits to watch on-demand video and to expand the online influence of this service. The number of playback views in 2021 exceeded 8,000.

Through the Advantech Connect series of activities, it has gradually transformed from a large-scale customer forum of traditional offline entities to an online live broadcast forum. By accelerating Advantech's digital transformation and data analysis on online forums (including the number of applicants for each session, the maximum number of people online at the same time, the average viewing minutes, etc.), the Headquarters can better understand current preferential trends of regional markets. We also collect information on customers' needs and expectations through online interaction with customers and the satisfaction and feedback of each session, and by understanding the effectiveness of the Company's management of these issues. In addition, colleagues and customers of various regional branches can also have a better understanding of Advantech's development goals and growth strategies.

For more information, please refer to:
- Advantech Connect Website
- Advantech Connect on demand video

Effectiveness Assessment

Total webinars held	132
Total lectures	660
Total number of registrants	22,158
Total online visitors	13,584

Visitors watching more than 30 minutes	Percentage of viewing times over 30 minutes	Visitors watching more than 60 minutes	Percentage of viewing times over 60 minutes
8,154	60%	5,842	43%

Partner Co-Creation

Advantech proposed the concept of "co-creation" in 2017. While meeting customer needs and providing customer service, we also regard customers as partners and invite them to join us in actively creating value through cooperation in terms of technology, products, business models, business marketing, channels, and so on. The industrial ecological chain is the key to the success of the IoT business model, and Advantech treats customers as ecosystem partners. We supported start-ups in Taiwan, China, Europe, the United States and other places in 2021 by investing in external funds, and we look forward to forming a complete IoT ecosystem in these key areas.

Having set aside US$30 million in Europe and the US to set up a Co-Creation Fund, an actual investment amount of US$8.5 million in 2021 will incubate new innovations in Edge AI, Cybersecurity, AI AOI, cold chain energy management, and intelligent positioning while facilitating their linkage with Advantech's industrial ecosystem. Meanwhile, we have invested RMB 50 million in China to incubate new innovations in industrial control safety and 5G intelligent mines. In addition, we set up a US$50 million fund to promote cooperation in the industry chain and invest in the energy storage industry in 2021. In Taiwan, in addition to continuing to cooperate with the China Development Fund for the Internet of Things Fund, we also maintain our cooperation with strategic accelerators. With Advantech's industrial links and WISE-PaaS technical resources, we support the growth of IoT startups in Taiwan and made a practical investment in an industrial testing software company to practically support the growth of partners with capital, technology, and business networks.

Table 3.3.1 Advantech's 2021 List of AIoT New Innovation Activities

Ecosystem Fund Investment		
Region	**Fund Size**	**Invested Company's Field**
Europe and Americas	US$30 million	AIoT new creation and co-creation: edge AI, cybersecurity, AI AOI, cold chain energy management, intelligent positioning
China	RMB 100 million	AIoT new creation and co-creation: industrial control security, 5G intelligent mines
Global	US$50 million	IoT industry chain investment: invested in an energy storage company
Incubators, Accelerators, and Sponsorship of IoT Innovation Events		
Region	**Number of Sponsors**	**Sponsorship**
Taiwan	3	2.9 million
Startup Support		
Region	**Support Content**	
Taiwan	Investment of NT$20 million in industrial testing startup	
Taiwan	Sponsored WISE-PaaS cloud resources equivalent to NT$100,000 for AI scheduling startups	
Sweden	Sponsored WISE-PaaS cloud resources equivalent to NT$200,000 for a smart factory integration consulting company	

3.3.2 Distributors and Channel Management

Materiality	Advantech has a number of sales locations and established subsidiaries around the world; and at the same time, we rely on our global distribution network to provide localized services. Distributors are not only customers, but also important partners. Advantech is committed to establishing a long-term channel management strategy with the goal of growing together with our distribution partners and uphold Enabling an Intelligent Planet together.
Management Policy/ Action Plan	Advantech's distribution channel management primarily adopts differentiated development and operations according to the business types of distributors, and we set the authorization and certification of product types and distribution levels according to the professional fields of distribution partners in order to differentiate their markets. Furthermore, we provide relevant technical training and marketing activities to strengthen the professional abilities of distributors. Using our annual distributor evaluation and review system, we check whether distributors have completed the signing of authorization contracts and implemented the relevant authorized areas, products, and price management. The following six areas are reviewed and evaluated annually to ensure that Advantech's distributors can provide a full range of high-quality services. 1.Sales performance indicators (annual performance targets and target market management KPIs) 2.Marketing: market development (marketing activity plans and industry-specific channel development) 3.Organizational talent development (reward mechanisms for talent development and establishment of brand service teams) 4.Technical certification training (product and application courses, quality awareness, and standard operating procedures) 5.Strategic development direction (annual business plans, price classification management, inventory stocking mechanisms) 6.Management system compliance (project reporting and conflict and violation management)
Effectiveness Assessment	In implementing the channel management process (Channel BLM), Advantech's business team and distribution partners jointly formulate an annual distribution business plan (Channel ABP). We thereby set annual development goals and cooperation priorities, review the implementation effectiveness and achievement status every quarter, and provide marketing resources, product technology, and strategic direction support in a timely manner. Furthermore, through channel performance growth, distribution partner development, training and certification results, and annual audit evaluations, we can achieve the stable and long-term development of operating distribution channels.
2021 Results	• Overall revenues of the distribution channels increased by 24% compared with last year, hitting a five-year high. Among them, China increased by 46%, North America increased by 16%, and Europe increased by 12%, while emerging countries and other regions grew a combined 6%. • Advantech completed formal contract signings and authorization of 297 distributors worldwide in 2021. Among them, the number of newly signed distribution partners reached 27.
2022 Goals	• Overall revenues of the distribution channels to continue expanding and the total performance to increase by 50%, with each region targeting double-digit growth. • Continue to develop industry-focused distribution partners and system integration partners, with the number of newly recruited distributors accounting for more than 10% of the total number. • Introduce online teaching materials for quality management courses and list them as training courses that are obligatory for authorized distributors.

3.3.3 Customer Satisfaction Survey and Customer Audit

Customer Satisfaction Survey

In respect to Advantech's customer satisfaction survey method, the Headquarters regularly sends out questionnaires to a portion of those customers who have purchased Advantech products. This is aimed at understanding customer satisfaction levels in five aspects, including "sales services and pricing," "delivery efficiency," "product quality," "technical services," and "after-sales services." We take the customer satisfaction survey results as one of the performance measurement indicators of relevant units. For items with poor evaluations, relevant units are requested to propose improvement plans. Improvements are tracked by business units with a view to completing them within a specified time frame.

Regarding 2021 customer satisfaction survey methods, this involved asking each factory to provide a list of their top 10 customers and a list of customers who have been more willing to give feedback and engage in interaction in the past. A total of 8,286 customers were sampled, including 111 customers in mainland China, 36 customers in North America, and 8,139 customers in Europe. The average coverage of this survey was 17.45%, the average recovery rate was 24.10%, and the average customer satisfaction score was 94.83, exceeding the target of 92 points set in the prior year.

Except for an improvement in satisfaction in terms of "Product Quality," the scores of the other four items were lower than those of the previous year (2020) as shown in Table 3.3.3. It was understood that these were mainly affected by global environmental factors in terms of lack of materials, resulting in lower overall customer satisfaction.

Table 3.3.2 Customer Satisfaction Survey Coverage and Results, 2018-2021

Year	2018	2019	2020	2021
Coverage -Sample Customer Revenues as a Percentage of Total Revenues (%)	17.36	16.80	16.98	17.45
Satisfaction (%)	94.94	94.59	95.16	94.83

Table 3.3.3 Breakdown of Average Customer Satisfaction Scores (Out of 5 Points), 2020-2021

Year	Sales Services and Pricing	Delivery Efficiency	Product Quality	Technical Services	After-Sales Services
2020	4.75	4.73	4.79	4.80	4.71
2021	4.73 ↓	4.72 ↓	4.81 ↑	4.74 ↓	4.68 ↓

Future goals: increase the coverage of customer satisfaction surveys year by year, and maintain an average satisfaction score of more than 90 points.

Customer Audit

In 2021, a total of 19 key account (KA) customers requested audits (including online or document audits), covering quality systems, environmental safety and hygiene systems, and corporate social responsibility. Advantech also promoted online auditing modules in response to the pandemic. Through communication tools and remote videos, we explained the manufacturing process and intelligent control mechanisms in order to meet the needs of customer visits and audits in the post-pandemic era.

3.3.4 Customer Service

Global Customer Relationship Management System

A good customer relationship involves a customer-centric, 360° all-round connection. Our customer relationship management (CRM) system provides Advantech's teams with appropriate information and insights to understand customer needs, and can communicate with customers using convenient methods and can provide customers with better services anywhere.

Advantech introduced Oracle Siebel CRM in 2000 and fully utilized it in the regional offices of the Group. In 2014 and 2015, we moved our CRM in Europe and North America to Salesforce in order to provide customers with smoother and more immediate services. Through advances in electronic marketing technology and an abundance of subscription services, customers can choose the product information they are interested in. With convenient mobile devices and data access, businesses can control customer needs anytime and anywhere, and can propose the best solutions while communicating with customers. The multi-channel integrated service system thus allows customers to experience the service support of One Advantech.In order to enable the entire Group to more closely grasp customer needs and provide services beyond borders, Advantech plans to move Taiwan and Japan to Salesforce in 2022 and gradually introduce it to other regional offices.

Global Online Technical Services Platform

Advantech provides global customers with multiple channels for online technical support services. Through our technical support service platform, customers can submit service requests through emails, form submissions, online text conversations, toll-free service calls, and so on. Advantech continues to seek further perfection. In 2021, the Zendesk cloud-based technical service management platform was introduced at the Taiwan Headquarters, and 97% of online customer technical support requests were to be automatically assigned to appropriate technical service personnel according to a customer's location, language preference, and contact information. Aside from allowing customers to conveniently submit requests and greatly shortening waiting times, this optimization also allows internal colleagues to focus on handling these customer requests. Advantech closed a total of 59,909 technical service requests from customers worldwide in 2021, and the case closure rate was 98.7%.

Advantech's official website currently provides 20,949 technical documents and resources, allowing customers to view and download them by themselves. Due for launch in 2022, the Advantech Knowledge Center will further provide technical information for more in-depth solutions such as Featured Products, Specifications, Training Materials, and FAQs.

After technical services are completed and online resources downloaded, Advantech then takes the initiative to conduct customer service satisfaction surveys. It is hoped that through customer feedback on service quality, as well as discussions of the product itself or of service content, product development units will incorporate customer needs into their product design planning, and this will additionally provide business marketing teams with customer expectations and needs for solutions. As well as improving product support services, online teams are thus constantly advancing with the times and optimizing service processes.

Figure 3.3.1 Advantech's Online Technical Services Process

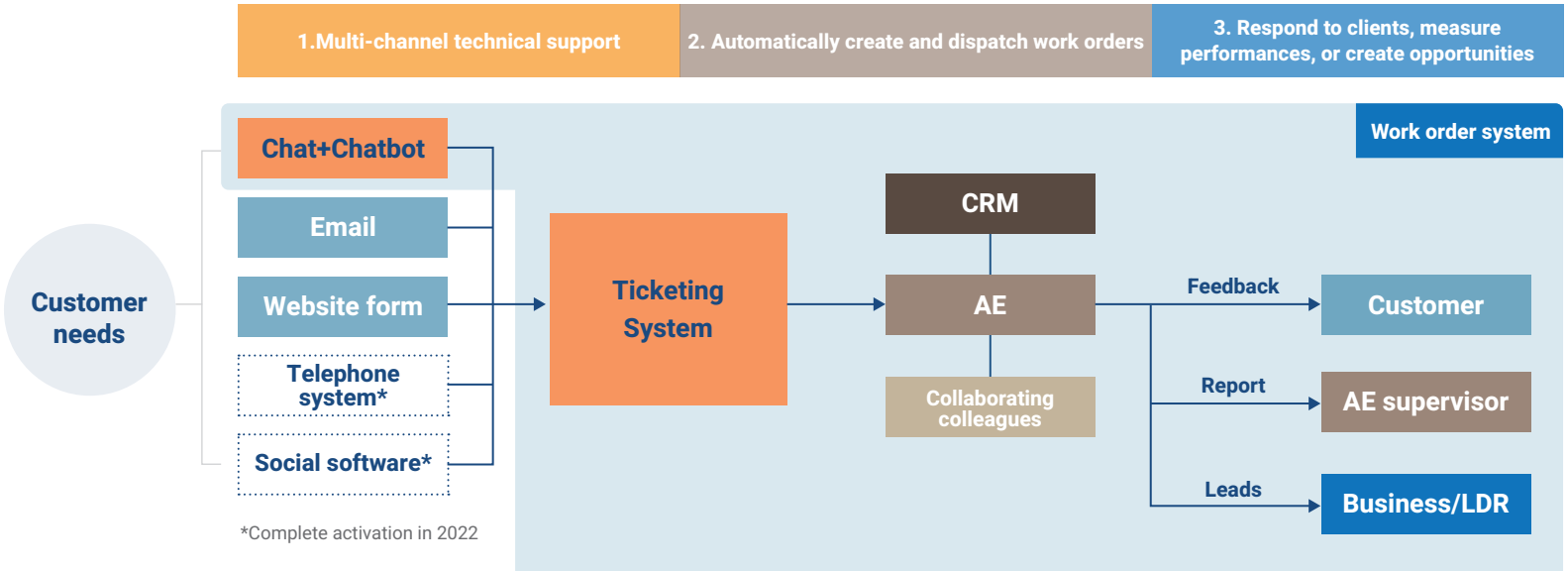
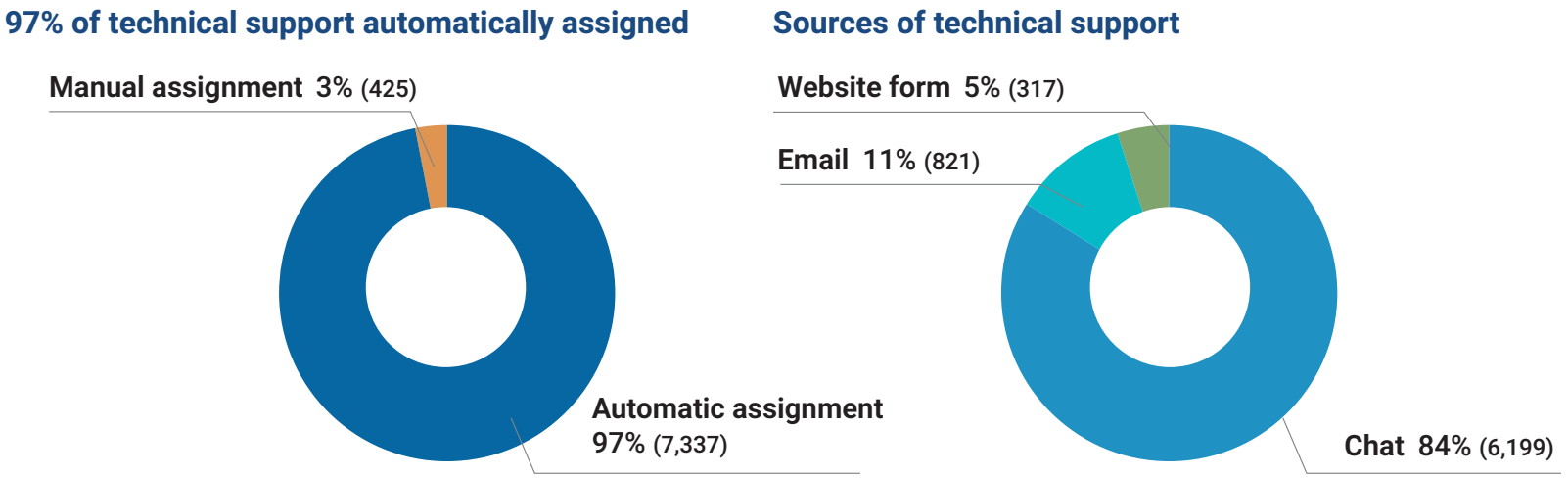


Figure 3.3.2 Technical Support Analysis



*Technical Support Analysis(2021 Taiwan HQ)

Online Technical Training Courses

In 2021, Advantech integrated existing resources to enable IoT Academy to provide complete online technical training and certification courses, shortening the learning period for customers to use products. As opposed to the offline physical technical training courses offered in the past, customers, partners, and distributors now can choose and watch all Advantech product technical training courses in Chinese and English, including those for edge devices, computer systems, cloud platforms (WISE-PaaS), and vertical solutions. In addition, we further provided a technical certification system for the purposes of technical promotions and partner training. The IoT Academy platform includes more than 400 courses in less than a year as well as over 290 technical certifications. More than 2,900 students worldwide have registered to study, and the platform has issued more than 3,000 technical certifications.

In addition to Chinese and English, some courses are also available in Korean, Spanish, Turkish, and other languages. We expect to add Japanese, Russian, Portuguese, and yet more translations in the future.

Figure 3.3.3 Analysis of IoT Academy Active Users

Number & Proportion

Number of Learners

Total Learners:	2,937
Active Learners:	367
Active Rate:	13%

Proportion

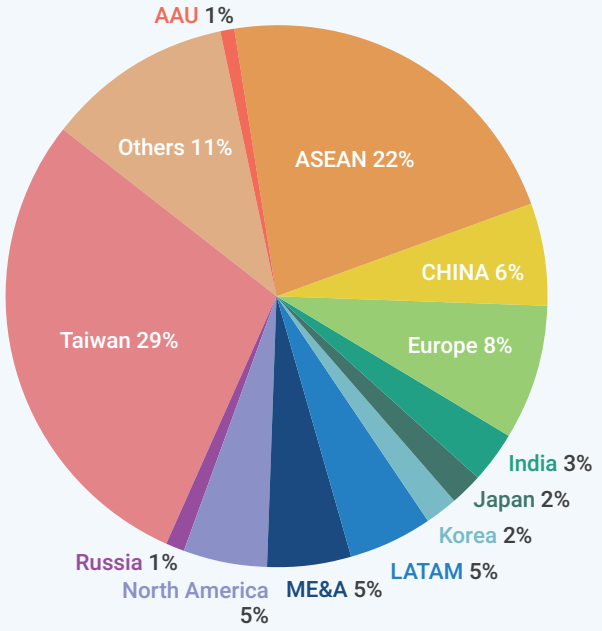
Advantechers:	911(31%)
External Learners:	2,026(69%)

*Active Learners: learners who have completed at least one course in the past three months

Region

Top 3

1. Taiwan (29%)
2. ASEAN (22%)
3. Europe (8%)



3.3.5 Customer Privacy Protection

Management Objectives	In order to allow customers to use Advantech's website and network services and other services with peace of mind, and to protect customers' own rights and interests, Advantech Co., Ltd. adheres to the regulations and disclosures required by customer privacy protection laws. Advantech thus will comply with all relevant laws and regulations regarding privacy data protection and data security. The ultimate purpose of collecting information is to provide customers with more suitable and comfortable services and experiences.
Management Policy/Action Plan	**Employees** We regularly conduct personal information protection education and training for employees, and require them to complete and read the requirements of integrity management and employee integrity commitments every year. **Suppliers** The privacy administrator includes the information that the company has business dealings with, such as suppliers and so on; this should comply with privacy and data security laws and regulatory requirements when collecting, storing, processing, disseminating and sharing personal data. At the same time, for suppliers, the SRM system of the purchasing division requires suppliers to complete the reading of the privacy protection policy every year. **Customers** 1.Compliance with laws and regulations: the collection and use of personal data is to be in accordance with the basic principles of the Personal Data Protection Act while providing personal data with the right to know, access, correct, delete, and so on; and compliance should be made with local regulations such as the European GDPR, the American CCPA, the Korean PIPA, and the Turkish KVKK. 2.Online privacy protection practices: we use the standard technology of "cookies" to collect information about how customers use Advantech's web pages in order to provide an optimal environmental experience. If a customer is unwilling to accept cookies, he or she can set a rejection or notification warning in the browser function items used by the customer and choose to reject or accept the cookie. Advantech has no purpose or intent to infringe on the privacy of customers/users when they browse Advantech's web pages. 3.Handling of customer issues: for customer-related personal data, there is a data protection mechanism and a mailbox for the Data Protection Working Party (Privacy.Inquiry@advantech.com) If there is a suspected customer data security problem, the processing mechanism will be activated immediately to minimize associated risk hazards.
Effectiveness Assessment	**Management Policy Evaluation Results** 1.In regard to personal data deletion applications, a total of 49 items of customer data were processed in 2021. 2.In regard to personal data exports, a total of 24 items of customer data were processed in 2021. 3.In regard to complaints over personal information, there was no direct handling of any such material cases in 2021; they would mainly include addressing the needs of customers who might want to adjust the subscription status of Advantech e-newsletters, as described in the previous materials. **Adjustment of Management Policies** 1.Internal: The internal audit plan will be launched in 2022, and it is expected to be completed this year. 2.External: The external audit plan will be launched in 2022, and it is expected to be completed this year. 3.Suppliers: the SRM system of the purchasing division requires suppliers to complete the reading of the privacy protection policy every year.
Performance	● 2018 Completed introduction of GDPR privacy rights ● 2020 Completed introduction of CCPA privacy rights ● 2020 Completed introduction of PIPA privacy rights ● 2021 Completed introduction of KVKK privacy rights ● January 2022 Updated privacy policy of Advantech Co., Ltd. (Taiwan) ● In 2022, privacy rights will be included among risk assessment and project audit topics ● Advantech complies with global privacy-related regulations, and no complaints were received in 2021 regarding leakage or losses of customer data.

As of 2021, Advantech's official website had added a total of 26,385 new registered members; and, in accordance with the Advantech Privacy Statement , content includes the following:

1	Personal Data We Collect	6	How Long Do We Keep Your Personal Data?	11	Privacy Notice for California Consumerst
2	How We Use Personal Data	7	Your Information, and Countries outside Europe	12	KVKK Personal Data Protection Policy
3	Reasons We Share Personal Data	8	Protection of Privacy	13	KVKK Clarification Text on the Contact Form Process
4	How to Access & Control Your Personal Data	9	Your Rights	14	KVKK Confidentiality Agreement and Terms of Use
5	Lawful Bases for Processing	10	How to Contact Us		

Advantech's Privacy Policy has now been fully disclosed on Advantech's official website:

English:

https://www.advantech.com/legal/privacy

3.3.6 COVID-19 Pandemic Response towards External Partners and Customers

The world has been greatly impacted by the COVID-19 pandemic in recent years. During this time, Advantech has moved to safeguard daily operations while preventing pandemic-related risks from arising. We have thus established a Pandemic Preparedness Response Task Force with the President of General Management designated as the convener. The Task Force communicates with the top supervisors of all responsible units and business units (see Figure 1 below) and formulates standardized handling principles for internal colleagues who have contracted the virus (see Figure 2 below) so as to actively prevent the major operational risks that may arise from the infection of colleagues and by extension the possible impact on customers. (On average, a one-day shutdown of the Taipei Manufacturing Center would result in a loss in output value of NT$71 million, while the corresponding figure for the Kunshan Manufacturing Center would be RMB 19 million or approximately NT$83 million.)

Figure 3.3.4 COVID-19 Advantech Headquarters Pandemic Preparedness Response Task Force

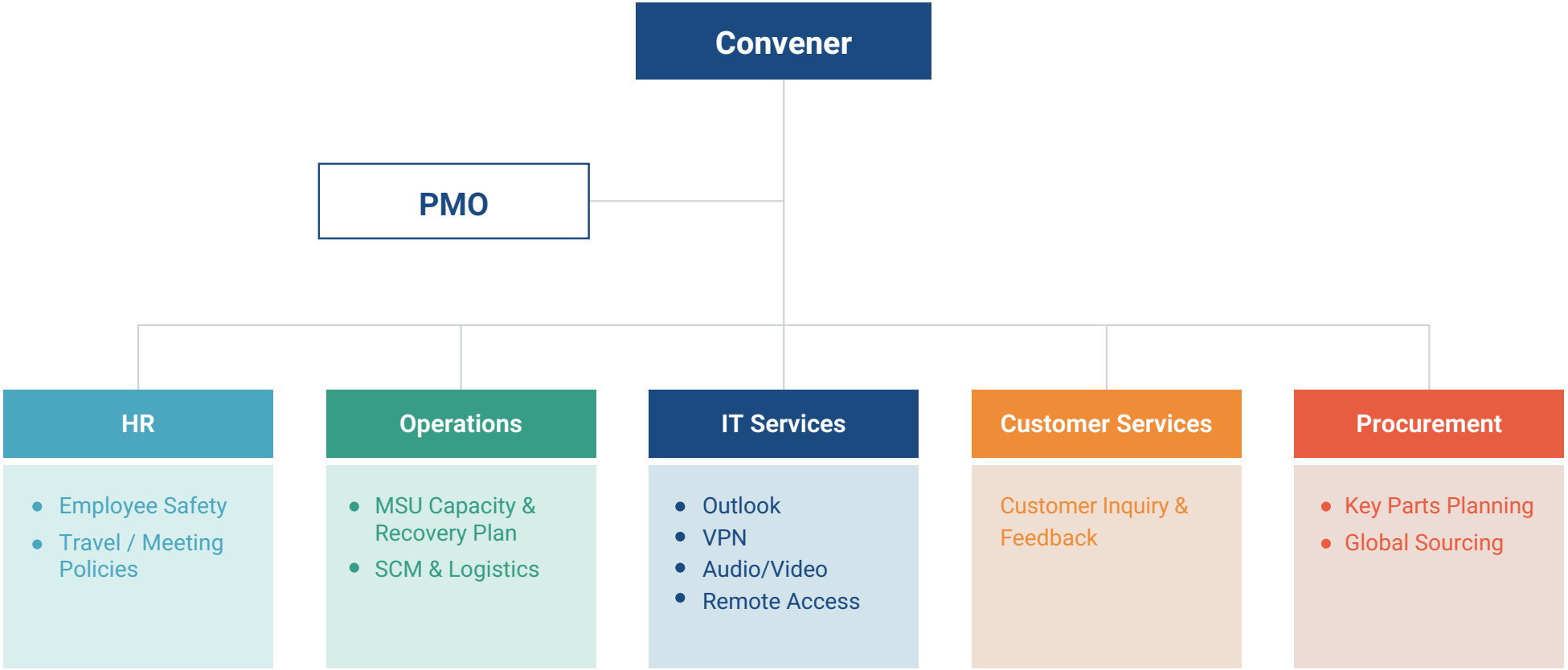


Figure 3.3.5 Advantech Headquarters Standard Handling Principles for COVID-19 Infected Colleagues

Colleagues or the Health Bureau shall give notification of the infection event

→

The Pandemic Preparedness Response Task Force and the HRP shall carry out the pandemic investigation and list close contacts

→

Precautions for non-close contacts:

- **Indirect colleagues**
  The floor in question shall be emptied for a full week of WFH
- **Direct colleagues**
  Work on the floor in question shall be halted for one day

→

All areas are to be thoroughly cleaned and disinfected and cleaning of public areas shall be strengthened

→

The Pandemic Preparedness Task Force and the HRP shall continue devoting attention to the monitoring of colleagues' health statuses, and shall assist colleagues in applying for emergency aid for infected persons depending on the situation

When the pandemic escalated in mid-2021, Advantech facilitated normal global operations by dividing employees into four shifts (designated A, B, C, and D). Externally, through letters to customers, letters to suppliers, exclusive mailboxes, and telephone calls, we could immediately respond to possible questions from customers and supplier partners around the world. Simultaneously, we also communicated through media messages to allow the outside world to grasp Advantech's latest status in real time. Attached below are Advantech's letters to customers and letters to suppliers.

Letters to Customers

Letters to Suppliers

4

Green Operations

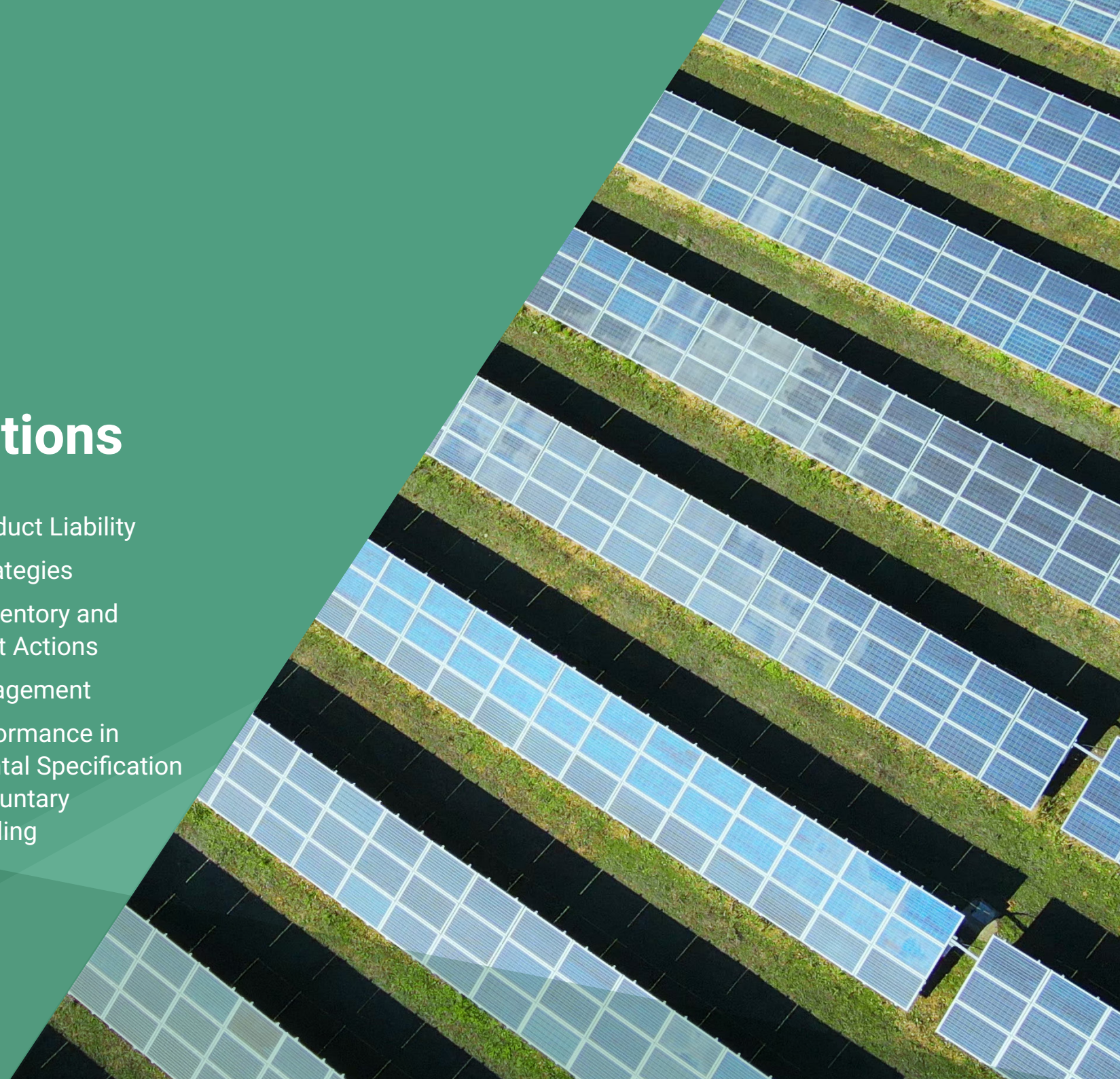
4.1 Eco Design and Product Liability

4.2 Climate Change Strategies

4.3 Greenhouse Gas Inventory and Energy Management Actions

4.4 Environmental Management

4.5 Appendix : Key Performance in Product Environmental Specification Compliance and Voluntary Environmental Labeling



4.1 Eco Design and Product Liability

Vision and Commitment

In respect to the global Sustainable Development Goals, Advantech is responding to SDG 9 (Industry, Innovation, and Infrastructure) and SDG 12 (Responsible Consumption and Production). Starting from raw materials, product design and extending into manufacturing and environmental management, we are gradually setting goals and introducing each item of the standards. We thus are willing to do our best to improve the environment, reduce environmental impact, and produce environmentally friendly products.

Management Guidelines for Major Topics/Management Structure

Major issues	Eco design and product liability
Materiality	Advantech is committed to providing eco design, eco manufacturing, eco energy products, long-term operations, and building a sustainable supply chain. Starting from product design is the most critical task, carrying out Eco Design-In from raw materials/packaging materials/energy consumption/ recycling to fulfill the responsibility of eco product management.
Management policy	• Eco design guidelines are established and introduced into the product development process, based on international regulations and horizontal diffusion to energy-saving standardized design. • We have fully launched the eco design reward and process system. • In terms of systematic management (dashboards), we have established a visual eco product dashboard to improve Advantech's eco product performance.
Goals and Effectiveness	In accordance with management policy objectives, every year we evaluate whether achievement of key performance indicators (KPIs) has improved in comparison with the previous year as a means of improving management.

Phased Achievements and Future Goals of Eco Design

Item	2021 Results	2022 Goals	2025 Goals
International Environmental Protection Regulations (Management of Hazardous Substances)	100% of raw materials continue to achieve compliance with mandatory international regulations and Advantech's standards for regulated substances.	100% of raw materials continue to achieve compliance with mandatory international regulations and Advantech's standards for regulated substances.	100% of raw materials continue to achieve compliance with mandatory international regulations and Advantech's standards for regulated substances. standard models
International Energy Conservation and Environmental Protection Labels Energy Star/ErP	Completion of trials for six specific models	Expanded the introduction of low energy consumption design to 15 new models	Completed the implementation of all standard models
Guidelines for Eco Design Standards	Improve eco design standards and guidelines and introduce them into the product development process	• 20% (Advantech's newly developed standard products meet the four requirements of eco design standards) • Strengthen low-energy design and expand horizontally (introducing compliance with ErP European Energy-Related Products Directive)	• 80% (Advantech's newly developed standard products meet the four requirements of eco design standards) • Strengthen low-energy design and expand horizontally (introducing compliance with Energy Stars/ErP European Energy-Related Products Directive)

Highlighted Projects or Performance Figures

100%	Review the latest international environmental protection needs every year, formulate Advantech's Green Policy Hazardous Substance Reduction Program, and achieve 100% of the target
100%	100% of raw materials continue to achieve compliance with mandatory international regulations and Advantech's standards for regulated substances.
New	Plan the internal Design Quality Assurance verification mechanism, and introduce into the product development process while accumulating the product energy consumption database

4.1.1 Eco Design

Eco-Product Target setting

In the second half of 2020, we formulated an eco-product innovation design project to promote higher standard eco design guidelines to R&D units. We encouraged the adoption of eco design innovation processes and invited product department proposals to participate in the internal selection.

We introduced the innovative design process of eco-products in stages while setting short, medium and long-term goals. In 2021, we completed our formulation of four major design criteria (packaging, materials, recycling, and energy consumption) and established an inspection system. In 2022, our target is that 20% of newly developed standard products should comply with eco design with full implementation, while 50% in should be achieved in 2023, and 80% of new products should meet the requirements in 2025.

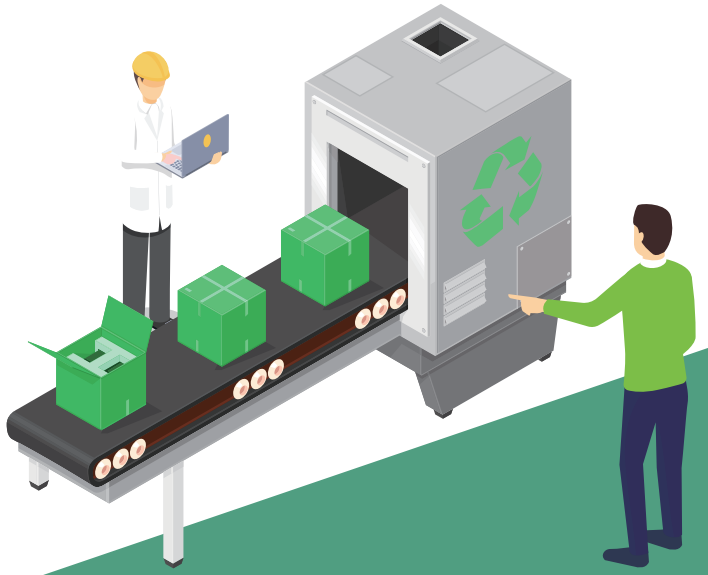


Figure 4.1.1 Eco Product Innovation Design Project

STEP 01

TRIAL RUN

Green design guideline trial implement

2020/11~2021/1

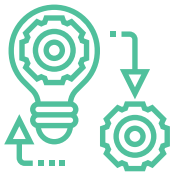
Objective

- Design guidelines established, producing eco product standards

Action

- Design guidelines established by the PMO Integration Committee
- Establish an eco product standard grading system (gold/silver)
- Each BG pilots a total of 6 new product introduction processes

STEP 02



IMPLEMENTATION

Apply to every SBU NPI projects

2021/2~2021/6

Objective

- Top-Down support is fully implemented in the NPI process

Action

- 2021/1~2021/3
  Product Division opens DCP to promote internalization
- 2021/4~2021/6
  Standard Top-Down thoroughly imple ments the eco design process

STEP 03

GOAL & GO

Focus on the most important goal

2021/7~2022/12

Objective

- Long-term establishment of eco quality management to check products
- Circular communication of product eco design optimization before the DCP process

Action

- Adjust each BG practice using adjustment flexibility according to implementation results
- Class A and A+ models fully introduced
- In 2022, 20% of new products to reach the silver level or above

Eco Product Design Management Mechanism

From the four product standpoints of (1) green materials, (2) green package materials, (3) product recycling, and (4) product energy saving, we design innovative eco products by formulating standards to evaluate product environmental impact from production and manufacturing to transportation, consumer use, recycling, disposal, and so on; and by complying comply with international regulations as well as customers' needs.

Figure 4.1.2 Eco Product Design Management Mechanism

Eco Product Management and Control Mechanism **Control Mechanism** **Establish expert evaluations and design guidelines, and link with the product development process**	• Eco Design Committee • Source design management • Introduce eco product development process
Eco Product Incentive Mechanism **Incentive reward system**	Eco Product Incentive Mechanism

Figure 4.1.3 Four Eco Product Design Standpoints

Interdepartmental Committee

We set up an Eco Design Management Committee, with Advantech's Project Management Optimization (PMO) convening relevant departments to formulate standards and to oversee their implementation, management, and inspection.

Figure 4.1.4 Eco Product Management Committee

Setting of Standards

Based on international environmental regulations or international assessment tools (such as the US Electronic Product Environmental Assessment Tool, or EPEAT) as well as our experience in serving brand customers, we have formulated and promoted eco design standard guidelines for energy efficiency, eco-design, and reduction of environmental toxic hazards, in the form of Advantech's Eco-Ecological Design Standard Guidelines. Furthermore, we provide tools for inspection standards that will offer certification when passed.

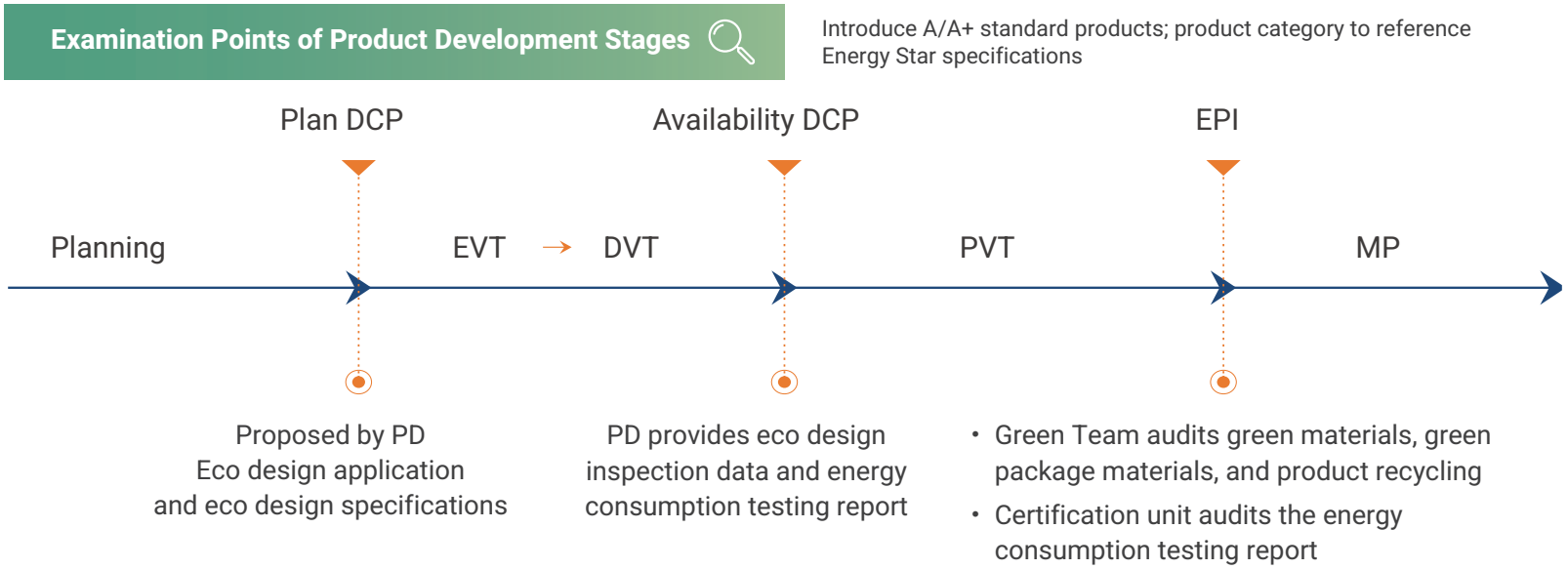
Table 4.1.1: Examples of Eco Product Design Content Planning

Product type	Key points in environmental design	Design content
Industrial panel PCs, servers, IPCs, and motherboards	Improve energy efficiency. Eco design. Reduce hazardous waste.	Conformance with provisions of European Union RoHS Directive, China RoHS, Taiwan BSMI RoHS, IEC62474
		Conformance with substance restriction requirements of the European Union Battery Directive
		Reduction of Bromine and Chlorine content of plastic parts >25 grams
		Conformance with supply chain communication provisions of European Union REACH Regulation
		Elimination of added heavy metals in packaging
		Restriction on the use of elemental chlorine as a bleaching agent in paper-based packaging material
		Enhancing recyclability of packaging materials
		Recycled fiber in corrugated packaging
		Design for repair, reuse and recycling
		Design for plastics recycling
		Product recyclability calculation and minimum 90% recyclability rate
		Information and reporting in preparation for reuse and recycling
		Replacement components availability
		Energy efficiency

Examination of Product Development Stages

With management from the source, we set up relevant departments at each check point in the design and development stage to ensure quality and adherence to eco design goals.

Figure 4.1.5 Eco Product Innovation Design Projects



Eco Design Award System

We offer rewards to encourage colleagues within the Company to design environmentally friendly eco products and produce eco benchmark products for Advantech

Figure 4.1.6 Outstanding Eco Product Awards

Eco-Excellence Product Award

Eligibility Taking each product as a unit, products comply with the Green Design Guidelines.Prizes are awarded according to the level

Golden Medal Overall compliance with Advantech's gold-level definition of eco design specifications and has passed the Energy Star standard.

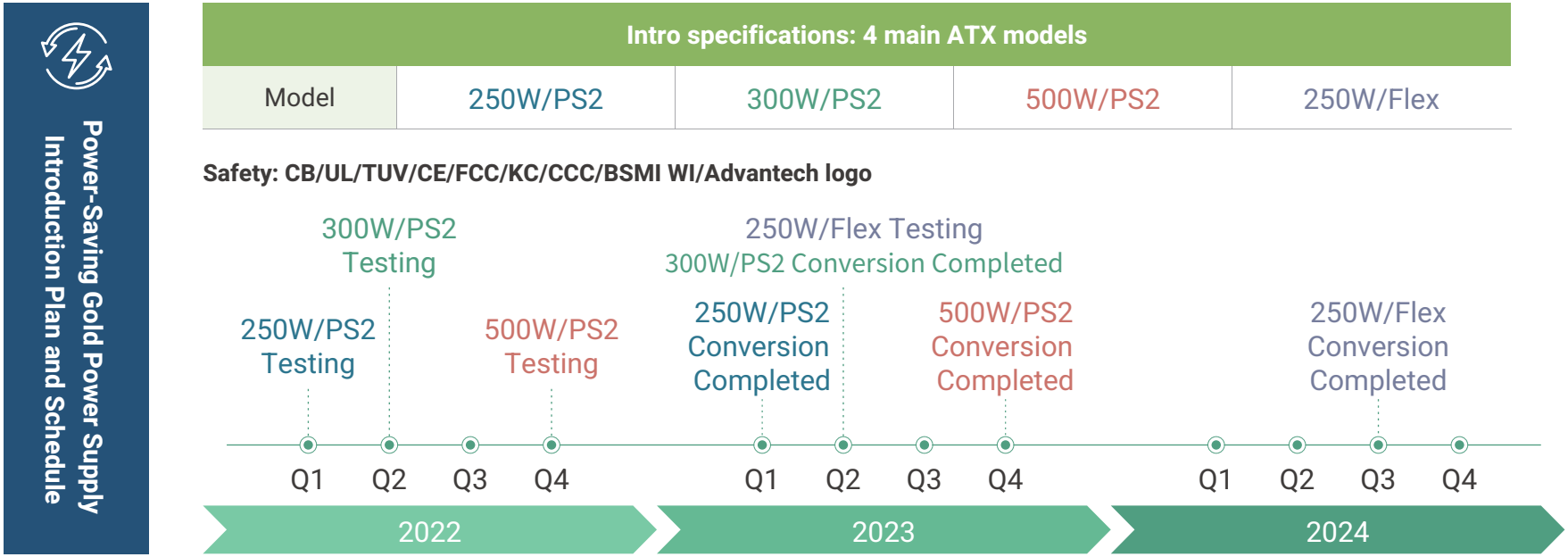
Silver Medal Overall compliance with Advantech's silver-level definition of eco design specifications.

Review key points Green materials · Green packaging materials · Product Recycling · Product Energy-Saving

Action Plan

1.The R&D Technical Committee has carried out horizontal high-efficiency and energy-saving design across business groups, introducing a high-efficiency power module strategy and choosing choose power modules with energy savings and high conversion efficiency for improvements at the source. Advantech plans to improve the replacement strategy for power modules in the next three years.

Figure 4.1.7 Power-Saving Gold Power Supply Introduction Plan and Schedule



2.Developed a publicly-available version of standard energy-saving design circuit modularization: starting from material selection and from software and hardware design optimization. (This refers to the Erp & Energy Star international regulations on energy efficiency optimization to accelerate the internalization of energy-saving design.)

Figure 4.1.8 Internalization of Energy-Saving Design R&D

3.Established a mechanism for eco design situation room management: with direct management through the Eco Design Dashboard and the support of the Executive Top down, the import status of the four standpoints is regularly converted into carbon reduction effects and the status is checked monthly. The goal in 2022 is to introduce 20% high-efficiency eco products.

Figure 4.1.9: Eco Design Dashboard Inventory Implementation Plan

Index	2022 Q1			2022 Q2			2022 Q3			2022 Q4			Input cost/ Estimated (kSNTD)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
New products energy-saving design													
Number of cases eligible for Energy star	-	-	-	-	-	-	-	-	-	-	-	-	6,140
SBT carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	
Target carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	
New products use green packaging materials													
Used recycled pulp in package(ton)	-	-	-	-	-	-	-	-	-	-	-	-	0
Carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	
Target carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	
New products increase recycling rate													
Import type (type)	-	-	-	-	-	-	-	-	-	-	-	-	38,054
Carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	
Target carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	
New products use green materials													
Import type (type)	-	-	-	-	-	-	-	-	-	-	-	-	38,054
Carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	
Target carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	
Total													
Actual total carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	38,054
Target total carbon reduction (ton)	-	-	-	-	-	-	-	-	-	-	-	-	

Performance Presentation

Advantech is expected to develop silver medal eco design product models in 2021~2022

Product Number	Product Type
TPC-107W-N31A	Computers and computer servers
UNO-127-E22BA / UNO-127-E23BA	
IPC-610 (AIMB-708) / IPC-320 (AIMB-308)	
PPC-415 / PPC-112W	
POC-621	
VEGA-7110-75R	
VEGA-6301M	

4.1.2 Product Liability

Advantech reviews the current status of hazardous substances management every year in accordance with international regulations, customer requirements and environmental trends, doing so in order to reduce environmental and ecological impact, fulfill corporate responsibility for environmental sustainability, meet the expectations of stakeholders, and continue to adhere to the requirements of international regulations. We have thus formulated Advantech's Green Policy (Hazardous Substance Reduction Program), and we regularly update Advantech's eco product rules for the management of hazardous substances. These in turn are managed through an green supply chain management platform.

Figure 4.1.10: Advantech's Green Policy - Hazardous Substance Reduction Program

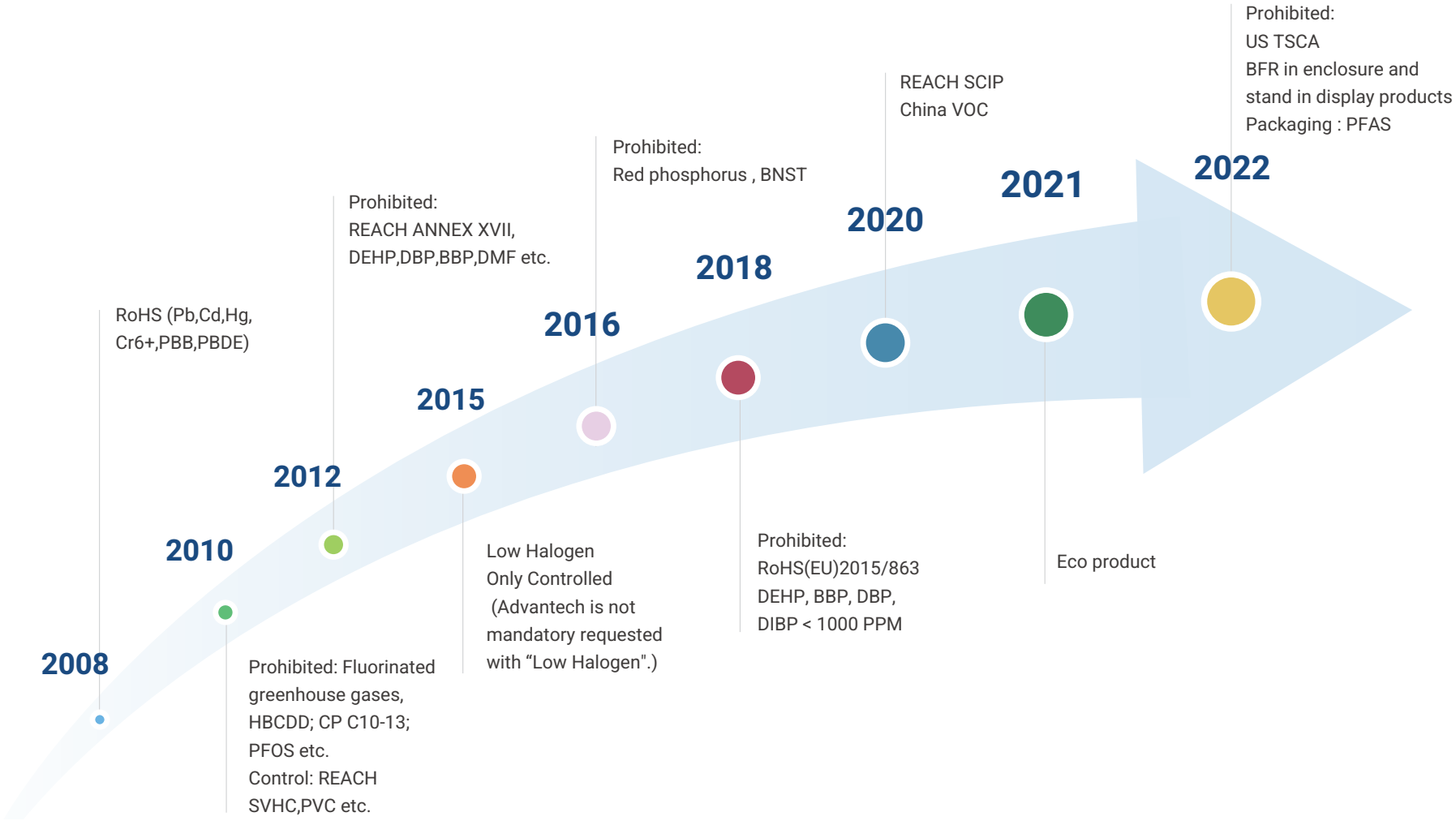
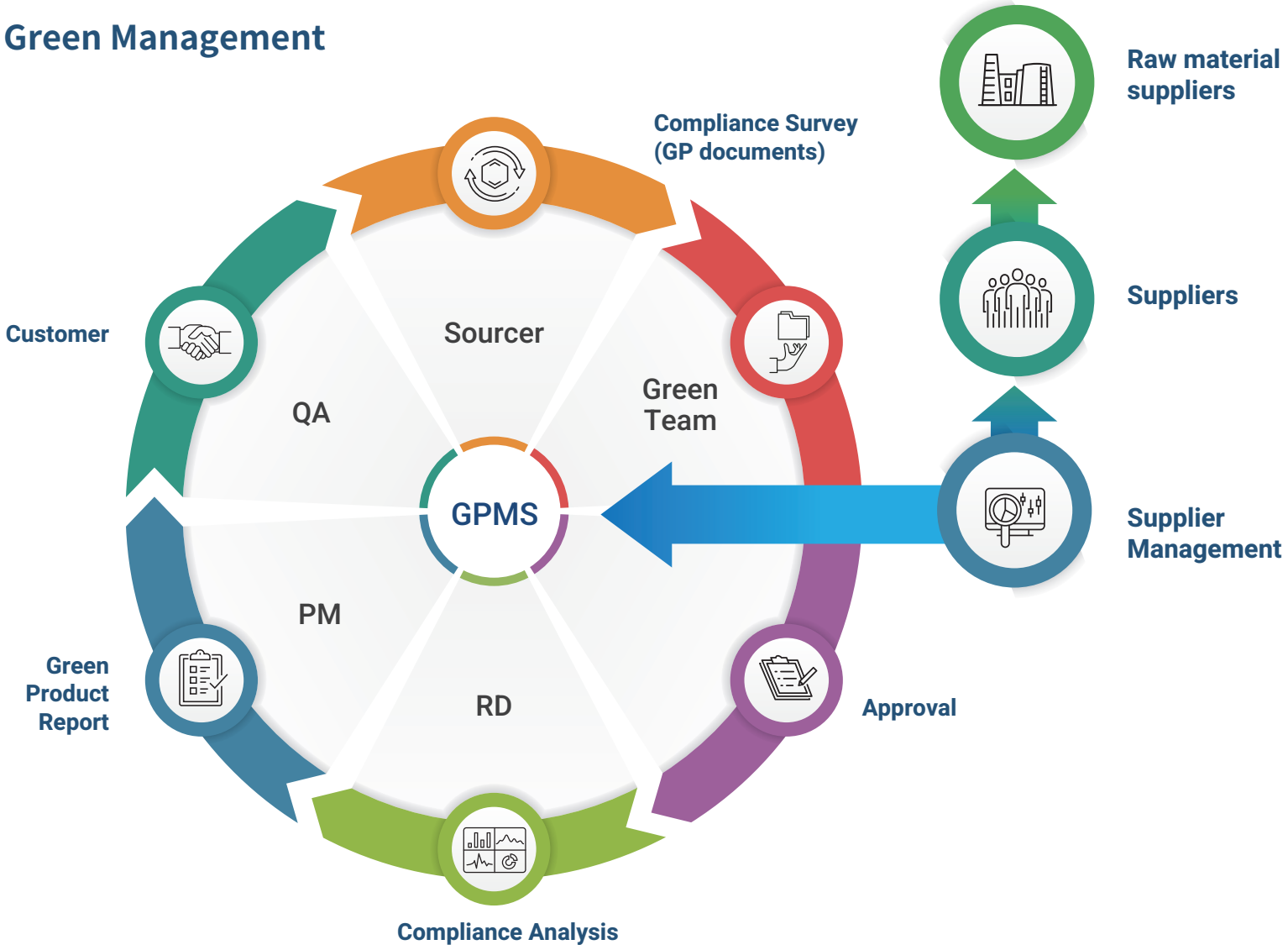


Figure 4.1.11 Green Supply Chain Management Platform GPMS

Advantech established a Green Supply Chain management system in 2010. On this supply chain platform, suppliers must promise and guarantee that their products do not contain harmful substances listed by the Company, and provide supporting documents for future reference. We optimize this platform every year, activate the database, and form an effective green supply chain. Advantech has introduced its hazardous substance management system since 2010. We uphold the spirit of strict quality management, continuously controlling every aspect of product responsibility. From 2018 to 2021, the products were in compliance with relevant regulations.

Figure 4.1.12 Green Supply Chain Management Process



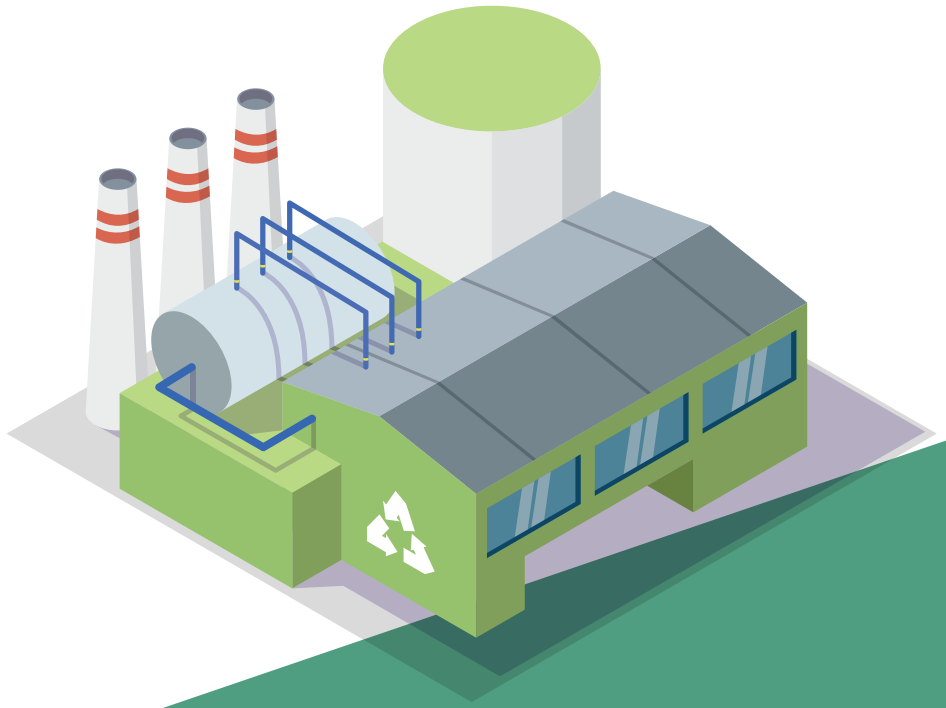
Case Focus: Sony Green Partner*

Beginning in 2012, Advantech has become a Sony Green Partner. From component partners to OEM partners, we have challenged many levels. In recent years, only document review is required, and certificates can be directly extended. Becoming a Sony Green Partner shows that Advantech's green management performance is highly recognized by customers.

*Note: Sony Green Partner certification ensures that all links from procurement to production and delivery are systematically controlled for the green product management system. It minimizes the risk of introducing any kind of non-environmentally friendly substance into products while enhancing customer products to continuously meet the requirements of environmental protection substance standards. It serves as the best partnership to maintain Advantech's environmental requirements and commitments to products, and offering product lines that meet more updated environmental concerns.

Product Recycling

In response to the specifications of WEEE and sustainable product design and development, we re-examined our cooperative product recyclers and start to replace those located in Europe at the end of 2020. (Recycling countries include Sweden, Denmark, Austria, Italy, Netherlands, Poland, Spain, the United Kingdom, France, and Germany.) We have made plans with a life cycle thinking approach and calculated the tonnage of product recycling based on the annual effective recycling data provided by the recyclers. It has been confirmed by Advantech Europe's Netherlands branch that recycling and processing data requires cross-year statistics. Full data is expected in 2023.



Future Direction

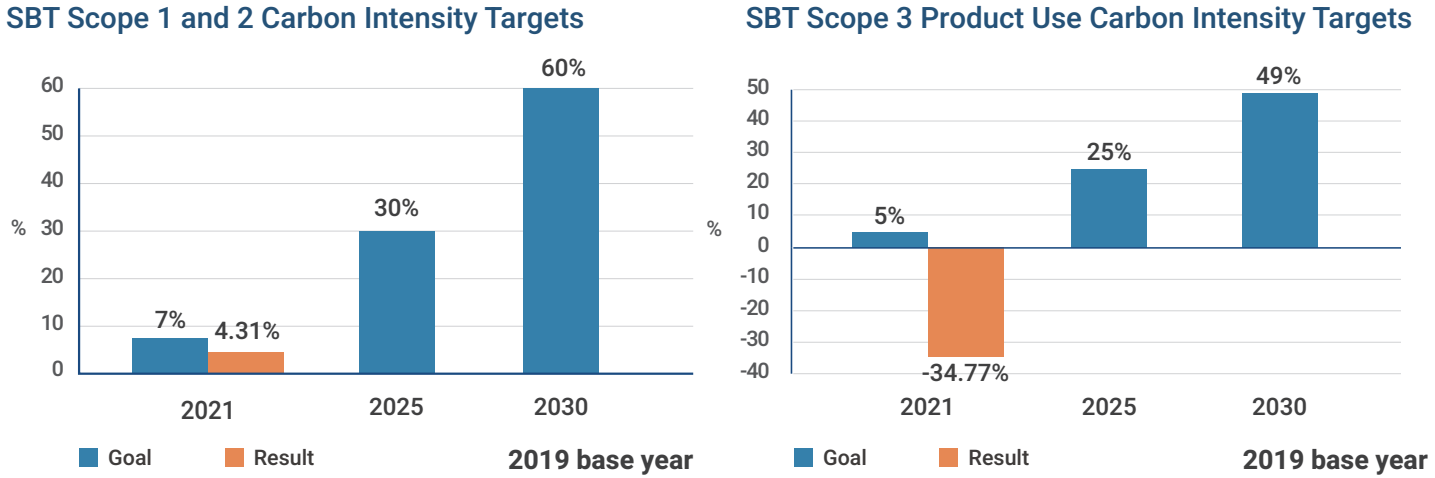
Advantech has always adhered to the concept that products follow a life cycle. In the future, we anticipate using life cycle assessment (LCA) and product carbon footprints to quantify the impact of Advantech's products on the environment. The assessment project includes the carbon emissions from the extraction, manufacturing, distribution, use and final disposal of upstream raw materials, and will further set carbon reduction targets and take actions to implement the reduction, which will be incorporated into the Company's operational management goals.

4.2 Climate Change Strategies

Advantech has included climate change as one of the major risk projects of corporate sustainable management, and has managed it according to the two standpoints of "mitigation" and "adaptation." At the same time, we are also actively identifying risks, building adaptation capabilities, further researching and analyzing opportunities for climate change, and accumulating and deepening R&D momentum. We continue to invest in eco energy and in energy-saving products and solutions, and we are integrating them with the core business of energy management to promote energy conservation and sustainability.

Advantech set a Science-Based Target (SBT) for carbon reduction in 2021. Using 2019 as the base year, we proposed targets of reducing the carbon intensity of Scope 1 and Scope 2 products by 60% by 2030, and reducing that of Scope 3 products by 49%. Furthermore, we passed a compliance review organized by the Science-Based Targets Initiative (SBTi). This makes us the third technology industry company in Taiwan to pass such a review, and we continue to move forward in pursuit of these goals.

Figure 4.2.1 Advantech's SBT Targets



*Note: Having set 2019 as the base year, Advantech applied for SBT targets in 2021; hence, 2021 marks the first year of carbon reductions and the period in which the relevant carbon reduction plans were drawn up. Therefore, relevant results will only be available from 2022. For the relevant product carbon reduction plan, please refer to the action plan given in 4.1.1.

4.2.1 TCFD Governance Structure and Climate Management Strategy

Businesses face potential operational shocks from the extreme climate events caused by climate change; from the low-carbon transition pressure brought about by the aggressive carbon reduction targets among a range of countries; and from the carbon reduction requirements imposed upon the upstream and downstream of the value chain. The world faces a need to gradually strengthen the connection between identifying climate risks on the one hand and financial impacts on the other. Under the impetus of our ESG Corporate Sustainability Committee ("the ESG Committee"), Advantech responded to this trend in 2021 by having the ESG Office integrate cross-departmental resources and introduce the Task Force on Climate-related Financial Disclosures ("the TCFD"). In accordance with the recommendations of the TCFD guidelines, we have taken a systematic approach in measuring the climate risks and opportunities faced by the Company, and have thoroughly evaluated the climate change risks that the existing risk management procedures that the Pan-Operational Risk Map focuses on. Evaluation results and response plans have also been reported to the senior management of the ESG Committee for confirmation. Furthermore, the ESG Committee regularly reports the progress of climate management to the Board of Directors, so as to enhance the Company's resilience in dealing with climate risks.

Advantech's Climate Governance Framework			
Governance	Board of Directors	• The highest supervisory unit for risk management (including climate risk) • Review major climate-related goals and implement budgets	• Oversee climate risk management and strategies to drive results
	Chairman	• Chair the ESG Committee and leading the management mechanism for climate issues	• Confirm climate-related KPI targets and action plans
	ESG Corporate Sustainability Committee	• The main authority and decision-making unit of climate risk management • Regular reporting to the Board on climate management progressmanagement progress • Review climate-related risk and opportunity assessment results and response strategies	• Approve climate risk disclosure report • Monitor the implementation of climate issues and review KPIs
	ESG Office	• Coordinate the execution of climate-related risk and opportunity analyses and integrated disclosure report • Promote climate-related action programs and report progress to ESG Committee quarterly	• Research and analyze climate policy and scientific research development trends; regularly monitor climate risk events
	Board Oversight	• The ESG Committee regularly reports climate-related management plans and results to the Board of Directors, while the Board of Directors reviews relevant major goals and budgets	• In 2021, the Board of Directors decided to approve Advantech Taiwan's eco power target and renewable energy PPA procurement budget, and a project for cooperating with renewable energy companies to set up solar power plants
	High-Level Management Mechanism	• Led by the Chairperson, the ESG Committee holds meetings each quarter. The ESG Office reports on trends in climate-related issues, strategic planning, and implementation progress. Meanwhile, the ESG Committee monitors the performance of its goals and reviews climate-related risks and opportunities assessment results and response strategies	

	Disclosed Aspects	Advantech's Implementation Status
Strategy	Short-, medium-, and long-term risks and opportunities	• Advantech has identified six risks and five opportunities that are of material importance to the Company in view of their impact levels. We have made these identifications with reference to the TCFD guidelines on risk and opportunity issues and their financial impacts, combined with operational bases and industry analysis. • "Short," "medium," and "long-term" are respectively defined as three years, three to five year s, and more than five years in assessing when each issue is likely to occur
	Potential impacts and financial planning	• We qualitatively assess the possible financial impact of each major risk and opportunity. Based on this, we develop preventive and improvement measures and formulate KPI goals.
	Situational Analysis	• We analyze carbon reduction amounts and the financial impact on the Company based on Beyond 2 Degrees Scenario (B2DS) and the 1.5 Degree Scenario (1.5DS) of the International Energy Agency (IEA). In addition, we also use the RCP8.5 high-warming scenario to analyze physical impacts on operations so that we might include them in the assessment of the resilience of the adaptation strategy.

	Disclosed Aspects	Advantech's Implementation Status
Risk Management	Evaluation and Management Process	• Every year, the ESG Office convenes its members across departments to collect and review the Company's climate risk and opportunity factors. Through their levels of impact and likelihood, it assesses major climate issues, monitors changes in risk levels, reviews and develops response strategies, and reports them to the ESG Committee for resolution. As well as reviewing relevant disclosures, the ESG Committee makes regular reports allowing the Board of Directors to monitor the progress of climate risk management and review major relevant decisions
	Overall Risk System Integration	• At the beginning of each year, the Risk Management Task Force evaluates the Company's overall operational risks according to risk management procedures, and it draws a pan-operational risk map in reporting the risk management process and planning to the Board of Directors. Climate change risk will be included in the assessment process from 2021. We identify its risk level in line with the main investigation of the Audit Office and cooperate with the ESG Office to evaluate and identify its risk level • This year, the complete evaluation process of TCFD was introduced. The assessment practices and results will be applied to the climate change risk analysis in the above risk map, integrating it into the overall risk management process

	Disclosed Aspects	Advantech's Implementation Status
Metrics and Goals	Greenhouse Gas Scope 1, 2 and 3 Emissions and Targets	• Passed SBT Science-Based Target Carbon Reduction Review • Each year, Advantech Taiwan and Advantech Kunshan each complete ISO 14064-1 greenhouse gas inventory, verification, and target tracking
	Other climate-related management indicators and targets	• We have set targets for power saving, use of renewable energy, water saving, and eco products as percentages of revenue as well as energy efficiency improvement of product power supplies • We are planning to introduce the ISO 50001 energy management system and LCA life cycle carbon footprint assessment of main products. In the future, management indicators and goals will be set for related strategies

*Note: The corresponding names of greenhouse gas categories under the new version of ISO14064-1 are divided into: Scope 1, corresponding to Category 1; Scope 2, corresponding to Category 2; and Scope 3, corresponding to Categories 3 to 6.

4.2.2 Identification of Climate-Related Risks and Opportunities, and Financial Implications

Advantech's ESG Office convenes members across departments to define risks and opportunities in accordance with the TCFD guidelines. In addition, it undertakes multi-faceted topic collection, cross-departmental discussions, and external consultation to specifically identify Advantech's major risks and opportunities and the corresponding potential scenarios of occurrence and impact levels, and to analyze the possible financial impacts. Furthermore, we focus on industry characteristics and international contexts in three major aspects: operations (reductions and natural disasters), product and supply chains, and markets. We do so in order to facilitate the inventory of climate risks and opportunities at the Company's overall level, and to accurately propose relevant strategic countermeasures.

Collection of Risks and Climate Factors

- Refer to TCFD to define issues, track local regulations and market trends
- Analysis of international scientific research reports
- Analysis of related issues in the industry

Focus on 13 risks and 8 opportunities

Analysis of Materiality and Financial Impact

- Organize workshops to discuss the actual situation of various topics and evaluate their operational impact
- Assess the likelihood and extent of impact
- Refer to the views of outside expertsindustry

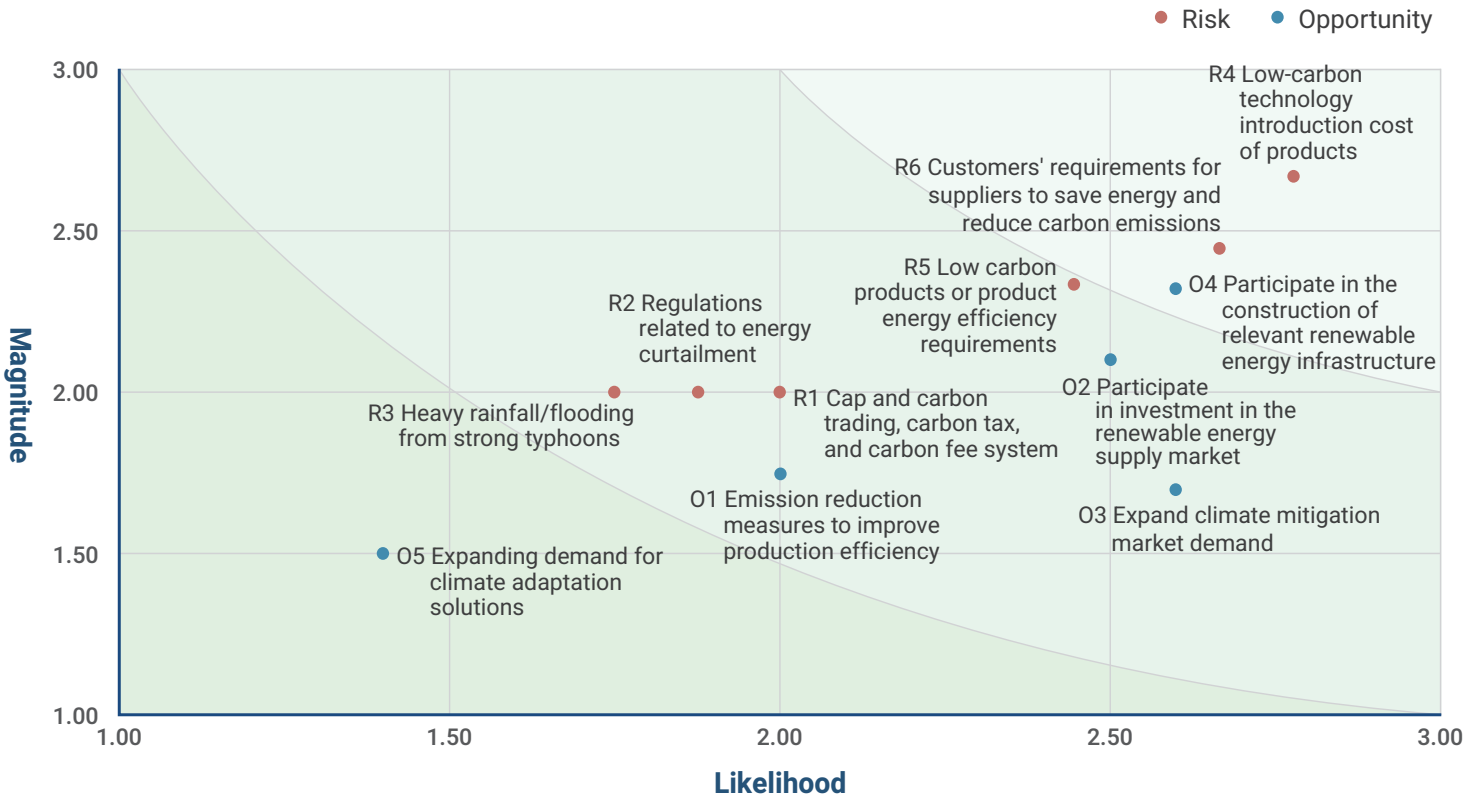
Convergence of 6 risks and 5 opportunities

Evaluation of Strategic Response and Refinement

- Take stock of measures to address risks or realize opportunities
- Engage in sustainability trend and industry benchmark analysis and adjust response strategies

Evaluate various strategy-oriented improvement programs to effectively manage the associated risks and opportunities

Figure 4.2.2 Materiality Matrix for Advantech's Climate Risks and Opportunities



Climate Risks, Opportunities, and Strategic Countermeasures

Climate Risk　Climate Opportunity

Category		Risk or Opportunity Issue	Risks or Opportunities Faced by Advantech	Level	Impact Period	Financial Impact	Advantech's Response Strategy
Operations	Transformation risk	Cap and carbon trading, carbon tax, and carbon fee system	Regarding the implementation of greenhouse gas-related regulations, this may require the purchase of credits or mandatory carbon-related fees	Medium	Medium term	• Increased operating costs	• Replace high energy-consuming equipment and establish a Building Energy Management System (BEMS) • Invest in eco energy equipment for factories and offices • Strengthen the maintenance and testing of the uninterruptible power system, and establish contingency measures for power curtailment • Set carbon reduction KPIs for each department • Plan to import ISO 50001 energy management system
		Regulations related to energy curtailment	Taiwan's electricity diversion and China's electricity curtailment policy have caused interruptions in water supply and power supply, increasing equipment damage and UPS maintenance costs	Medium	Short term	• Increased operating costs • Increased capital expenditures • Causing business interruptions and reduced revenues	
	Opportunities	Emission reduction measures to improve production efficiency	Emission reduction measures such as replacing old equipment and adjusting the operation mode of reflow furnaces to improve energy and resource utilization efficiency and operational resilience	Medium	Short term	• Save operating costs	
	Physical risk	Heavy rainfall/ flooding from strong typhoons	Heavy rainfall exceeding the maximum capacity of the drainage system; operational interruptions such as power outages caused by flooding	Medium	Short term	• Increased capital expenditures • Reduced asset value • Causing business interruptions and reduced revenues	• Establish a business continuity plan (BCP) and exception handling procedures, and conduct regular drills • Strengthen the maintenance and testing of drainage facilities and anti-flooding operations; evaluate the configuration of power generation facilities and add energy storage equipment • Plan to conduct risk assessment of operating bases based on external data and scenarios of climate flooding potential; develop warning levels and countermeasures
Product / Supply Chain	Transformation risk	Low-carbon technology introduction cost of products	Increased demand for low-carbon products. Additional costs such as design and development, replacement of environmentally friendly materials, and safety certification fees for the introduction of derived low-carbon technologies	High	Short term	• Increased operating costs	• Set up an eco-design management committee, for four product aspects: green materials, green package materials, product recycling, and product energy-saving. Refer to international standards to formulate eco design standard guidelines • New product or material design to incorporate energy efficiency standards and existing product design changes to achieve energy efficiency goals • Products strengthening environmental protection materials and service life extension design
		Customers' requirements for suppliers to save energy and reduce carbon emissions	Increased requests from customers to investigate Advantech's greenhouse gas emissions, carbon reduction targets, and measures; derived carbon reduction pressures and associated costs	High	Short term	• Increased operating costs • Effect on orders, and reduced revenues	

Category		Risk or Opportunity Issue	Risks or Opportunities Faced by Advantech	Level	Impact Period	Financial Impact	Advantech's Response Strategy
Product/ Supply Chain	Transformation risk	Low carbon products or product energy efficiency requirements	The EU ErP Energy Efficiency Directive expands the scope of control, and those who do not meet the energy efficiency requirements may face a decline in sales. In response to the demand for low-carbon products, we have voluntarily introduced the US Energy Star standard to expand our competitive advantage	Medium	Short term	• Increased operating costs • Effect on shipments, and reduced revenues	• Adjust the weight and size of the packaging materials to reduce material usage and carbon emissions from transportation • Strengthen communication between suppliers and customers, facilitating the procurement of green materials and the launch of compliant products • Conduct ESG risk investigation, assessment and coaching improvements for suppliers; planning requires key/high energy-consuming suppliers to conduct carbon inventories • Plan to import LCA product life cycle carbon footprint assessments for main products
Market	Opportunities	Participate in investment in the renewable energy supply market	Invest in the eco energy industry in line with the tightening of renewable energy regulations and the trend of RE100, such as setting up a solar power plant with micro-electric energy; develop relevant market opportunities	Medium	Short term	• Increased revenue	• Invest in renewable energy companies or cooperate with their technology to ensure the supply of eco electricity in the future; and improve the cloud management platform technology related to the new energy field • Integrate IoT products, solutions and technical services; expand applications in client energy management, eco energy, and energy storage equipment, environmental monitoring, etc. • Regional business units and the emerging business opportunity division can instantly grasp new business opportunities in climate-related markets, formulating business development plans • Plan and quantify eco revenues from low carbon/climate related solutions
		Expand climate mitigation market demand	In respect to the global acceleration of expanding net zero emission goals and demand derived from carbon control policies, Advantech's IoT software and hardware products are entering the climate mitigation application market in areas such as energy information management systems	Medium	Short term	• Increased revenue	
		Participate in the construction of relevant renewable energy infrastructure	In response to the development needs of renewable energy, we are developing intelligent maintenance and monitoring solutions related to energy and energy storage equipment, e.g., in renewable energy communication gateways, thereby increasing market share in the new energy industry	High	Short term	• Increased revenue	
		Expanding demand for climate adaptation solutions	Intensified climate change will bring adaptation needs, and Advantech is integrating IoT technology to provide solutions for landslide and flood control monitoring, sponge cities, intelligent agriculture, etc. to tap into emerging adaptation opportunities	Low	Medium term	• Increased revenue	

*Note:
1.Impact level: conduct internal assessments based on the likelihood of occurrence and the degree of impact, dividing them into "High," "Medium," and "Low."
2. Impact period: considering when occurrence might happen, divided into "short term (<3 years)," "medium-term (3-5 years)," and "long-term (>5 years)."

4.3 Greenhouse Gas Inventory and Energy Management Actions

Advantech adheres to the original devotion to the idea of being a global citizen, and to the corporate purpose of living a happy life. We are thus willing to contribute to environmental improvement and labor safety maintenance. Advantech has gone beyond introducing the ISO 14001 environmental management system in 1996 and the OHSAS 18001 occupational safety and health management system in 2005 (revised in 2020 to ISO 45001). In addition to complying with the relevant government environmental protection and labor safety and health laws and regulations, we are also committed to reducing the impact on overall environmental safety and health in the greenhouse gas management, product design, product use, and disposal stages. And through the participation and commitment of all employees, we can achieve the goal of environmental protection and sustainable development of the business. This chapter's writing scope covers Taiwan factories region and Kunshan factories, together accounting for 94% of total revenue; there is also further disclosure of a small amount of information concerning our Japan factories.

Management Guidelines for Major Topics/Management Structure

Major issues	Greenhouse gas inventory and energy management actions
Materiality	Global climate change is an important issue for humankind at present. We are committed to reducing greenhouse gas emissions and energy consumption, implementing greenhouse gas inventory, and promoting energy and resource conservation and management. We look forward to fulfilling our responsibilities for global environmental protection and creating a sustainable green industry.
Management policy	• Comply with all energy and carbon management regulations and target zero violations. • Identify risks posed by climate change and respond accordingly. • Set short-, medium- and long-term goals for energy conservation and carbon reduction and formulate practical practices and promote them.
Goals and Effectiveness	In accordance with management policy objectives, every year we evaluate whether achievement of key performance indicators (KPIs) has improved in comparison with the previous year as a means of improving management.

Item	2021 Results	2022 Goals	2025 Goals
Energy Management	• Advantech's overall GHG emission density per unit of revenue decreased by 16.49% compared with 2020 • The annual reduction of energy consumption per unit of output value in the Taiwan manufacturing area is 16.32%; the annual reduction of energy consumption per unit area in the office area is 6.60%; and the annual reduction of absolute electricity consumption is 1.51%. • Due to the expansion of waste gas treatment equipment in Kunshan the Plant, the annual increase in energy consumption per unit output value in the manufacturing area is 16.70%; the annual increase in energy consumption per unit area in the office area is 9.24%; and the annual increase in absolute electricity consumption is 42.92%. • Overall energy use of the Japan factories was reduced by 10% compared to 2019. • The Intelligent Energy Management System (iEMS) has been introduced in Linkou and Kunshan.	• Manufacturing (factories) annual reduction target of electricity consumption per NT$10,000 of output value: Taiwan 7.77%, Kunshan 16.47% • Regarding building energy savings in office areas, the annual reduction targets of electricity consumption per square meter: Taiwan 2.21%, Kunshan 2.13% • Overall energy use target of the Japan factories: reduction of 10% compared to 2019.	Advantech's overall GHG emission density per unit of revenue decreased by 30% compared with 2019
Renewable Energy Development	• Solar panel power generation at Linkou Plant to account for 4.5% of total electricity consumption. • Announce green energy targets and invest in solar power plants.	Complete investment in eco energy field power generation facilities.	Advantech Taiwan to use renewable energy to account for 46% of its total electricity consumption.

-16.49%	In 2021, the Company's overall* GHG emissions per unit of revenue decreased by 16.49% compared with 2020	**-2.75%**	In 2021, the Company's overall* power consumption per unit of revenue decreased by 2.75% compared with 2020
B List	2021 CDP Climate Change Questionnaire, Awarded B List	**-1,700 up**	In 2021, Advantech's main factory regions (Taiwan and China) will invest in a total of 25 energy-saving solutions, and the overall carbon reduction will exceed 1,700 tons/year

*Note: Taiwan and Kunshan

4.3.1. Greenhouse Gas Inventory and Management

Advantech is creating a low-carbon business environment. Based on Taiwan's Greenhouse Gas Reduction and Management Act, and on the quantification, monitoring, reporting and verification procedures for greenhouse gas inventory provided by the ISO 14064-1 standard, we established a Greenhouse Gas Inventory Promotion Committee in order to promote various tasks connected to greenhouse gas inventory and reduction. We have done so with a view of reducing direct and indirect greenhouse gas emissions year by year. In 2011, we also joined the Carbon Disclosure Project (CDP) and have disclosed the Company's carbon reduction plans and performance annually.

Greenhouse Gas Inventory

Advantech's Taiwan factories make reference to ISO 14064-1 and to the GHG Protocol Evaluator Tool, in addition to requiring self-inspections. Furthermore, third-party on-site inspections have been carried out by Taiwan SGS Limited starting from 2019. Organizational boundaries are drawn in reference to the suggested requirements given by the ISO 14064-1:2018 standard. Organizational boundaries are set with operational control rights, and domestic and overseas subsidiaries are not included; furthermore, we establish the Company's greenhouse gas inventory management procedures and inventory reports, and we redefine the emission source inventories. Organizational boundaries include Rueiguang Headquarters, Taipei Sunny Building, the Donghu Factory, and the Linkou Campus. In addition to the qualitative and quantitative inspections of Category 1 (direct GHG emissions) and Category 2 (indirect GHG emissions associated with energy production), the scope of inventory inspections also involves conducting inventory of some items in Categories 3 and 4 (indirect greenhouse gas emissions).

In Category 1 (direct GHG emissions), Advantech's Taiwan factories emitted a total of 629.9276 metric tons of CO_2e. The emissions of each region are shown in Table 4.3.1.

Advantech's Kunshan factories conducted their first 2014 annual ISO14064-1 greenhouse gas emission inventory in 2015, and a third-party on-site inspection was conducted by the China Quality Certification Center (CQC). As a result of the 2021 inventory, it was found that Advantech's Kunshan region produced a total of 2,741.26 metric tons of CO_2e in Category 1 (direct GHG emissions).

Table 4.3.1 GHG Category 1 Emissions of Advantech's Main Factories in 2021

Region \ Greenhouse gas		Carbon dioxide (CO_2)	Methane (CH_4)	Nitrous oxide (N_2O)	Hydrofluorocarbons (HFCs)	Perfluorocarbons (PFCs)	Sulfur hexafluoride (SF_6)	Nitrogen trifluoride(NF_3)	Total (CO_2e mt)
Taiwan	Rueiguang Headquarters	0.2992	-	-	113.3860	-	-	-	113.6852
	Taipei Sunny Building	0.5246	-	-	108.9025	-	-	-	109.4271
	Donghu Factory	0.1551	-	-	-	-	-	-	0.1551
	Linkou Campus	29.8074	0.0168	-	376.836	-	-	-	406.6602
China	Kunshan Factory	1,855.5891	26.1853	5.0978	854.3865	-	-	-	2741.2587
Japan	Japan Factory	Not counted	Not counted	Not counted	Not counted	Not counted	Not counted	Not counted	Not counted
Total		**1,886.3754**	**26.2021**	**5.0978**	**1,453.5110**	**-**	**-**	**-**	**3,371.1863**

*Note:

1.The Taiwan Donghu Factory has no direct combustion source, and most of the equipment containing refrigerant is R22 refrigerant (which is controlled by the Montreal Protocol and is not included in inventories), so its emissions are zero.

2.Plant expansion in Kunshan, China.

Among Advantech's Taiwan factories, Category 2 emissions (indirect GHG emissions associated with energy production) only involve the use of purchased electricity. Carbon emissions are calculated based on the 2020 electricity coefficient of 0.502 kg CO_2e announced by the Bureau of Energy of the Ministry of Economic Affairs, for a total of 9,654.05 metric tons of CO_2e. For Advantech's Kunshan factories, Category 2 emissions (indirect GHG emissions associated with energy production) including the use of purchased electricity and purchased steam for a total of 19,036.17 metric tons of CO_2e. Carbon emission calculation of electricity refers to the 7.2.2 grid emission factor of 610.10 kg CO_2e in "Guidelines for Accounting Methods and Reporting of Corporate Greenhouse Gas Emissions for Power Generation Facilities." Carbon emissions calculations for steam refer to an emission factor of 110 kg CO2/GJ for steam given in "Guidelines for Accounting Methods and Reporting of Greenhouse Gas Emissions of Enterprises in Other Industries." Among Advantech's Japan factories, Category 2 emissions (indirect GHG emissions associated with energy production) only involve the use of purchased electricity. Carbon emissions are calculated based on the electricity coefficient of 0.598 kg CO_2e announced by Japan, for a total of 1,734.20 metric tons of CO_2e. Table 4.3.2 shows the emissions of GHG Category 1 and Category 2 among Advantech's factories. The combined emissions of Category 1 and Category 2 in 2021 came to 33,795.61 metric tons of CO_2e.

Table 4.3.2: GHG Category 1 and Category 2 Emissions of Advantech's Main Factories in 2021

Area		Category 1 Volumes of Direct GHG Emissions	Category 2 Volumes of Indirect GHG Emissions Associated with Energy Production	Total (CO_2e mt)
Taiwan	Rueiguang Headquarters	113.6852	935.3199	1049.0051
	Taipei Sunny Building	109.4271	1,364.3512	1,473.7783
	Donghu Factory	0.1551	907.4955	907.6506
	Linkou Campus	406.6602	6,446.8848	6,853.5450
China	Kunshan Factory	2,741.2587	19,036.1688	21,777.4275
Japan	Japan Factory	Not counted	1,734.2000	1,734.2000
Total emissions volume		**3,371.1863**	**30,424.4202**	**33,795.6065**

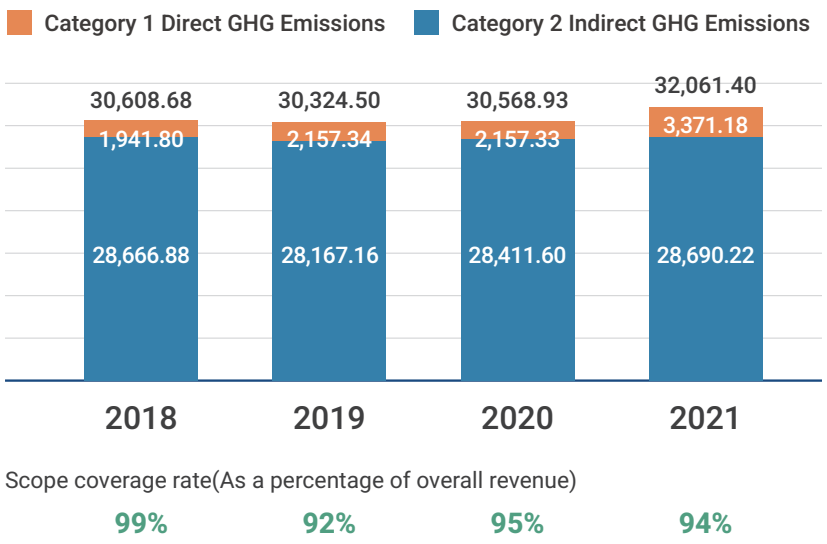
*Note:

1.Greenhouse gas emissions of Advantech's Taiwan factories are calculated using the latest version of the "Greenhouse Gas Factor Management Table" (version 6.0.4 released in June 2019) of the Environmental Protection Administration of the Executive Yuan, and the Global Warming Potentials (GWP) of each greenhouse gas as announced by the IPCC in 2013.

2.Due to expansion of the factory in Kunshan, China, emissions increased compared to 2020.

3.Greenhouse gas inventories in the Japan factories have not been verified by a third party.

Figure 4.3.1 Category 1 and 2 GHG Emissions among Advantech's Main Factories in Recent Years



The average GHG emission per unit of turnover in 2021 (Category 1 and Category 2) was 0.00058 tons of CO_2e per NT$1,000, which is 4.31% lower than the average GHG emission per unit of turnover in 2019 of 0.00061 tons of CO_2e per NT$1,000. We are thus continuing to move towards the 60% SBT target set for 2030. The main reason is that Advantech achieved overall reduction in electricity consumption by integrating manufacturing systems in Linkou and Donghu factories, improving manufacturing efficiency and making good use of Linkou's energy-saving systems. Meanwhile, the Advantech Kunshan Manufacturing Center has launched various energy-saving projects since 2019, including the establishment of an energy-saving efficiency evaluation mechanism for each unit, energy-saving evaluation and verification of electrical machinery and equipment, and reduction of domestic electricity costs. In the future, we will continue to set an annual goal of reducing greenhouse gases per unit of turnover. In addition

to achieving the goals set by the SBT announcement, this will also deeply embed the concept of energy saving in the hearts of colleagues and help it become an important part of the Company's culture.

In order to discover the key factors for climate change mitigation, Advantech Taiwan has also initiated inventories of other sources of GHG emissions in addition to emissions from its own operations. In 2019, the GHG Protocol Evaluator Tool was adopted to identify other types of GHGs along with relevant inventory methodologies being established. This was done with a view to identifying emission hotspots, setting reduction targets, and gradually implementing reduction measures. Please refer to Table 4.3.3 for identification and emissions in Category 3 and Category 4 for Advantech Taiwan and China-Kunshan in 2021.

Table 4.3.3 Identification and Emissions in GHG Categories 3 and 4 for Advantech Taiwan and Kunshan

Category Item	Category Statement Verification	Taiwan Factory Region Emissions (CO_2e mt)	China-Kunshan Factory Region Emissions (CO_2e mt)
Category 3	Employee travel (air travel)	4.2945	7.4368
Category 3	Employee travel (High Speed Rail travel)	3.4301	Not counted
Category 3	Linkou Campus vehicle traffic	394.9829	Not counted
Category 3	Product shipping (domestic ground transportation)	2.3013	Not counted
Category 4	Business waste disposal (transportation)	1.2414	119.671
Category 4	Business waste disposal (incineration)	0.6018	Not counted
Category 4	Business waste disposal (burial)	0	Not counted
Category 4	Fuel and energy	1,775.0377	Not counted

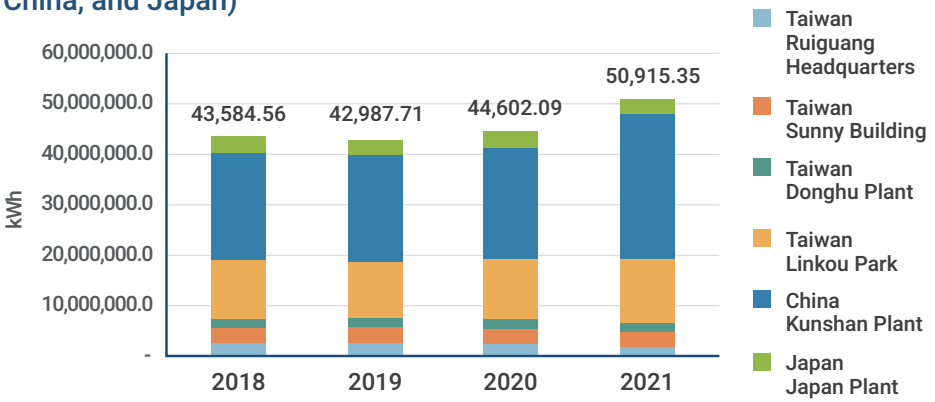
Participation in the international Carbon Disclosure Project (CDP) evaluation

Since 2015, Advantech has cooperated with customers to participate in the evaluations of the international Carbon Disclosure Project (CDP). The CDP currently maintains the world's largest database related to climate change, and questionnaires are sent out every year to investigate companies' responses to climate change and greenhouse gas emissions and reductions. This is done so as to assess risks and opportunities for these companies arising from climate change. Through the annual regular CDP information disclosure, Advantech reviews areas including climate regulations, climate disasters, and other climate-related issues one by one to uncover hidden risks in our operations and management. In this way, we undertake effective reduction and elimination measures to meet the requirements of international customers for greenhouse gas management. Advantech was selected as Level B in 2021.

Energy Data Management

The main source of greenhouse gas emissions from Advantech's factories was carbon dioxide generated during the power generation process of the externally purchased electricity required for the Company's operations. This emission source accounted for more than 90% of the Company's overall emissions in 2021. In 2021, Advantech's total energy consumption (electricity, steam, gasoline, diesel, natural gas) in Taiwan, Kunshan (China), and Japan came to 224,165.74 GJ.

Figure 4.3.2: Electricity Consumption among Advantech's Main Factories in Recent Years



*Note: In 2021, the China-Kunshan factory was expanded and electricity consumption therefore increased.

Figure 4.3.3: Trends in Electricity Consumption per Unit of Turnover among Advantech's Main Factories in Recent Years

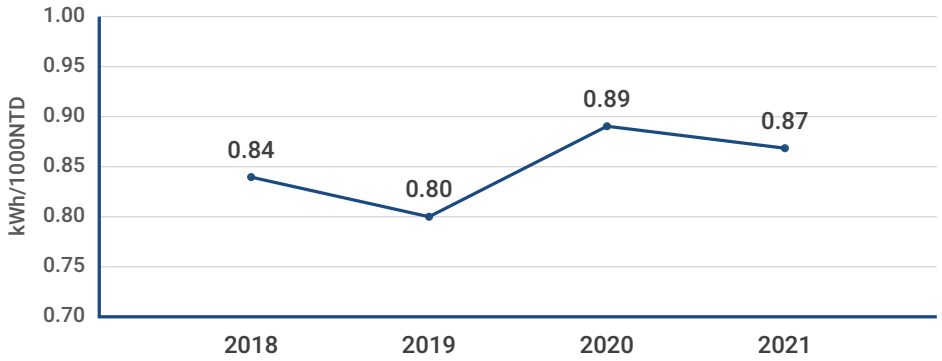
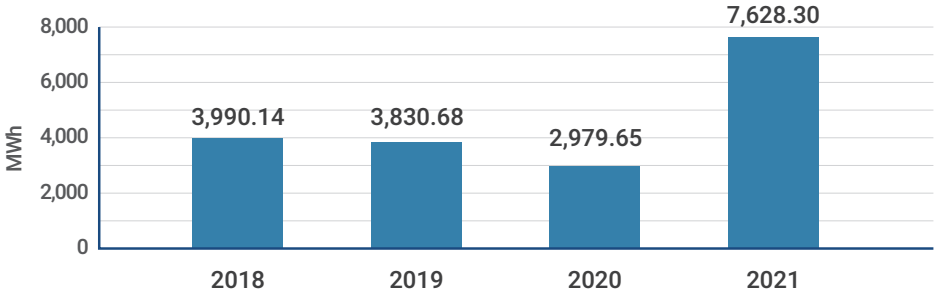


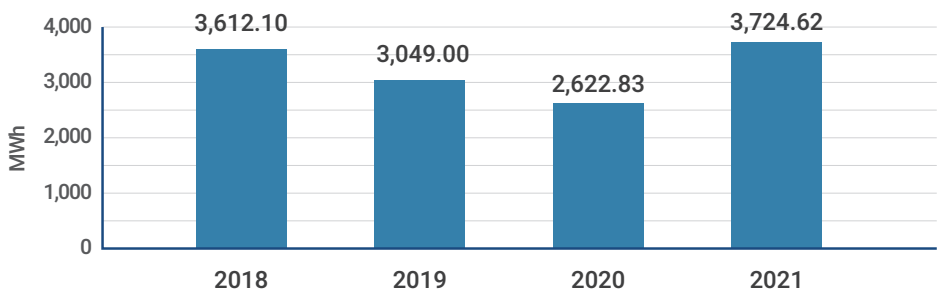
Figure 4.3.4: Non-Renewable Fuel Consumption among Advantech's Main Factories in Recent Years



Scope coverage rate (As a percentage of overall revenue)

2018	2019	2020	2021
99%	92%	95%	94%

Figure 4.3.5: Non-Renewable Energy Consumption of Steam among Advantech's Main Factories in Recent Years



Scope coverage rate (As a percentage of overall revenue)

2018	2019	2020	2021
99%	92%	95%	94%

*Note: The scope covers factories in Taiwan and in China-Kunshan, but only the China-Kunshan plant uses steam

4.3.2 Energy Management Actions

Linkou Campus

The smart energy saving strategy of the Linkou Campus can be explained in terms of the two major systems of manufacturing and office facilities. The energy-saving facilities in the Linkou office area mainly achieve daily energy saving through intelligent parking, human-like energy-saving offices, and intelligent meeting rooms.

Intelligence is mainly implemented in the manufacturing system by means of an Intelligent Factory Situation Room: Advantech's manufacturing centers have been actively undergoing digital transformation in recent years. Through sensors deployed on the job site, information can be collected in real time and uploaded to the cloud for analysis. All plant information is displayed in real-time in the Situation Room, and management members can keep track of the latest production line statuses anytime, anywhere. Advantech's Intelligent Factory Situation Room monitors manufacturing, equipment yield and preventive maintenance, ambient temperature and humidity, and air quality. It also incorporates an energy management system.

Neihu Headquarters

Advantech's Neihu Headquarters replaced its water chiller and LED lamps in 2020. Among them, the replacement of LED lamps reduced lighting energy usage by 65%. Together, the two projects have saved a total of 166,960 kWh of electricity. In 2021, we continued to replace office LED lamps for annual savings of 235,188 kWh of electricity. In the future, old and inefficient equipment will continue to be replaced to improve energy efficiency.

Advantech Kunshan Manufacturing Center

AKMC's energy-saving facilities mainly save energy by promoting the optimization of energy management systems, automatic control renovation of air-conditioning systems, air compressor upgrades, and human-sensing systems.

Overall Energy Management Strategies and Actions

In addition to the energy-saving facilities in each area described above, Advantech's overall energy management strategy includes: daily energy savings, development of an iEMS building energy management system, and a clean energy strategy.

1.Daily Energy Savings

- Try to replace in-person meetings with video conferencing
- Prioritize the procurement of office equipment and information electronic products with energy-saving labels
- Control indoor air temperatures
- Encourage employees to turn off the lights
- Energy-saving facilities in the office area
- LED lamp replacement
- Upgrades or replacement of air compressors, water chillers, and other equipment

2.Development of iEMS Building Energy Management System

Advantech is committed to developing an Intelligent Energy Management System (iEMS). We carry out energy-saving management in the two dimensions of management and operations, doing so through energy consumption information capture, data uploads to the cloud, AI analysis, information presentation, and real-time alarms; and via cooperation with scheduling adjustments, equipment cleaning, and maintenance, and the replacement of high-energy-consuming equipment.

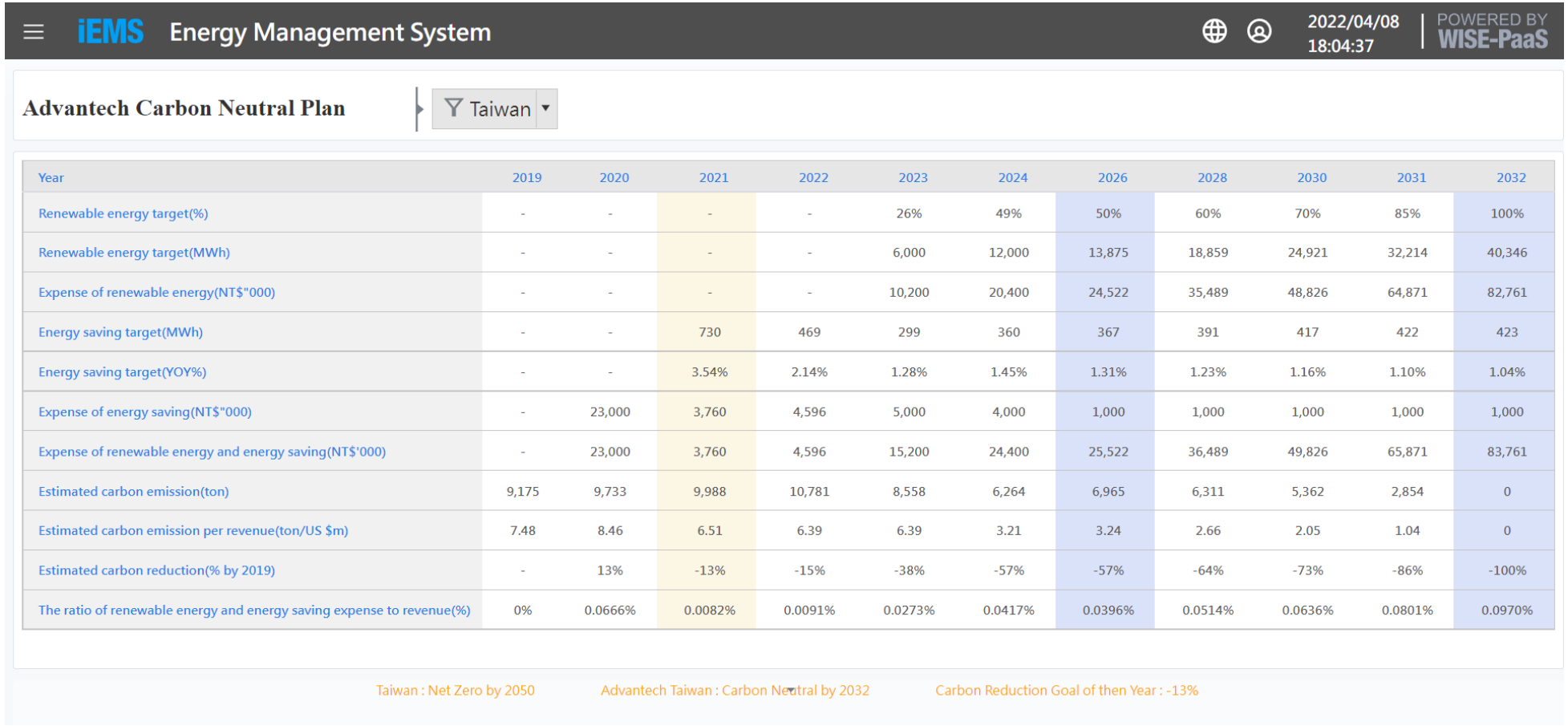
Advantech's iEMS was upgraded in mid-2020, and the platform was migrated to Advantech's WISE-Stack private cloud by the end of 2020. Officially launched in Linkou in the first quarter of 2021, the first wave of functions included an overview of energy conservation performance used by top decision makers, real-time energy consumption monitoring, and abnormal energy consumption analysis for the use of managers, and so on. Furthermore, it was launched in the Kunshan Campus in the second half of 2021, and other manufacturing systems will be introduced in the future.

In addition, we upload the monthly electricity and water consumption information of Advantech Linkou, Neihu, Kunshan, Shanghai, Xi'an and Beijing to the internal eManager system. this allows the unit responsible for energy conservation of each factory office (factory or general affairs) to see the changes in monthly electricity consumption and water consumption, comparisons with the previous month and the year-ago period, and whether energy saving targets have been achieved. We produce energy-saving management from top to bottom through the internal transparency of energy consumption information.

3.Clean Energy Strategy

- Solar power generation: the Linkou Campus is equipped with solar power panels, which have been in use since June 2019. In 2021, they generated about 48,489 kWh of electricity per month on average for use in parallel with Taipower. In addition, the new building in Linkou Phase 3 is also expected to be fully equipped with solar panels, with an estimated power generation capacity of 8,000 kWh per month.
- Electricity purchases: The Company announced we would invest in eco power plants in 2021, targeting to use 50% eco electricity in 2026 and 100% eco electricity in 2032. We expected to gradually begin using eco electricity in 2023.

Figure 4.3.6 Advantech Taiwan's Ten-Year Carbon Neutrality Plan



Year	2019	2020	2021	2022	2023	2024	2026	2028	2030	2031	2032
Renewable energy target(%)	-	-	-	-	26%	49%	50%	60%	70%	85%	100%
Renewable energy target(MWh)	-	-	-	-	6,000	12,000	13,875	18,859	24,921	32,214	40,346
Expense of renewable energy(NT$"000)	-	-	-	-	10,200	20,400	24,522	35,489	48,826	64,871	82,761
Energy saving target(MWh)	-	-	730	469	299	360	367	391	417	422	423
Energy saving target(YOY%)	-	-	3.54%	2.14%	1.28%	1.45%	1.31%	1.23%	1.16%	1.10%	1.04%
Expense of energy saving(NT$"000)	-	23,000	3,760	4,596	5,000	4,000	1,000	1,000	1,000	1,000	1,000
Expense of renewable energy and energy saving(NT$'000)	-	23,000	3,760	4,596	15,200	24,400	25,522	36,489	49,826	65,871	83,761
Estimated carbon emission(ton)	9,175	9,733	9,988	10,781	8,558	6,264	6,965	6,311	5,362	2,854	0
Estimated carbon emission per revenue(ton/US $m)	7.48	8.46	6.51	6.39	6.39	3.21	3.24	2.66	2.05	1.04	0
Estimated carbon reduction(% by 2019)	-	13%	-13%	-15%	-38%	-57%	-57%	-64%	-73%	-86%	-100%
The ratio of renewable energy and energy saving expense to revenue(%)	0%	0.0666%	0.0082%	0.0091%	0.0273%	0.0417%	0.0396%	0.0514%	0.0636%	0.0801%	0.0970%

Table 4.3.4 Energy-Saving Solutions among Advantech's Main Production Factories in 2021 (Taiwan and China)

Factory	Project name	Number of cases	Power savings (10,000 units/year)	Carbon emission reductions (Tons/year)
Taiwan	LED lighting replacement	4	390.55	198.79
	Air conditioning system adjustments	3	111.60	56.81
	Ice machine system adjustment and replacement	3	85.45	43.49
	Management measures - parameter adjustments	2	41.50	21.12
	Air compressor replacement and adjustment	2	34.75	17.69
	Management measures - turning off lights	3	21.77	11.08
	Other equipment improvements	2	9.04	4.60
China	LED lighting replacement	2	80.85	640.4129
	Air conditioning optimization	2	84.9	672.4929
	Pump energy savings	2	5.37	42.53577
Total		**25**	**865.7815**	**1,709.0240**

Table 4.3.5 Electricity Usage Information per Unit among Advantech's Main Production Factories in 2021 (Taiwan and China)

YOY changes	Taiwan	Kunshan, China
Factory energy consumption per unit output value (kWh/10,000)	Annual decrease of 16.32%	Annual increase of 16.7%
Office energy consumption per unit area(kWh/m^2)	Annual decrease of 6.60%	Annual increase of 9.24%

Future Plans

Looking to the future, Advantech integrated the Taiwan factory and concentrated production in the Linkou Phase 2 Intelligent Factory. Furthermore, through the energy management system and production line optimization management mechanism, we will achieve energy consumption reduction targets and reduce electricity consumption to realize energy saving benefits. For the sake of the continuation of human life and forever keeping a green environment on the Earth, Advantech is not only committed to reducing the impact on the overall environmental safety and health in product design, use and disposal activities, and complying with relevant regulations. We also pursue these aims through the participation and commitment of all employees to achieve environmental protection and sustainable development of the business.

4.4 Environmental Management

Highlighted Performance

0%	No violation of environmental laws or environmental regulations and no fines in the past 3 years
NEW	Expanded the collection of environmental data (adding Japan factory information)

4.4.1 Environmental Responsibility

In terms of environmental management, Advantech not only implements environmental protection work related to sewage and waste in accordance with relevant laws and regulations, but has also formulated an Environmental Safety and Health Management System Manual as a guiding principle for the operation of the management system, and regularly inspects and implements management. All sewage meets discharge standards and is reported as required. Business waste is also entrusted to be disposed of by qualified removal companies.

The Company's environmental declaration and environmental policy are as follows:

1. In our design and production of products and services to our customers, we are committed to the concept of green to reduce and prevent the generation of waste and pollution through the 3R (Reuse, Recycle, Reduce) as far as possible. Also committed to energy conservation, waste reduction, emission reduction, and circular economy to reduce the impact of products and production activities on the environment.
2. Evaluate the risk and opportunity to establish management program to promote energy conservation and reduce waste of resources in accordance with global climate change, environmental issues and international regulations and standards related to environmental protection, energy and resource efficiency.
3. Establish a green supply chain from design, production, delivery and service through the cooperation with customers, suppliers and outsourcing parties.
4. Ensure that all our activities comply with requirements of environmental, health, safety & HSF regulations and customers' designation. Promote relevant environmental, health, safety & HSF protection knowledge and activities through education and training, so that all personnel may participate in achieving the objective of continuous improvement and zero disasters, occupational diseases and pollution.
5. Continuously promote improvement through the management system, deeply construct the corporate risk management culture for environment, safety, and health, strengthen the important responsibility and awareness of sustainable development with all employees, joint ventures and stakeholders. Also follow this policy due diligence when merging and acquiring related businesses.

Environmental Promotion Procedures and Actions

Promotional Procedures	Management Action
Environmental protection related management operational rules, environmental management system (ISO 14001), greenhouse gas inventory (ISO 14064)	• Pollution precautions and prevention • Environmental education training • Environmental management system maintenance • Greenhouse gas management

In order to achieve the promise of eco operation and sustainable development, the Company has established an environmental management system since 1996. We have done so in order to better implement the planning of environmental protection issues and to achieve the effectiveness of resource use. At the same time, through our Environmental Safety and Health Committee, we have established Advantech's environmental safety and health conceptual framework, advocated energy conservation, improved energy efficiency, and listed energy cost reduction as an annual key audit item. Furthermore, we regularly review performance through our environmental management system and GHG inventory. Table 4.4.1 shows the environmental management system and greenhouse gas inspection and certification of each factory region of Advantech. This chapter's writing scope covers the Taiwan factory region and the Kunshan factory region, together accounting for 94% of total revenue; there is also further disclosure of a small amount of information concerning our Japan factory region.

Table 4.4.1 Environmental Management System and Greenhouse Gas Inventory Certification of Each Factory Region of Advantech

Environment Certification Program \ Factory	HQ Rueiguang/ Taipei Sunny Building	ATMC Donghu	ATMC Linkou	AKMC Kunshan	AJMC Japan
ISO 14001:2015	✓	✓	✓	✓	✓
ISO 14064:2018	✓	✓	✓	✓	-

Table 4.4.2 Statistics on Environmental Violations at Each Factory Region of Advantech

Year \ Factory	HQ Rueiguang/ Taipei Sunny Building	ATMU Donghu	ATMU Linkou	AKMC Kunshan	AJMC Japan
2021	-	-	-	-	-
2020	-	-	-	-	-
2019	-	-	-	-	-
2018	-	-	-	1	-

Advantech's Environmental Resources Inputs and Outputs (Scopes for Taiwan, Kunshan, and Japan)

Resources invested

Output

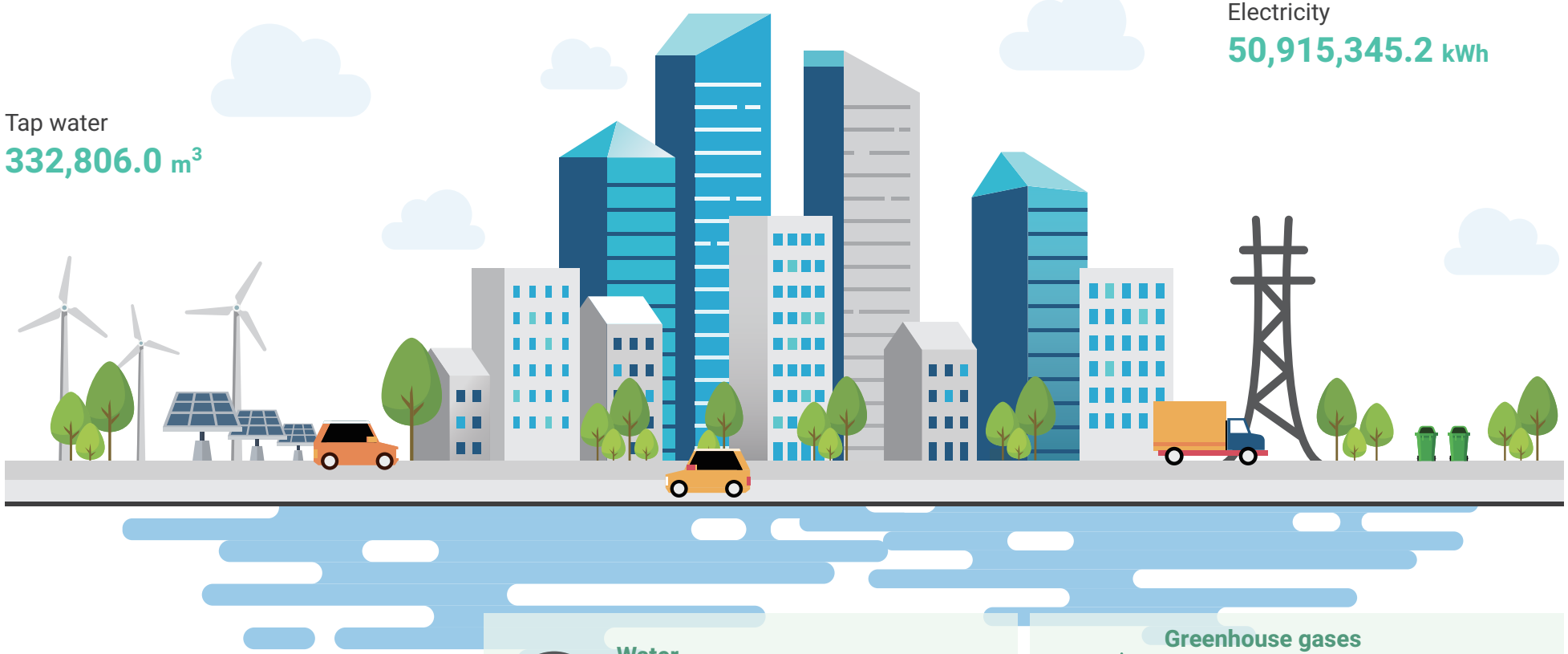
Natural gas
695,027.0 m^3

Greenhouse gases (Scope1&2)
33,795.6 ton CO_2e

Volatile organic compounds (VOCs)
31.4 ton

Electricity
50,915,345.2 kWh

Tap water
332,806.0 m^3



Domestic sewage
232,964.2 m^3

Business waste
1,882.4 ton

Water

- Area：Kunshan
- Objectives：5% savings in water consumption in 2022 compared to 2021

Greenhouse gases

- Area：Taiwan & Kunshan
- Objectives：Reduce GHG emission density per unit of revenue by 7% in 2022 compared to 2021 (Scopes 1 and 2)

4.4.2 Energy Resource Use and Waste Management

Water Use and Management

Advantech's factories use water-saving faucets and toilets and promote water-saving measures in order to find ways to reduce water consumption per person. All factories are located in developed industrial areas or campuses in metropolitan areas. In terms of tap water supply, there is no extraction of groundwater or well water.

The total water consumption of Advantech's factories in the past four years is shown in Figure 4.4.1. Further analysis of the water consumption per unit of revenue in Advantech's factories in the past four years is shown in Figure 4.4.2. Water consumption and water consumption per unit of revenue in 2021 increased compared with previous years, mainly due to the expansion and operation of the Kunshan Factory (Phase 5). Advantech has successively implemented water-saving improvement plans in recent years. In Taiwan, water-saving solutions such as rainwater recycling and reuse are mainly used for domestic water, intelligent irrigation water saving, and intelligent air-conditioning cooling water and chilled water system monitoring and control, for the sake of reducing overall water consumption. The Kunshan factory area has installed water meters in the production workshops of each factory and conducted water metering management. This distinguishes water used for Phase 1, Phase 2, Phase 3, Phase 4, and Phase 5, dormitories, kitchens, and equipment, analyzing reasonable water consumption. In addition, Advantech Linkou Phases 2 and 3 are equipped with rainwater recovery systems for sprinkler irrigation and toilet flushing. We have an annual replacement rate of more than 50% as the design goal, but quantitative monitoring has not yet been practically implemented. Flow meters have been installed and it is expected that quantitative monitoring of the actual replacement rate of the rainwater recovery system will start in the second quarter of 2022; and this will form the basis of program improvements. The Kunshan plant recycles water resources through a water recycling and regeneration system. The recovery rate of reclaimed water has reached 70% and annual water savings has attained 53%. In the future, more improvement plans will be planned to save water resources.

Figure 4.4.1 Water Consumption among Advantech's Factories in Recent Years

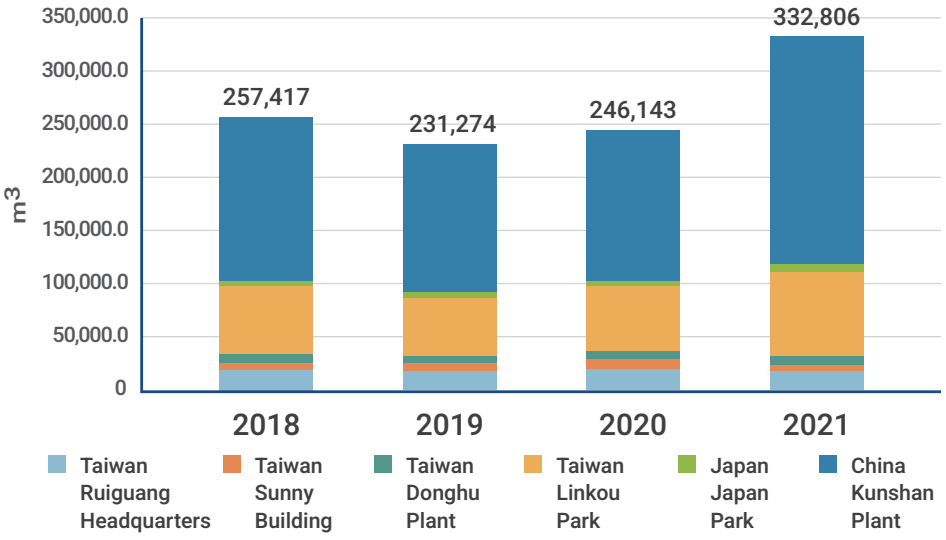
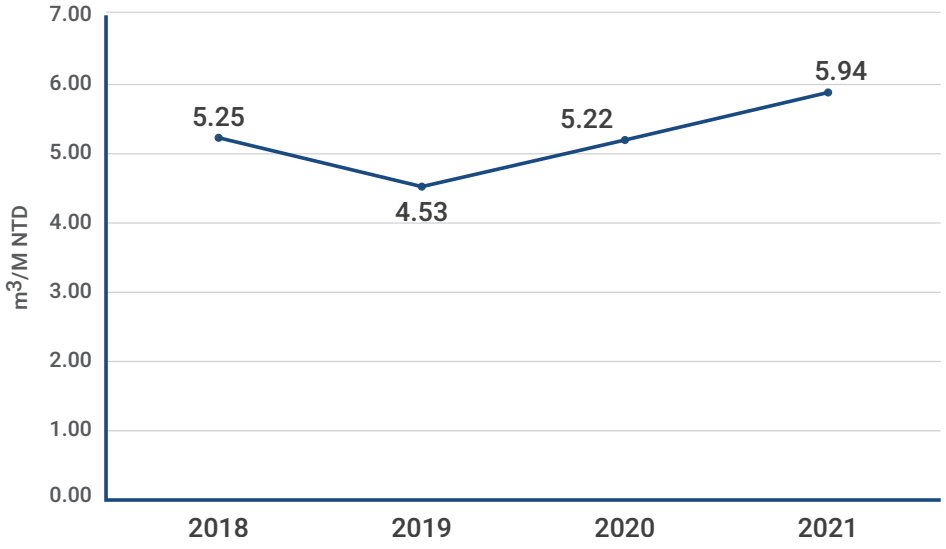


Figure 4.4.2: Trend Chart of Water Consumption per Unit of Revenue at Advantech's Factories in Recent Years



Waste Management and Resource Recovery Management

Zero waste is the ultimate goal of Advantech's waste management. We take total waste reduction and waste recycling as a strategy, in addition to reducing waste output and achieving waste reduction through source management measures such as reduction of raw materials. Advantech also actively promotes the recycling of waste, such as reusing packaging materials to replace the existing end-of-pipe treatment model, turning waste into useful resources. this not only truly achieves resource recycling, but also reduces energy consumption and waste disposal costs. Advantech devotes attention to its waste contractors every year. If a contractor breaches the contract or violates government regulations, it will undertake corresponding disposal or guidance or replacement. In 2021, Advantech did not have any major breach of contract or violation of laws by waste contractors. The Company's waste management model is shown in Table 4.4.3.

Table 4.4.3 Advantech Waste Management Model

Type of waste		Content description	Action taken	Ultimate disposal method
General household waste	Bottles	PET bottles/styrofoam/steel or aluminum cans, etc.	Dedicated recycling	Reuse
	Paper	Newspapers/magazines/photocopying paper/ printing paper/cartons/boxes, etc.	Dedicated recycling	Reuse
	General-use glass	Beverage bottles, etc.	Dedicated recycling	Cyclical use
	General-use plastic	Beverage bottles/waste containers, etc.	Dedicated recycling	Cyclical use
	Other recyclable resources	Batteries/toner clips/lights, etc.	Headquarters/photocopier manufacturers	Cyclical use
	Food waste recycling	Compost food waste / pig food waste, etc.	Management Committee	Fertilizer use
	Domestic waste	Office household waste, etc.	Management Committee	Incineration (Taiwan) Sanitary burial (Kunshan)
Business waste	General business waste	PCB scrap / waste electronic parts / waste sponges / waste tape, etc.	FDedicated recycling	Incineration / Landfill / Reuse
	Hazardous industrial waste	Waste tin slag/chemical waste liquid, etc.	Outsource the processing to a qualified removal processing company	Solidification and landfill/incineration/ reuse

Regarding the final disposal weights of waste at Advantech's factories in Taiwan, Kunshan, and Japan, because the weight of domestic waste is an approximate estimate of the contracted clearance, weight information for further disposal classifications is not yet available. Therefore, only information on disposal of industrial waste is disclosed. Please see this as shown in Table 4.4.3, Figure 4.4.3, and Figure 4.4.4.

Figure 4.4.3: Disposal Volume of Business Waste among Advantech's Factories in Recent Years

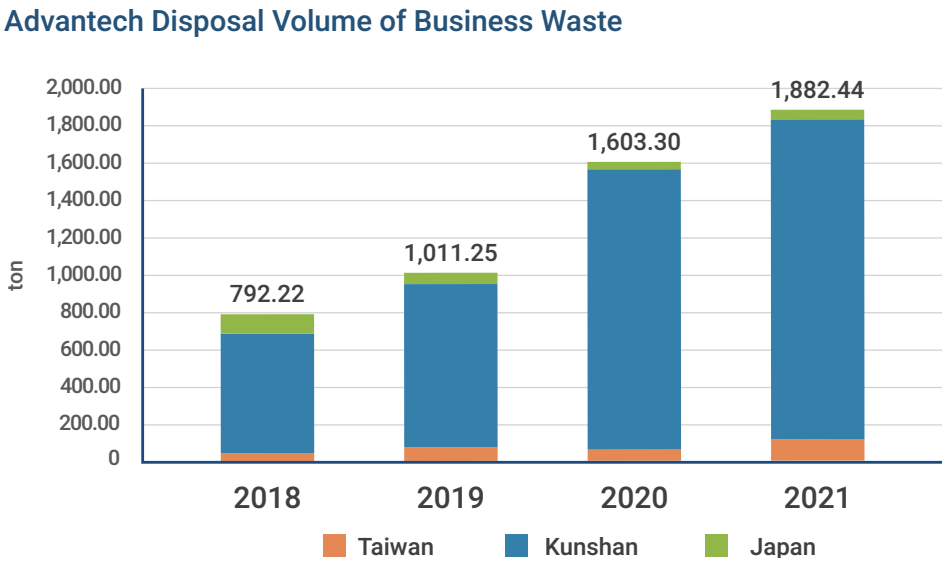
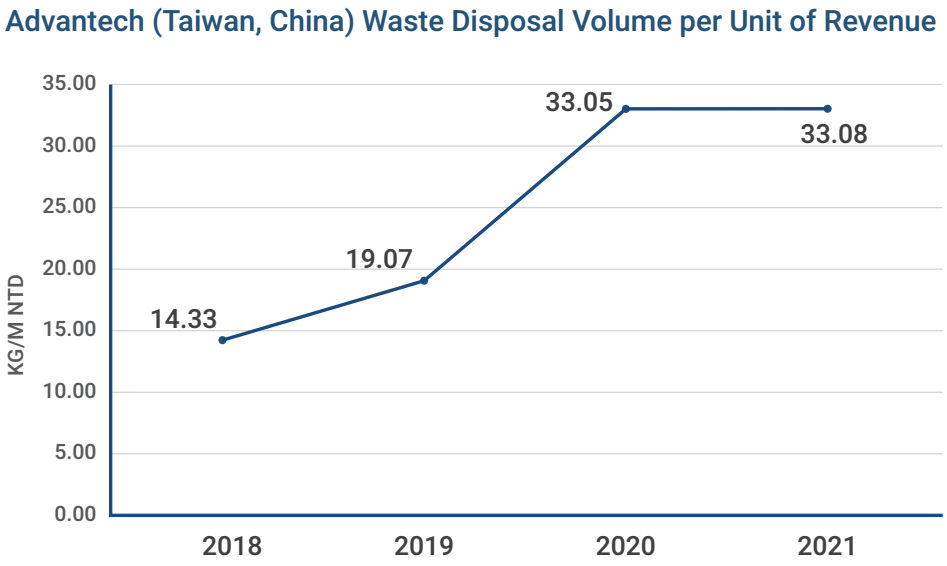


Figure 4.4.4: Waste Disposal Volume per Unit of Revenue among Advantech's Factories in Recent Years



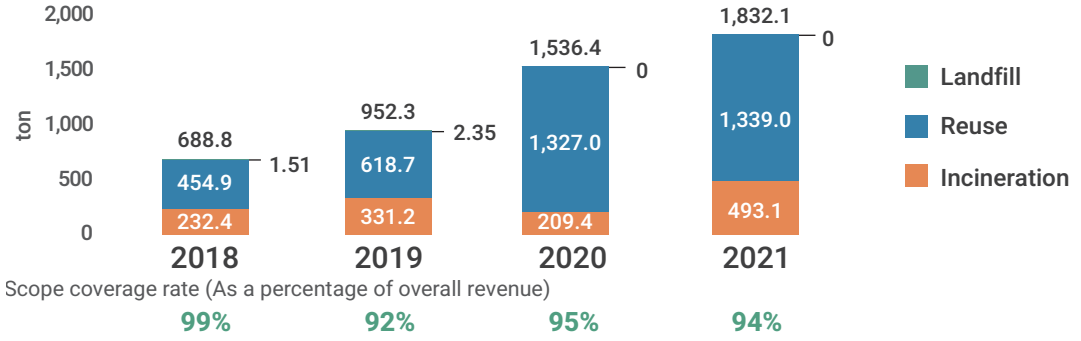
*Note: The source of statistics on the weight of waste in the Taiwan and Kunshan plants is the data reported by each factory to the competent authorities.

According to the statistics, the total waste disposal volume of Advantech's production regions (Taiwan, China, and Japan) in 2021 was approximately 1882.44 metric tons. Out of this, there was 1,877.69 metric tons (99.7%) of non-hazardous waste and only 4.75 metric tons (0.3%) of hazardous waste. In recent years, Advantech has introduced the tin dross recycling project to successfully recycle harmful waste tin dross, reducing the production of hazardous waste. See Table 4.4.4 and Figure 4.4.5 for waste disposal in production areas in Taiwan and China.

Table 4.4.4: Waste Disposal Methods of Advantech's Factories (Taiwan, China) in 2021

	Incineration	Burial	Recycling
Hazardous Industrial Waste (mt)	1.95	0	0
Non-Hazardous Business Waste (mt)	491.18	0	1339.0

Figure 4.4.5: Business Waste Disposal Status among Advantech's Factories in Recent Years



Air Pollutant Management

Air pollutants have become one of the important environmental issues of global concern. In 2017, the International Agency for Research on Cancer (IARC) listed air pollutants as known primary human carcinogens. Volatile organic compounds (VOCs) are one of the most important portions of air pollutants that are harmful to ecology and health. Advantech also cares about the effectiveness of air pollution controls and about atmospheric air quality. Volatile organic compounds generate PM 2.5 that is less than 1/28 the diameter of a human hair and so fine that it penetrates into the lungs very easily; thus, the impact of VOCs on human health cannot be ignored. Regarding air pollution data and information disclosures, Advantech has put together three key points:

- Advantech's production process does not generate ozone-depleting substances (ODS) and hence there are no ODS emissions.
- Advantech Taiwan and Advantech Japan mainly utilize assembly processes with low air pollution load, so there is no emission of nitrogen oxides, sulfur oxides, or volatile organic compounds (VOCs).
- Advantech's Kunshan (China) Campus utilizes liquid coating and powder coating processes, and the volatile organic compounds (VOCs) emitted are all in compliance with local regulations.

Please refer to Table 4.4.5 for volatile organic compounds (VOCs) emitted by Advantech's manufacturing factories in recent years. The substantial increase in VOCs in 2021 was due to increased production capacity.

Table 4.4.5: Volatile Organic Compounds (VOCs) Emitted by Advantech's Factories in Recent Years (Unit: mt)

Factory / Year	HQ Rueiguang/ Taipei Sunny Building	ATMU Donghu	ATMU Linkou	AKMC Kunshan	AJMC Japan
2021	-	-	-	31.42	-
2020	-	-	-	8.94	-
2019	-	-	-	5.52	-
2018	-	-	-	6.01	-

*Note: The scope covers factories in Taiwan, China-Kunshan, and Japan, but only the China-Kunshan factory produces VOCs.

In order to implement environmental reduction targets, Advantech Kunshan (China) has adopted effective control of volatile organic compounds (VOCs). This has been accomplished through online real-time continuous monitoring and outsourced monitoring and management of emissions, and improvements in equipment processing efficiency to reduce environmental emissions. Improvement projects have been implemented successively in recent years.

4.5 Appendix : Key Performance in Product Environmental Specification Compliance and Voluntary Environmental Labeling

Advantech revised its internal management standards for various environmental protection policies related to the management of environment-related substances (such as EU RoHS (including EU 2015/863), REACH, POPs, etc.), and introduced the IECQ HSPM QC080000 hazardous substance management system in 2009 to conduct risk control through Advantech's supplier management platform and supply chain eco information management platform. Advantech's selection of materials for various products conforms to the relevant environmental protection standards of the following countries according to the product sales area, as shown below:

1. RoHS Directive
2. REACH SVHC Control Requirements for Substances of Very High Concern
3. Product Recycling Specifications
   - 3.1 EU Waste Electrical and Electronic Equipment Directive (WEEE)
   - 3.2 International Standards - ISO 11469 Standard (marking of plastic parts)
4. Battery Recycling Regulations
5. Waste Packaging Regulations
6. Energy Conservation Related Regulations
   - 6.1 EU Energy-Related Products Directive (ErP) Mark
   - 6.2 Energy Star Mark

All products of the Company have undergone safety verification operations in the design and development stage to ensure compliance with CE/FCC/CCC safety marking requirements. Advantech abides by the environmental protection laws and regulations issued internationally, from the effective utilization of natural resources, to the ban on hazardous substances and the Life Cycle Assessment (LCA) of proper waste management, and follows the relevant international standards for eco products. The Company's products promote eco products based on the three aspects of safety, energy saving, and environmental protection. Relevant information announcements are described in the product catalogue on the Company's website, as shown below.

Figure 4.5.1 Example of Environmental Declaration on Advantech's Product Marketing Website

International Energy Conservation and Environmental Protection Marks

Energy Star Mark: since 2009, Advantech's specific types of models conform to Energy Star, an international energy-saving and environmental protection mark; the models introduced in the past four years are shown in Table 4.5.1.

Table 4.5.1 Advantech Products Introducing the Energy Star Environmental Protection Mark in the Past Four Years

Product Number	Product Type
ESY152,ESY15i5,ESY22i2,EY22i5	Panel PC Industrial computer equipment with screen
ESY20X2;ESY20X3;ESY20X5;ESY20X7	
ESY15X2;ESY15X3;ESY15X7;ESY17X2;ESY17X3;ESY17X7;ESY15X5	
ESY15i2,ESY15i5,ESY22i2,ESY22i5	
AIM-37AC, AIM8IAC, AIM8I, AIM 10W	
DSDM-055FD-45NE-V, DSDM-155FD-45NE-V	
DSDW-049FD-45NE-V	
GSC-7152W, GSC-7152W-C3AE	
AIM-75	

EU Energy-Related Products Directive (ErP) Mark

Since 2021, Advantech has been responding to the international trend of carbon reduction and low energy consumption. Except for certain types of models, we have independently increased the thorough implementation of ErP, which is in line with the international energy conservation and environmental protection label; see Table 4.5.2 for the planned model introductions.

Table 4.5.2 Advantech Products Expected to Introduce the ErP Environmental Label in 2022

Product Number	Product Type
TPC-107W-N31A	Computers and computer servers
UNO-127-E22BA UNO-127-E23BA	
IPC-610 (AIMB-708) IPC-320 (AIMB-308)	
PPC-415 PPC-112W	
POC-621	
VEGA-7110-75R	
VEGA-6301M	

5

Employee Care

5.1 Talent Cultivation and Development

5.2 Employee Communication and Benefits

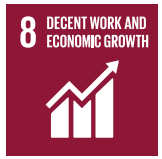
5.3 Diversity and Inclusion

5.4 Appendix : Occupational Safety and Health; Employee Turnover; Occupational Health and Safety

5.1 Talent Cultivation and Development

5.1.1 Talent Attraction and Retention

Talent Recruitment



Materiality	Advantech's mission is to facilitate "Enabling an Intelligent Planet," and human talent undoubtedly stands as the most important asset underpinning our steady growth. Our commitment is to build Advantech into an open development platform with "Working & Learning Toward a Beautiful Life" as its starting point, and to become a Happy Enterprise worthy of all colleagues' entrusting of a Beautiful Life.
Policies/ Commitments	Advantech promises to abide by the labor laws and regulations of local governments where we operate globally, and to follow the world's major sustainability and human rights standards such as those embodied in the Dow Jones Sustainability Indices (DJSI) and the Responsible Business Alliance (RBA). We thus will ensure that employment conditions are not affected by factors unrelated to work ability, including "race, color, age, religion, national origin, ancestry, marital status, gender, sexual orientation, gender identity, military status, or political affiliation."
Management Objectives	Due to the characteristics of Advantech's industry (with a small amount of diversity and high demand for innovation and flexibility), there is high demand for specialized, interdisciplinary talent. We will continue to drive programs to attract, nurture, and retain talent who feature a selfless enthusiasm. We will also provide opportunities for work and rotational promotions that are interdisciplinary, cross-border, and diverse, as well as comprehensive learning programs. In this way, we shall cultivate outstanding talent and support the Company's needs for long-term development and growth. **2025 goals** ● At least 25% of assistant vice president (AVP) positions placed through rotation ● Global talent visualized through human capital management (HCM) system ● 15% of global new hires hired through the Right People On the Bus pipeline
Management Policy/Action Plan	**Talent recruitment policy** Advantech's paramount guiding principle of talent recruitment is titled "Right People on the Bus," which means that we first find the right person and then decide what he or she should do. We focus on recruit who exhibit a "selfless enthusiasm," and attract professionals who possess innovative potential across a range of fields and functions by means of diversified recruitment channels and flexible recruitment projects. We hope to bring excellent talent on board with unlimited development space and multiple possibilities. **Advantech Featured Recruitment Program - Elite Series** With the core idea of Right People on the Bus, we replace traditional recruitment methods with the approach of building a talent reserve. Whether it involves industry-university internship cooperation, new people in the workplace, or industry elites boasting rich experience, we have corresponding Elite Programs available for their participation. The Elite program includes: ● Elite Champion- Recruiting high-potential elites for more than three years ● Elite100 - Reserve talent training and recruitment with work experience of under 3 years ● Elite100 Internship - Special internship for third-year university students and above as well as graduate students **Employee Referrals** By virtue of the high recognition enjoyed by Advantech's industrial development and corporate culture among current employees, experts and talented individuals from a variety of fields can be spontaneously invited to join Advantech's open development platform. **Internal Transfers and Promotions** Advantech supports and encourages long-term career development among colleagues, actively promoting internal transfer plans and regular promotion evaluation mechanisms, and facilitating internal talent flows. In this way, we can expand colleagues' personal horizons and enhance diverse experience among them, thereby developing all-round excellence and further achieving the goal of cherishing and retaining talent.
Effectiveness Assessment	Our measurements of talent recruitment-related effectiveness are reviewed, evaluated, or adjusted through the HR Dashboard and regular HR meetings to continuously respond to talent market dynamics.Results of the 2021 talent recruitment plan are as follows: **"Elite" series of activities** In 2021, 267 people participated in the Elite activity series (Elite Champion, Elite100, Elite100 Internship), out of whom 42 colleagues entered Advantech for work or internships. **Employee referrals** In 2021, colleagues recommended a total of 343 talented individuals in various fields, and a total of 82 were hired and brought in to join Advantech. In 2021, 23.7% of the 346 new indirect employees were recommended by current employees.

New employees

2021 new employees

Region	Item	Males, Number and Percentage %		Females, Number and Percentage %		Total	By Region New Employee Ratio	Overall New Employee Ratio
Taiwan	Below 30 years	114	53.0%	85	38.1%	487	15.3%	21.3%
	31-49 years old	163	11.8%	114	12.4%			
	50 years old and over	7	3.0%	4	1.9%			
China	Below 30 years	306	60%	193	56%	1010	27.6%	
	31-49 years old	280	18%	218	18%			
	50 years old and over	12	17%	1	8%			
Japan	Below 30 years	2	17%	0	0%	14	6.0%	
	31-49 years old	4	6%	2	0%			
	50 years old and over	6	7%	0	0%			

*Notes:

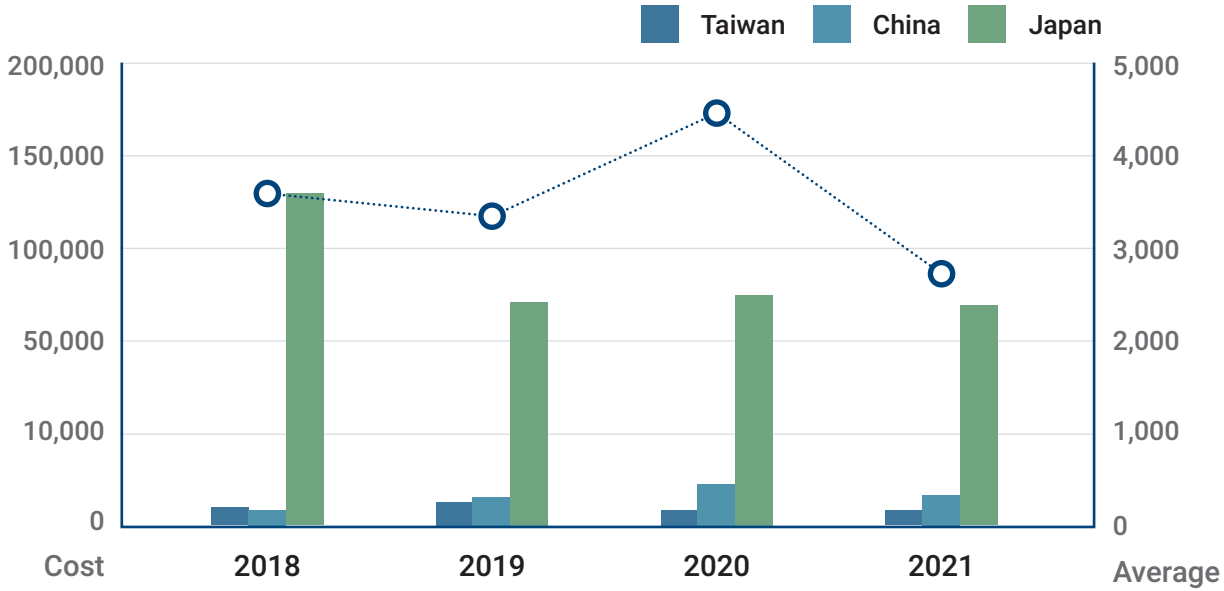
1. The denominators of the ratios of males and females are the total numbers for the age brackets of that gender.
2. Formulas: New employee ratio by region = Number of new employees in the region in the current year / total number of employees in the region; Overall new employee ratio = Number of new employees in the current year / total number of employees.

New Recruits in the Past Four Years

Unit: Num

	2018		2019		2020		2021	
	New Recruits	Proportion of New Hires	New Recruits	Proportion of New Hires	New Recruits	Proportion of New Hires	New Recruits	Proportion of New Hires
Taiwan	476	16%	412	13%	383	12%	487	15%
China	805	25%	826	25%	549	17%	1010	28%
Japan	23	25%	32	14%	26	11%	14	6%
Total	**1304**	**20%**	**1270**	**19%**	**958**	**14%**	**1511**	**21%**

Average Recruiting Cost per New Employee



Unit: NT$/person

	2018	2019	2020	2021
Taiwan	$1,661	$1,450	$971	$1,126
China	$1,440	$1,784	$3,215	$2,804
Japan	$134,416	$79,941	$82,362	$78,736
Average	**$3,866**	**$3,645**	**$4,466**	**$2,966**

Formula: Annual recruitment expense / number of new recruits

Number of Employee Transfers and Promotions

Unit: Number

Transfer or Promotion	2018		2019		2020		2021	
	Number of Individuals	Proportion	Number of Individuals	Proportion	Number of Individuals	Proportion	Number of Individuals	Proportion
Taiwan	457	21.0%	344	15.2%	412	18.1%	296	13.0%
China	345	22.5%	317	19.8%	389	23.6%	410	24.5%
Japan	25	11.1%	22	9.6%	29	12.2%	12	5.2%
Total	**827**	**21.0%**	**683**	**16.7%**	**830**	**19.9%**	**718**	**17.1%**

Formula: Number of Individuals Transferred and Promoted in the Year / Number of Employees in the Current Year

Performance Reward System

Advantech provides market-competitive overall remuneration to reward employees who create positive performances and sustained contributions. This encompasses year-end bonuses, personal performance bonuses, team bonuses, business performance bonuses, awards of stocks or cash dividends for outstanding employees, and so on.Advantech also regularly reviews relevant indicators for salary and rewards in regions worldwide along with those for each type of work and each job ranking, so as to ensure the implementation and creation of a diverse and equal workplace environment. We also support various self-organized employee associations and trade union activities at different levels in each region (for example, our German branch has established a union). We guarantee freedom of association for our employees as well as the equal rights and interests of employees everywhere.

Analysis of the Difference in Average Pay between Males and Females

Advantech's remuneration policy is based on the duties and responsibilities of colleagues and adheres to labor laws stipulated by local governments. In Taiwan, for example, this includes the Labor Standards Act of the Republic of China, the Gender Equality in Employment Act, and the Employment Service Act. Salary rates do not differ by gender. The table below shows Advantech's average salary difference between males and females at various job rankings. The difference is presented based on an average male salary set at a value of 1.

*Note:
1. Among the senior executives, there are more men who are related to profit generating functions; and since performance bonuses are reflected in bonus plus remuneration, the total compensation is higher than that of women on average.
2. Women working at the managerial level in Japan are paid more than men on average.
3. Among the general employee category, R&D engineers have a high proportion of males while administrative support is dominated by females. Due to the gender concentrations of work positions, the average salary difference between men and women is thus slightly larger.
4. Among direct labor employees, because women have higher salaries in certain regions and constitute a greater proportion of the population, the average salary of women in all regions has been greatly increased.

Unit: Ratio

Region	Taiwan		China		Japan		Average for all regions	
Job ranking classification	Female average annual salary	Male average annual salary	Female average annual salary	Male average annual salary	Female average annual salary	Male average annual salary	Female average annual salary	Male average annual salary
Senior executive (base salary)	0.98	1	0.91	1	-	1	0.93	1
Senior executive (base salary + bonus/allowance)	0.92	1	1.00	1	-	1	0.86	1
Management-level supervisor (base salary)	0.93	1	0.91	1	1.33	1	0.92	1
Management level supervisor (base salary + bonus/allowance)	1.00	1	0.94	1	1.52	1	0.98	1
General employees (base salary)	0.88	1	0.78	1	0.79	1	0.87	1
General employees (base salary + bonus/allowance)	0.87	1	0.73	1	0.82	1	0.85	1
Direct labor employees (base salary)	0.93	1	0.89	1	-	-	1.07	1
Direct labor employees (base salary + bonus/allowance)	0.91	1	0.91	1	-	-	1.04	1

*Note:
1. There is only one male senior executive in Japan, and there is no equivalent comparison value
2. Senior executive refers to levels at director and above.
3. Management-level supervisor refers to levels between manager and senior manager.
4. Formula for calculating gender average salaries for all regions: average salary by gender by region * Number of individuals in the region / number of individuals by gender

5.1.2 Employee Development Program

Materiality

Employee training and development is one of the projects that Advantech attaches great importance to. In upholding the concept of Right People on the Bus, Advantechers stand as the Company's most important asset. Advantech thus is committed to establishing a mutual growth model between employee personal development and organizational strategic development, creating excellence and building a sustainable foundation.

Policies/ Commitments

Advantech Employee Development Declaration

The core of Advantech's employee cultivation and development lies in our efforts to allow Advantechers to feel that their own value is constantly improving, that they are fully supported in career development, and that they can obtain sufficient resources for continuous growth so that Advantech can realize their potential. Through the annual Organization & People Review (O&PR) and through performance evaluations, we assist supervisors and employees in integrating the Company's strategic development direction and personal career planning to understand the development needs of individual employees. Advantech provides comprehensive employee development content and assists employee development through promotion, rotation, training courses, and other resources. Training courses extend from new hire education and training and work duty enhancement to manager development and business training.

Advantech encourages employees to actively explore their own potential and create an environment for continuous and independent learning. In addition to physical training programs such as LEAP Camp and Elite LEAP Workout, book clubs, Global 50, and other physical training and development activities, Advantech strives for excellence as we keep updating our comprehensive Advantech Institute digital learning platform. The digital platform course content is diverse, as it encompasses functional training courses at all levels; heritage and sharing of our business philosophy; and training of middle and high-level management talent. Advantechers can create their own study lists according to personal needs, and can study anytime, anywhere.

Management Objectives

We established our Human Capital Management digital talent database in 2021, systematizing information on personnel organization and assisting in analyzing and formulating employee development policies through complete employee information.We have further set the following 2022-2025 management objectives:

Development Project Management Objectives	2020 Achievement rate	2021 Achievement rate	2022 Objectives	2023 Objectives	2024 Objectives	2025 Objectives
Global employee participation rate for e-Learning (indirect labor employees)	28%	31.8%	60%	65%	70%	75%
LEAP Workout promotion results[1]	22%	21%	20%	20%	20%	20%
Retention rate of key global talent[2].	N/A	100%	90%	95%	95%	95%

*Note

1. LEAP Workout promotes high-potential executives at the manager level or above
2. Global Talent retention rate: Global 50 for high-potential executives at the manager level or above

Management Policy/ Action Plan

2021 Employee training List

Item	Content overview	Participants	Coverage
Talent Radar Review(Global 50)	Establish an annual development plan for executives with high development potential in the Company, and have its implementation status and results regularly tracked by HR.	Manager level and above	100% covering high-potential executives at the manager level or above
Elite Mentoring program	Advantech's first-level executives and mid-to-high-level potential talent are matched via the mentoring system to help mid- and high-level talent improve their management and leadership skills and accelerate their career development. Stimulate the innovative thinking of talent through half-year interdisciplinary and inter-unit mentor-student exchanges and interaction.	Manager level and above	Covering 31.5% of high-potential executives at the manager level or above
Advantech Institute e-Learning Platform	Global employees can learn about Advantech's business philosophy and corporate culture through online learning, and at the same time learn according to their own needs and obtain the latest study information. This frees learning from time and geographical constraints while synchronizing education and communication with colleagues from all over the world. In the exclusive regional knowledge center, learners can obtain information from all over the world and effectively expand the global vision and qualities of Advantech.	General employees (indirect labor employees)	Covering 31.8% of global indirect labor employees
LEAP WorkOut	Working under an executive coach, senior executives directly participate in the Company's important development issues and work-related interdepartmental issues. This has become an important initiative in Advantech's promotion of talent and in our topical innovation and implementation. We thus accelerate the cultivation and promotion of talent through customized personal development plans, and practice “promote within” to help Advantech grow in the future, Furthermore, we expect to promote high-potential executives to their next management roles.	High-potential executives at the manager level or above	Covering 44% of high-potential executives at the manager level or above
Book Club	Advantech believes that we can build team consensus by reading books together. Therefore, we regularly read selected books, gather for research, and invite experts, scholars, or middle and high-level management of related businesses to develop concepts, introduce innovative management concepts, and form key business strategies. For example, the strategy for Advantech's highest guiding recruiting principle, “Right People on the Bus,” is taken from the book Good to Great by Jim Collins.	Selected by subject for colleagues and supervisors	NA
New recruit training	We provide new colleagues with complete requirements for their employment, including complete company information that encompasses the Company's history, key products, our business philosophy, Company logo identification, financial processes, information security regulations, personnel related information, work environment safety, our corporate philosophy for ESG, employee benefits, and so on. This facilitates the integration of newcomers into our organization.	New employees within a month	100% indirect labor employees from Taiwan Headquarters (excluding direct labor employees)

Management Policy/ Action Plan

Item	Content overview	Participants	Coverage
Study Day	Advantech seeks to enhance the soft and hard power of colleagues and expands their innovative thinking, and specially invites a lineup of external senior lecturers to plan one-day learning activities. Content covers product development, information security mechanisms, problem analysis and decision-making, changing the world with innovation, and understanding the production of presentations in seconds.	General employees (indirect labor employees)	Covering 48% of indirect labor employees in Taiwan (excluding direct labor employees)
Project Workshop	In accordance with important issues of the Company's development, academic professors and external professional consultants are invited to set up workshops for in-depth understanding of these issues. For example: Cooperation with Professor Chi-Jen Li, Professor Dah-Hsian Seetoo, and Dr. Chun-Yao Huang, respectively.	Relevant personnel for the issue	-
Education and Training, Code of Ethics and Business Conduct Implementation Rules	Through in-person courses as well as online education and training, Advantech's philosophy of ethical corporate management was conveyed to employees and four large-scale lectures were held in 2021 to allow new employees to complete their education and training via in-person courses. Make online training courses available to indirect labor employees around the world every year.	General employees (indirect labor employees)	Covering 63% of new indirect labor employees in Taiwan (excluding direct labor employees) Online courses cover 96% of global indirect labor employees (excluding direct labor employees)
Education and Training, Occupational Safety and Health	Employees are regularly trained via online courses every year for occupational safety and health concepts and safety and health work rules and knowledge, emergency response, fire and first aid knowledge and drills, etc.	All employees (direct labor and indirect labor employees)	Covering 100% of Taiwan employees (including direct labor and indirect labor employees)
Promotional Course, Information Security	Employees are regularly trained via online courses every year for common information security risks and cases, basic principles of information security, information security regulations that employees should abide by, etc.	General employees (indirect labor employees)	Covering 100% of new indirect labor employees in Taiwan (excluding direct labor employees)

Effectiveness Assessment

Item	Effectiveness Evaluation Mechanism	2021 Evaluation Results	2021 Management Policy Adjustments
Advantech Institute e-Learning Platform	Usage rate and individual course satisfaction, to control course quality	Usage rate of 31.8%	We plan to add English content in 2022, increasing the usage rate of our e-Learning platform for indirect labor employees around the world
LEAP Workout	Promotion rate	Promotion rate of 21%	We plan to increase the coverage of major issues at European and American companies in 2022.
Elite Mentoring	Satisfaction	Satisfaction of 4.87%	-
Talent Radar Review (Global 50)	Global Talent retention rate	Global Talent retention rate 100%	NA
New recruit training	New recruit coverage rate	In 2021, there were four events with a total of 307 participants, including new indirect labor colleagues with a coverage rate of 100%	-
Promotional Course, Information Security	Indirect labor employee coverage	Covering 100% of new indirect labor employees in Taiwan	Expanding to indirect labor employees worldwide in 2022 as an online course

Employee average training hours

Region	Gender	Total hours of e-Learning training	Number of employees *	Average hours of E-Learning training per employee
Taiwan	Male	234,422	1,834	128
	Female	175,710	1,352	130
	Total	410,132	3,186	129
China	Male	47,831	2,090	22.8
	Female	34,100	1,575	21.7
	Total	81,931	3,665	22
Japan	Male	44	70	0.6
	Female	36	27	1.3
	Total	80	97	0.8
Total	Male	282,297	3,994	71
	Female	209,846	2,954	71
	Total	492,143	6,948	71
Data Coverage	Throughout the whole year of 2021, and covering more than 80% of employees (based at the Taiwan Headquarters and in China and AJP, does not include AJMC), total training expenses were NT$ 6,635,480; average training expense per person was NT$ 955; total online training time amounted to 492,143 hours, and the average online training time per person was 71 hours.			

*Note: The total number of employees can be expressed in headcount or full-time equivalent (FTE) and needs to be consistently disclosed and applied across reporting periods and between periods.

Average Education and Training Hours by Job Category

Region	Job category	Total hours of e-Learning training	Number of employees *	Average hours of E-Learning training per employee
Taiwan	R&D employees	182,769	1,333	137
	Marketing business	36,062	251	144
	Administrative employees	45,874	322	142
	Manufacturing employees	145,427	1,280	114
	Total	410,132	3,186	129
China	R&D employees	1,767	430	4.1
	Marketing business	17,604	567	31
	Administrative employees	6,160	387	15.9
	Manufacturing employees	56,400	2,281	24.7
	Total	81,931	3,665	22
Japan	R&D employees	14	14	1
	Marketing business	33	61	0.5
	Administrative employees	33	11	3
	Manufacturing employees	0	11	0
	Total	80	97	0.8
Total	R&D employees	184,550	1,777	103.8
	Marketing business	53,699	879	61
	Administrative employees	52,067	720	72.3
	Manufacturing employees	201,827	3,572	56.5
	Total	492,143	6,948	71
Data Coverage	Throughout the whole year of 2021, and covering more than 80% of employees (based at the Taiwan Headquarters and in China and AJP, does not include AJMC), total training expenses were NT$ 6,635,480; average training expense per person was NT$ 955; total online training time amounted to 492,143 hours, and the average online training time per person was 71 hours.			

*Note: The total number of employees can be expressed in headcount or full-time equivalent (FTE) and needs to be consistently disclosed and applied across reporting periods and between periods.

Improvement Plans

In order to further promote internal talent flow, the transfer, rotation, and secondment mechanisms will be optimized in 2022 to increase employees' career horizontal development opportunities and enhance their horizontal development experience for the sake of cultivating composite talent.

In 2021, the usage rates of our digital e-Learning platform increased steadily in Chinese-speaking regions, but there was still room for improvement in usage rates in non-Chinese-speaking regions. English content will be added in 2022 so that indirect labor employees around the world can enjoy diverse courses on our digital learning platform.

5.2 Employee Communication and Benefits

5.2.1 Employee Human Rights and Employee Rights Protection

Human Rights Management

Advantech has formulated the Advantech Human Rights commitment to protect the basic human rights of all employees, suppliers, customers and stakeholders. We consider the international human rights framework, Company development strategies and external trends, including the Universal Declaration of Human Rights, the United Nations Global Compact, and the International Labour Organization's Declaration on Fundamental Principles and Rights at Work. We comply with the laws and regulations of the locations in which the Company operates, and we formulate human rights policies in accordance with the United Nations Guiding Principles on Business and Human Rights.

Advantech also has a human rights risk investigation process, regularly conducting impact assessments and overseeing management improvement for targets of concern. In human rights risk investigations, relevant internal audit committees will select relevant risk topics (covered by "Human Rights Risks"), and then review the risk ratings of each issue and identify high-risk groups for management. No complaints of discrimination and harassment occurred in 2021.At the same time, Advantech's employees are also required to abide by the Advantech Business Conduct and shall not engage in any discrimination or other human rights violations. In order to ensure that all employees understand and abide by the above policies, the Company conducts education and training on the Advantech Business Conduct as well as laws and regulations every year. In 2021, the education and training coverage rate of the Advantech Business Conduct was 100% (indirect labor employees), and the training completion rate was 93%.

*Note: For direct employees, the Advantech Taiwan Manufacturing Center (factory) regularly conducts education and training on the Advantech business Conduct including anti-discrimination and anti-harassment every year, with a coverage rate of 100%.

Reporting and Complaint Mechanisms

Since 2015, Advantech has formulated a "Wrongful Infringement Prevention Plan" in accordance with the Guidelines for Preventing Illegal Infringement in the Performance of Duties of the Occupational Safety and Health Administration of the Ministry of Labor. This is to prevent the Company's employees from being subjected to unlawful acts of abuse on the part of employers, supervisors, colleagues, and service counterparties in the course of business and in a work-related environment (including commuting), and from encountering external aggressive behavior (hereinafter referred to as workplace violence) that causes physical or mental harm, including physical, verbal, psychological, or sexually harassing behavior.

Mechanism for complaints or notification: When an employee suffers an unlawful physical or mental infringement in the performance of his or her duties, he or she should fill in the Workplace Wrongful Infringement Notification and Handling Form (the "Form") to notify supervisors (or personnel units) at all levels. Alternatively, he or she may submit a complaint using the complaint channel set up by the Company for that purpose (by telephone, fax, or e-mail). After the complaint is received by related personnel, the notification form shall then be filled out by the person handling the case.

Notification processing: processing of complaints or notification must ensure objectivity, fairness, and impartiality, and implement the protection of rights and privacy of victims, complainants, and informants. After receiving the notification, supervisors at all levels, personnel units, and labor safety personnel should fill in the notification form within 24 hours. It must be carried out in accordance with the process for handling unlawful physical or mental infringement in the performance of duties (see table below).

Figure 5.2.1: Reporting and Complaint Mechanisms

Employee encounters alleged workplace violence

Employee complaint or notification

Immediate handling

Internal violence	External violence
Notify the head of the division	Call security or the police

Fill in"Workplace Wrongful Infringement Notification and Handling Form"

Set up a handling task force to track handling
(investigation is not public)

Summon relevant personnel
Unit supervisor, labor safety personnel, human resources, labor representatives

Coordinated handling

Employee care	Disposition of personnel
• Job adjustment suggestions • Psychological counseling	• Internal disciplinary actions • Job adjustment suggestions

Review and improvement of preventive measures

Case closed

Freedom of Association

We support various employee self-organized associations and trade union activities at different levels in each region. (For example, Advantech's branches in Germany, the Netherlands, and Japan all have labor unions, and our branch in France also has labor representatives) promoting equal rights and interests of employees everywhere.In Europe, some parts of Advantech Germany (Advantech Europe B.V. and Advantech GmbH.) and Advantech Netherlands have labor unions initiated by employees (Worker Councils). They will regularly elect employee representatives from the labor union organization, and the representatives of the labor union organization will regularly hold labor-management meetings with the Company on employee-related issues and exercise the right to collective bargaining. Advantech France also regularly elects labor representatives who speak out for employee-related issues and conduct labor-management meetings.

In Asia, Advantech Japan has established a trade unions the accounts for 58% of all Advantech employees in Japan (including the Japan factory). Advantech China (including factories) organizes representatives through the Employee Welfare Committee to regularly discuss and make decisions on employee welfare-related issues. Advantech Taiwan also has organized and operates an Employee Welfare Committee. In addition, Advantech's Taiwan factories (the Donghu and Linkou factories) hold regular labor-management meetings on a quarterly basis to communicate issues of labor rights and interests (including salaries, attendance and benefits, etc.), listen to the voices of colleagues, and discuss and make decisions on key issues.

Advantech hopes to minimize human rights conflicts. Therefore, the following management measures are implemented among employees, suppliers and customers; and we publicly disclose the relevant methods.

Groups of Concern	Identification of Issues	Due Diligence	Mitigation/Management Actions	Management of Objectives	Actively Disclosure of Location
Employees	1. Assist employees in maintaining physical and mental balance	**Applicable to Taiwan region** Annual Employee Workplace Health Questionnaire- It includes questions related to “Investigation of Physical and Mental Health of Employees and Risk of Overwork” to monitor risks related to the physical and mental health of employees	**Applicable to Taiwan/China/Japan region** ● The Employee Welfare Committee holds various activities ● Provide a health examination system that exceeds the requirements of to the law **Applicable to Taiwan region** ● The content of safety and health education is included in the new recruit training held every two months ● Promote employee assistance programs (EAP) ● In accordance with the law, establish labor (occupational) safety and security and occupational care personnel organizations to ensure the implementation of workplace health protection mechanisms such as “Occupational Safety and Health" and the "Ergonomic Hazard Prevention Plan."	**Applicable to Taiwan/China/Japan region** Provide employee health checks once a year **Applicable to Taiwan/China** ● In 2021, a total of 21 associations were established in Taiwan, with more than 1,000 participants. In the mainland China region (including all offices), there are 73 associations with more than 1,600 people participating ● Six associations have been established in Kunshan with 186 participants **Applicable to Taiwan region** ● The content of safety and health education is included in the new recruit training held every two months ● Establish labor (occupational) safety and security as well as occupational care personnel in accordance with the law (average sufficiency in 2021: 12 safety and security personnel and five occupational care personnel)	**Applicable Worldwid** Advantech’s Official Website Human Rights Commitment **Applicable to Taiwan region** ● Employee Benefits and Rewards ● Occupational Safety and Health ● Employee Assistance Program (EAP) Platform ● Ergonomic Hazard Prevention Program

Groups of Concern	Identification of Issues	Due Diligence	Mitigation/Management Actions	Management of Objectives	Actively Disclosure of Location
Employees	1. Assist employees in maintaining physical and mental balance		• Promote employee care mechanisms such as on-site physician services, on-call pharmacists, and employee health reports • Provide employees with emergency relief funds to relieve life and psychological pressures for employees under special circumstances		
	2. Work Diversity	**Applicable Worldwide** Open recruitment vacancies must not involve requirement of gender, race, religious belief, nationality, or age **Applicable to Taiwan region** The HR Dashboard monitors job diversity and workforce distribution data (such as: ratio of males and females, age distribution of labor force, distribution of job types, etc.)	**Applicable Worldwide** • In accordance with the provisions of non-discrimination in human rights standards, public recruitment and internal transfers are to be carried out on the basis of equal opportunity • Advantech respects employees' equal opportunities for appointment and career development, and these will not be subject to differential treatment based on factors such as personal gender, race, religion, political affiliation, sexual orientation, job ranking, nationality, age, nor will any form of discrimination affect hiring opportunities	**Applicable Worldwide** Hiring appointments are to be based on the applicant's academic experience and ability, and not affected by differences in gender, race, religious belief, party affiliation, sexual orientation, rank, nationality, or age.	**Applicable Worldwide** Advantech's Official Website Human Rights Commitment • Diversity in work categories • RBA Validated Assessment Program (VAP) operation manu **Applicable to Taiwan region** Act of Gender Equality in Employment
	3. Sexual Harassment Prevention & Zero Discrimination in the Workplace	**Applicable Worldwide** Advantech complies with the instructions of the RBA Validated Assessment Program (VAP) operation manual, carrying out regular internal and external audits of the Company as well as supplier audits **Applicable to Taiwan** • Annual Employee Workplace Health Questionnaire- • This includes questions related to the "Workplace Violence Hazard and Risk Survey" to monitor the risk of workplace sexual harassment and workplace discrimination violence	**Applicable to Taiwan** • There is a Gender Work Equality Committee organized under the Act of Gender Equality in Employment; and we have formulated Guidelines for Handling Complaint and Punishment of Workplace Sexual Harassment for Handling Complaints and Disciplinary Measures; and we have promoted these initiatives through assemblies, e-mail, and so on. • Through labor (occupational) safety and security as well as occupational care personnel organizations, in order to ensure the implementation of "Occupational Safety and Health" norms and the implementation of the Wrongful Infringement Prevention Plan	**Applicable Worldwide** No discrimination and harassment complaints occurred in 2021	**Applicable Worldwide** Employee Code of Conduct **Applicable to Taiwan** • Guidelines for Handling Complaint and Punishment of Workplace Sexual Harassment • Wrongful Infringement Prevention Plan and Workplace Wrongful Infringement Notification and Handling Form
Children & Forced Labor	No Child Labor & No Forced Labor/Human Trafficking	**Applicable Worldwide** Advantech complies with the instructions of the RBA Validated Assessment Program (VAP) operation manual, carrying out regular internal and external audits of the Company as well as supplier audits	**Applicable Worldwide** • Advantech internally checks resumes and actual ages before recruitment. If a person is under the age of 18, he or she will not be accepted • All members of Advantech's Preferred Vendor List and new suppliers are required to sign the "Advantech Supplier Code of Conduct " which includes required commitments for suppliers to safeguard labor rights in accordance with internationally recognized standards	**Applicable Worldwide** • In 2021, Advantech and Advantech's suppliers achieved zero child labor and zero forced labor • In 2021, all members of Advantech's Preferred Vendor List and new suppliers were required to sign the "Advantech Supplier Code of Conduct ." • In 2021, the Company conducted internal and external audits, and existing suppliers passed the audits	**Applicable Worldwide** Advantech's Official Website Human Rights Commitment • Advantech's Supplier Code of Conduct • RBA Validated Assessment Program (VAP) operation manu

Groups of Concern	Identification of Issues	Due Diligence	Mitigation/Management Actions	Management of Objectives	Actively Disclosure of Location
Individuals with disabilities	Hiring of individuals with disabilities	**Applicable to Taiwan** We regularly track the number of employees with disabilities every month in accordance with labor laws and regulations	**Applicable Worldwide** Advantech respects employees' equal opportunities for appointment and career development, and these will not be subject to differential treatment based on factors such as personal gender, race, religion, political affiliation, sexual orientation, job ranking, nationality, age, nor will any form of discrimination affect hiring opportunities	**Applicable to Taiwan** According to Taiwan's People with Disabilities Rights Protection Act, the number of persons with disabilities employed by an enterprise shall not be less than 1% of the total number of employees. If the weighted total value does not meet the standard, the Company is required to make regular "difference subsidy" payments into the employment fund for people with disabilities overseen by the competent labor authority.	**Applicable Worldwide** Advantech's Official Website Human Rights Commitment
Foreign workers	1. Zero-discrimination hiring 2. Compliance with laws and regulations	**Applicable Worldwide** Advantech complies with the instructions of the RBA Validated Assessment Program (VAP) operation manual, carrying out regular internal and external audits of the Company	**Applicable Worldwide** Advantech's recruitment of foreign migrant workers is evaluated according to standards of individual ability. It is not subject differential treatment, or any form of discrimination that affects employment opportunities, including those involving personal gender, race, religious belief, political affiliation, sexual orientation, rank, nationality, or age.	**Applicable Worldwide** ● Recruiting foreign migrant workers with zero discrimination ● Externally audited by RBA	**Applicable Worldwide** Advantech's Official Website Human Rights Commitment
Third party contractor Staff member	Compliance with Advantech Supplier Code of Conduct	**Applicable Worldwide** Advantech complies with the instructions of the RBA Validated Assessment Program (VAP) operation manual, carrying out regular audits of Preferred Vendor List and new suppliers	**Applicable Worldwide** ● Comply with different social responsibility standards and with regulations of local authorities ● Prohibit of child labor and forced labor ● Provide a healthy and safe working environment ● Promote labor-management cooperation ● Do not accept metals (Au, Ta, Sn, W, Co) from conflict mining countries, and trace metal sources and smelters used in components ● Reject any form of corruption, extortion, blackmail, and bribery	**Applicable Worldwide** Sign the supplier code of conduct supplier letter with third-party contractors	**Applicable Worldwide** Advantech's Supplier Code of Conduct

5.2.2 Employee Relations

ABLE Club teams up with Advantech Beautiful Life to create an Altruistic Happy Enterprise

"Talent Invigoration" stands as Advantech's core value, and "Working & Learning Toward a Beautiful Life" fuels Advantech's growth momentum. Through Advantech's "ABLE Club", which combines employee relations ES&R, the Foundation, and the Welfare Committee, we encourage colleagues to pursue innovative learning opportunities, experience life, and contribute to society in their spare time. Through different aspects such as sports, LOHAS, health, art, education, public welfare, and so on, we hope to deepen the emotional communication between colleagues, their family members, and society, and thereby boost our team spirit!In addition, we also support colleagues from the workplace to society, caring for the community and promoting public welfare. Through sharing and mutual assistance, we can tangibly practice the concept of altruism and create a happy life together!

Employee Relations and Communication

Advantech has set up multiple two-way communication channels in order to maintain smooth and harmonious employee relations. In addition to disseminating information, we also immediately listen and respond to the voices of colleagues. Through colleagues' suggestions, we improve and optimize employee service content and workplace harmony and thereby ensure employees' rights.

Employee communication

1 **Website**	● Employee Zone: In accordance with message content, we feature "Corporate News," "Office Bulletin," and "Regional News" sections so that important Company information can be immediately announced and communicated with colleagues for their real-time understanding. Furthermore, the rules and regulations as well as management measures of the Company are listed in detail on the website for convenient employee reference at any time. ● ABLE Club website: Employee care, Welfare Committee and Foundation activity information and registration, club information, special stores, activity reports and tidbits, etc.
2 **Videos**	We publish Executive Talk videos on internal platforms, with a 5-10 minute essential explanation of content given presented by senior executives in Chinese and English. Topics include annual strategic development, financial trends, sustainable vision, innovation mechanisms, new market strategies, and so on. This approach accurately and instantly conveys corporate strategy to Advantechers around the world to achieve effective and transparent communication.
3 **Email announcements**	● HR: Important company information, courses, pay and leave related information ● ER Team: Benefits related to activities; issuance of weekly ABLE Club e-newsletter and monthly health reports
4 **In-person meetings**	● Twice a year, we hold a Kick-Off Meeting for indirect labor employees to announce and communicate the Company's important development strategies and vision. We do so to ensure that colleagues can understand the Company's future prospects and grow together with Advantech. ● Each division holds its own internal communication meetings on subjects including division direction, work progress description, new knowledge exchange and sharing, etc., so as to achieve smooth communication and interaction within the department.
5 **Domestic and overseas periodical publications**	Edited and issued by the PR unit, content includes the vision of the Company's senior executives and focuses on thematic business examples, and so on.
6 **Social Media**	● ABLE Club FB: Video highlights to announce event information, event albums, etc. ● LINE Community: Event information sharing announcements, key information push broadcasts, immediate consultation and assistance for colleagues in need, announcement and communication of emergency contact information during the pandemic prevention period
7 **Others**	● Internal digital signage to convey spirit and informational announcements concerning the Company's culture. ● In addition to learning courses on our e-Learning website, we also recorded many videos to convey the Company's core values and culture.

Employee complaints

Complaint channels: Complaint hotline, email, suggestion box (EZ) with business group personnel unit; see 5.2.1 Reporting and Complaint Mechanisms for details.

ABLE Club

All colleagues are important partners of Advantech's sustainable development, and every colleague also represents a precious family. In order to allow colleagues to feel at ease in Advantech's workplace and contribute their strengths while sharing a good life with their families, we not only provide welfare measures that are in line with or better than regulations, but also continue to promote various activities including sports, LOHAS, health, art, education, public welfare, and so on. All partners are invited to participate and create a happy life together!

Employee Care and Welfare

Life is not just about work. We are keen to keep our employees healthy and happy, so we offer benefits such as: marriage allowance, maternity allowance, hospital condolence allowance, bereavement condolence allowance, emergency relief fund, and New Year's festival and holiday benefits (Dragon Boat Festival/Mid-Autumn Festival/ birthdays). Furthermore, the Company provides various insurance benefits in accordance with the law, including pension provisions and group insurance, to ensure the work and life security of colleagues.

List of Benefits by Region

	Taiwan	Mainland China	Japan
Employee group insurance	Term life insurance Medical insurance Injury insurance	Accident insurance Public transport accident insurance Employer liability insurance	There is no employee group insurance (the government provides labor insurance), but health insurance benefits are provided
Health benefits	● Annual employee health check ● A subsidized health check for supervisors at the manager level or above every two years	● Annual employee health check ● Kunshan: Employees at the vice president level and above enjoy additional items for physical examination	Annual employee health check
Marriage allowances	✓	✓	✓
Childbirth allowances	✓	✓	✓
Hospital condolence allowances	✓	✓	✓
Bereavement condolence subsidies	✓	✓	✓
Emergency relief funding	Emergency relief funding is provided with the support of the Foundation (within NT$200,000)	● ACN: For this assistance fund, if an employee or immediate family member suffers from a serious illness, the Company will provide an assistance fund of 20,000-50,000 RMB ● Kunshan: In the event of serious injury, illness, or emergencies among employees, their children, or spouses, the Foundation will provide support for emergency relief funding (within RMB10,000).	-
New Year's festival and holiday benefits (Dragon Boat Festival/Mid-Autumn Festival/Birthdays)	✓	✓	-

Retirement System

Taiwan: The pension provision system is divided into two categories. We comply with the monthly provision in accordance with the law and they are allocated in full.

1.For those retirement reserves that are allocated monthly in accordance with the provisions of the old system of pensions, they are managed by the Labor Retirement Reserve Supervision Committee and deposited into a special bank account in Taiwan in the name of the Committee.

2.The new system of pensions allocates 6% of monthly salary to employees' individual pension accounts. Employees are also required to allocate 0% to 6% of their salaries to the individual pension account each month according to their personal wishes; and the Company deducts the amount of the provision from the employees' salaries on a monthly basis.

Mainland China: In accordance with the relevant laws and regulations for retirement in mainland China. Employees who have paid into the statutory social insurance for 15 years can receive monthly pensions after retirement. Retirement age according to labor law: the retirement age for male employees is 60. The retirement age for female executives is 55, while the retirement age for female employees is 50 years old.

Japan: In accordance with the law, 9.15% is allocated to the government annuity account on a monthly basis. In addition, 1.73~2% of total monthly salaries are paid to the bank pension accounts.

Employee Stock Ownership

In order to attract and retain outstanding talent to the Company, and to enhance employee motivation and commitment to the Company, so as to jointly create benefit for the Company and its shareholders, pursuant to Article 28-3 of the Securities and Exchange Act and of the Regulations Governing the Offering and Issuance of Securities by Securities Issuers issued by the Financial Supervisory Commission and other relevant regulations, we have formulated the Company's procedures for issuance of employee stock option certificates and for stock subscription. For relevant information, please refer to the Annual Report.

Employee Assistance Programs (EAPs)

Starting from December 2021, Advantech is cooperating with the Teacher Chang Foundation to provide unlimited free telephone and mail consultation services (with complete confidentiality). Whether they have mental, health, legal or financial difficulties or other intractable conditions, colleagues can seek a consultation to obtain assistance and care for the health of their "hearts."

Employee Health Promotion

- Advantech provides colleagues with free health checks every year (exceeding regulatory requirements by providing extraordinary checks such as fecal occult blood, cancer screenings, etc.). The number of people in each examination round was reduced in 2021 in consideration of the need for pandemic prevention, in line with the maximum number of people allowed indoors in the command center. Furthermore, clean-up operation are strictly implemented so that colleagues can undergo examinations with peace of mind. A total of 16 health checks were performed in 2021 for a total of 2,322 individuals (excluding dependents).
- We recognize the need to minimize the risk of infection for colleagues entering and leaving medical institutions, and consider the fact that that many colleagues are busy with their work and are unable to take time to go to the pharmacy to collect chronic prescription medications. Starting from January 2021, Advantech has therefore specially cooperated with the "Call a Pharmacist" drug delivery platform to provide in-company drug delivery and drug collection services every month (including collections on behalf of dependents), so that colleagues can receive their medications quickly and conveniently.
- In 2021, a total of five health lectures were held (onsite and online) to care for colleagues facing issues of hypertension, mental health, sleep, and pregnancy, with a total of 603

Lecture Date	Event name	Number of participants
2021/11/10 Wed.	"There is no invincible umbrella in the world - a journey of healing and self-care"	128
2021/10/27 Wed.	"Unpaid of your sleep debt, but begging to wake up lightly"	126
2021/10/14 Thurs.	"Hello 'pregnancy' - the way to successful pregnancy"	82
2021/3/3 Wed.	Linkou: "To prevent aortic dissection? Control your high blood pressure!"	153
2021/1/ 6 Wed.	Neihu: "To prevent aortic dissection? Control your high blood pressure!"	114

Enriching Community Activities

In order to promote more interaction among colleagues and achieve work-life balance, Advantech has encouraged colleagues to set up and develop various diverse community activities over the years. In 2021, a total of 21 associations were established in Taiwan including those encompassing sports, LOHAS, arts and culture, and charities, with more than 1,000 participants. In the mainland China region (including all offices), there are 73 associations with more than 1,600 participants; six associations have been established in Kunshan with 186 participants.

2021 Neihu Technology Park Love the Earth Charity Road Run

Table 5.2.2: Diversity Lectures (Education, Health, Guided Reading)

"Parents must listen! Foundation Education Lecture Series"		
	3/4(Wed)	**"The concept and preparation of the learning history file"**
	5/27(Wed)	**"Moving forward to the unknown while reading"**
	7/1(Wed)	**"Living a wonderful life with children"**
	9/2(Wed)	**"Parents are important promoters of literacy development"**

Employee Engagement Survey

Since 2018, Advantech has taken the lead in promoting an annual employee engagement survey of all employees in China. Furthermore, we expanded the survey area in 2021 to add the European region (a full survey of non-management colleagues) and Taiwan (with 50 people sampled for the survey).Since the survey began, the annual satisfaction rate has exceeded 90%. Furthermore, we plan to continue to expand the survey area; by 2021, the global survey coverage was about 72.1%. This will be taken as a reference for Advantech to continuously improve and strengthen employee relations.

	2018	2019	2020	2021
Employee engagement	97%	97%	98%	93.6%
Survey coverage	26.5%	28.5%	26.6%	72.1%

COVID-19 Response

Each item of Advantech's pandemic prevention actions are not only guided by the Central Epidemic Command Center but also adjusted at any time by a rolling response mechanism according to the Company's circumstances. Beginning in May 2021, Taiwan's pandemic situation became severe. After the initiation of a level-three alert, the Company sought to sustain the physical and mental health of colleagues through the following pandemic prevention measures:

- Made immediate announcements of pandemic prevention information on the EZ bulletin board and in the Covid-19 staff area
- Initiated the work from home (WFH) mechanism for colleagues to redirect their work
- Colleagues took out pandemic prevention insurance and vaccine insurance (all colleagues in service before June 11, 2021 are insured)
- Implemented quick corporate screening (a total of eight sessions including colleagues and third-party manufacturers, with more than 3,000 individuals examined)
- Further distributed home rapid screening reagents to colleagues (more than 1400 registrations)

In order to let colleagues know information quickly, we also used the LINE community as a channel for instant messaging. We used this channel to remind colleagues of various pandemic prevention measures and update colleagues' health statuses and other information. Furthermore, community voting enabled us to understand colleagues' views, efficiency, and suggestions in respect to WFH.

Table 5.2.2: COVID-19 Response

Group A / Group B Office indirect labor employees to be assigned by supervisor into two groups designated "A" and "B"	The two “A” and “B” groups colleagues alternately go to work in the Company Work in the Company week: Group A (5/17-21); Group B (5/24-28) Work at home week: Group A (5/24-28); Group B (5/18-21)
Group C Direct labor employees and a portion of indirect labor employees in the manufacturing system	To be divided according to day and night shifts, and pandemic prevention management will be strictly implemented in each factory area and floor. Please follow the announcements of each factory area.
Group D Primarily each top-level aide in COE and SBG	Based on 50% of working hours, the decision will be made by the COE & SBG heads, and supervisors will make allocations to the company and home working hours according to work needs

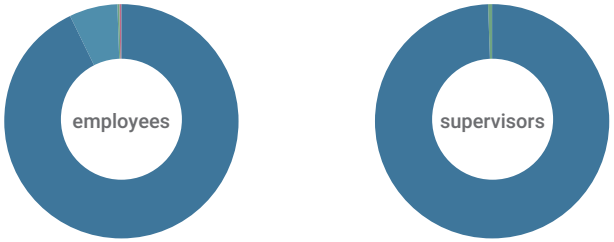
5.3 Diversity and Inclusion

Advantech Global Diversity and Equality Policy

Advantech has long been actively promoting gender equality in the global workplace in order to promote workplace diversity and work equality. For example, there is no gender difference in the salary system; there is a fair and just performance appraisal and promotion system; we have flexible working hours to support women in management positions; and we place emphasis on women's family care.We ensure that employment conditions are not affected by gender, race, religion, political affiliation, marital status, or differential treatment in salary. Advantech has established a clear recruitment strategy around the world to strengthen the diversity of employees, and has gradually eliminated basic differences caused by the influence of physical or psychological conditions of employees through internal diversified training and talent development channels. Furthermore, we regularly review the salary and reward-related indicators of various regions and of each type of work and ranking to ensure the implementation and creation of a diverse and equal workplace environment.

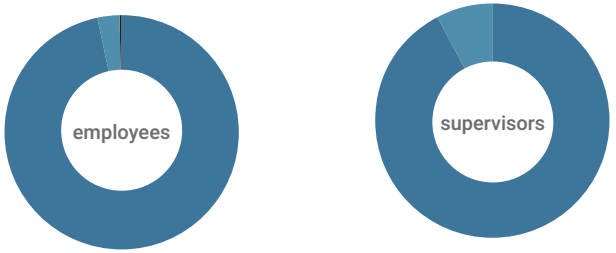
Employee composition

Advantech Taiwan



Nationality	Number of employees	Proportion of number of employees	Number of supervisors (above the deputy manager level)	Proportion of managers (above the deputy manager level)
Taiwan	2964	93.03%	538	99.54%
Philippines	204	6.40%	-	-
China	3	0.09%	1	0.18%
Malaysia	3	0.09%	2	0.37%
Japan	1	0.03%	-	-
United Kingdom	2	0.06%	-	-
United States	1	0.03%	-	-
Other	8	0.25%	-	-

Advantech China

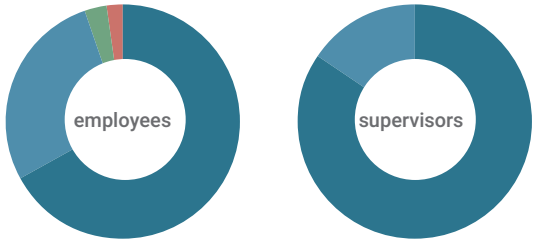


Nationality	Number of employees	Proportion of number of employees	Number of supervisors (above the deputy manager level)	Proportion of managers (above the deputy manager level)
China	1155	96.73%	277	92.33%
Taiwan	38	3.18%	23	7.67%
Malaysia	1	0.08%	-	-

Advantech China Kunshan Factory

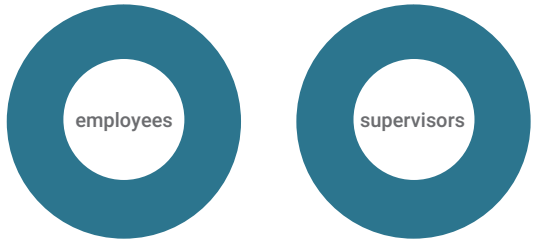
Nationality	Number of employees	Proportion of number of employees	Number of supervisors (above the deputy manager level)	Proportion of managers (above the deputy manager level)
China	2459	99.51%	110	90.91%
Taiwan	12	0.49%	11	9.09%

Advantech Japan (AJP)



Nationality	Number of employees	Proportion of number of employees	Number of supervisors (above the deputy manager level)	Proportion of managers (above the deputy manager level)
Japan	65	67.01%	11	84.62%
Taiwan	27	27.84%	-	-
ChinaF	3	3.09%	-	-
United States	2	2.06%	2	15.38%

Advantech Japan Factories (AJMC)



Nationality	Number of employees	Proportion of number of employees	Number of supervisors (above the deputy manager level)	Proportion of managers (above the deputy manager level)
Japan	138	100%	13	100%

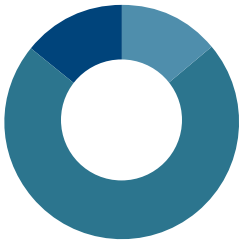
Diversity Hiring

Youth workforce under 30 years old

Prime-of-life workforce 30-50 years old

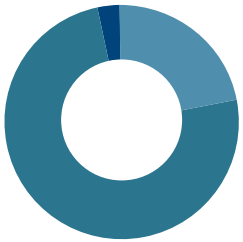
Senior workforce over 50 years old

Advantech Taiwan



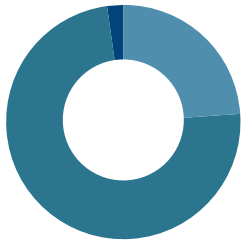
Age distribution	Number of employees	Proportion of number of employees
under 30 years old	438	14%
30-50 years old	2306	72%
over 50 years old	442	14%
Staff with disabilities	26	0.82%

Advantech China



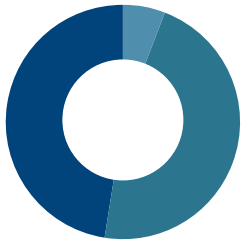
Age distribution	Number of employees	Proportion of number of employees
under 30 years old	265	22%
30-50 years old	897	75%
over 50 years old	32	3%
Staff with disabilities	2	0.17%

Advantech China Kunshan Factory



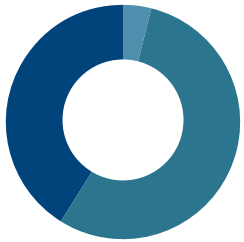
Age distribution	Number of employees	Proportion of number of employees
under 30 years old	585	24%
30-50 years old	1837	74%
over 50 years old	49	2%
Staff with disabilities	0	0%

Advantech Japan (AJP)



Age distribution	Number of employees	Proportion of number of employees
under 30 years old	6	6%
30-50 years old	45	46%
over 50 years old	46	47%
Staff with disabilities	0	0%

Advantech Japan Factories (AJMC)



Age distribution	Number of employees	Proportion of number of employees
under 30 years old	6	4%
30-50 years old	76	55%
over 50 years old	56	41%
Staff with disabilities	2	1.45%

Proportions of Female Employees/Female Supervisors

Advantech is a manufacturer in an industry dominated by high tech. Nonetheless, our proportion of female employees has increased annually in the past three years to reach 42% currently. Out of this, the proportion of female supervisors in Advantech is 25% (or a 92.7% retention rate). It is estimated that in 2025, the proportion of female employees in Advantech Taiwan will remain between 40% and 45%.; and the proportion of female supervisors will remain between 23% and 26%.More than a quarter of Advantech's global headquarters management team is made up of female executives (Executive Team - Advantech). In 2017, Ms. Linda Tsai was promoted to President of Industrial-IoT Group, becoming the top female executive among the three co-governing presidents. This reflects the generational heritage and gender equality among our professional managers.

Region	Year	2019	2020	2021
Advantech Taiwan	Proportion of female employees	41%	42%	42%
	Proportion of female supervisors	25%	25%	25%
	Proportion of female basic/management-level supervisors	15%	15%	14%
	Proportion of female senior executives	1%	2%	2%
	Proportion of female supervisors in profit center units (excluding HR, IT, legal and other support units)	20%	19%	19%
	Proportion of female employees with STEM positions (science/technology/engineering/mathematics)	21%	22%	22%
Advantech China	Proportion of female employees	41%	40%	39%
	Proportion of female supervisors	37%	37%	34%
	Proportion of female basic/management-level supervisors	21%	21%	17%
	Proportion of female senior executives	2%	2%	2%
	Proportion of female supervisors in profit center units (excluding HR, IT, legal and other support units)	34%	29%	26%
	Proportion of female employees with STEM positions (science/technology/engineering/mathematics)	36%	35%	36%
Advantech China Kunshan Factory	Proportion of female employees	46%	46%	45%
	Proportion of female supervisors	36%	37%	36%
	Proportion of female basic/management-level supervisors	18%	19%	17%
	Proportion of female senior executives	0%	0%	0%
	Proportion of female supervisors in profit center units (excluding HR, IT, legal and other support units)	31%	32%	26%
	Proportion of female employees with STEM positions (science/technology/engineering/mathematics)	29%	28%	28%

Region	Year	2019	2020	2021
Advantech Japan (AJP)	Proportion of female employees	31%	30%	31%
	Proportion of female supervisors	2%	2%	2%
	Proportion of female basic/management-level supervisors	0%	0%	0%
	Proportion of female senior executives	2%	2%	2%
	Proportion of female supervisors in profit center units (excluding HR, IT, legal and other support units)	1%	1%	1%
	Proportion of female employees with STEM positions (science/technology/engineering/mathematics)	0%	0%	0%
Advantech Japan Factories (AJMC)	Proportion of female employees	29%	28%	28%
	Proportion of female supervisors	0.7%	0.7%	0.7%
	Proportion of female basic/management-level supervisors	0%	0%	0%
	Proportion of female senior executives	0%	0%	0%
	Proportion of female supervisors in profit center units (excluding HR, IT, legal and other support units)	18%	18%	17%
	Proportion of female employees with STEM positions (science/technology/engineering/mathematics)	0%	0%	0%

*Note:

1. Basic/management-level supervisor refers to levels between project supervisor and senior manager.
2. Senior executive refers to levels at director and above.

Evaluation and Promotion System

In Advantech's evaluation and promotion system, we ensure that gender discrimination or pregnancy or family care leave for female employees does not affect the results of performance evaluations or promotions. Advantech's performance appraisal and employee promotion policies are based on colleagues' job responsibility expectations and annual performance appraisal goals. Furthermore, this is fully disclosed in Advantech's performance appraisal system on the basis of complete fairness and full two-way communication between supervisors and employees.

2021	Advantech Taiwan	Advantech China	Advantech China Kunshan Factory	Advantech Japan
Proportion of female employees ranked as "excellent" in the evaluation (%)	37%	36%	44%	44%
Proportion of female employees promoted to supervisor level (%)	38%	38%	44%	0%

Performance Appraisal Acceptance Rates among Employees in Four Major Professional Categories

Region	Four major professional categories	Males, performance appraisal acceptance rates	Females, performance appraisal acceptance rates
Advantech Taiwan	Research and development	97%	91%
	Marketing business	94%	90%
	Administrative	86%	82%
	Manufacturing	88%	95%
	Total ratio	**94%**	**92%**
Advantech China	Research and development	89%	87%
	Marketing business	90%	90%
	Administrative	84%	79%
	Total ratio	**89%**	**88%**
Advantech China Kunshan Factory	Administrative	98%	97%
	Manufacturing	96%	96%
	Total ratio	**96%**	**96%**
Advantech Japan	Research and development	86%	-
	Marketing business	95%	95%
	Administrative	100%	100%
	Manufacturing	86%	100%
	Total ratio	**93%**	**97%**

*Note: Advantech's Japan factory comprises mostly direct labor employees, who are not included in the evaluation statistics.

Performance Appraisal Acceptance Rates among Employees in Two Major Occupational Functions

Region	Two major occupational functions	Males, performance appraisal acceptance rates	Females, performance appraisal acceptance rates
Advantech Taiwan	Senior executive	96%	77%
	General employees	73%	84%
	Total proportion	**74%**	**84%**
Advantech China	Senior executive	100%	100%
	General employees	88%	88%
	Total proportion	**89%**	**88%**
Advantech China Kunshan Factory	Senior executive	100%	100%
	General employees	96%	96%
	Total proportion	**96%**	**96%**
Advantech Japan	Senior executive	100%	100%
	General employees	92%	96%
	Total proportion	**93%**	**97%**

*Note:
1. The above performance appraisal acceptance rates are calculated based on the total number of individuals actually participating in the appraisals (necessarily deducting those who do not complete the three-month probationary period or the numbers of individuals who resigned and did not complete the assessment during the assessment period), divided by the total number of individuals in 2021.
2. The aforementioned senior executives refer to those at the director level or above.
3. Advantech's Japan factory comprises mostly direct labor employees, who are not included in the evaluation statistics.

Living Wage

When exploring human rights risk factors for wages and benefits, we believe that that it is important to consider a living wage to improve the living conditions of workers. We continue to discuss the problems and opportunities of introducing a "living wage" and look forward to a relevant pilot methodology in 2022. Adopting the framework suggested by Anker (2011) and by Anker and Anker (2017), we shall construct a Company-specific living wage and compare it with the prevailing wage to determine whether employee salaries are sufficient to support local standards of living. In the future, this will gradually expand to Advantech's key suppliers and contractors.

Parental Leave/Family Care Leave/ Work From Home

In accordance with Article 16 of the Gender Equality in Employment Act, after a staff member has been employed for six months he or she may make an application for parental leave of absence before each of his or her children reaches the age of three; applications may be made until the child reaches the age of three, but the period shall be effective for not more than two years. Advantech's employees in Taiwan enjoy parental leave in accordance with the law, but there are no regulations concerning parental leave in mainland China. Japan's labor laws also stipulate that for children under one year old, applications may be made for parental leave. During the period of leave, salaries are subsidized by the Japanese government. At Advantech Japan (including the Japanese factory), the number of employees applying for parental leave in 2021 was five, with 100% reinstatement.

Among all Advantech Taiwan employees in 2021 (including male and female employees), the parental leave application rate was 7.85% and the reinstatement rate was 53.85%. Those who continued to work for more than one year after reinstatement from childcare leave in 2020 (retention rate) was 71.43%. Compared to 2020, both the application rate and the reinstatement rate have increased.* Among them, the application rate and reinstatement rate of female employees are much higher than those of male employees.

*Note: In 2020, the parental leave application rate of all employees was 3.81% and the reinstatement rate was 51.5%. Those who continued to work for more than one year after reinstatement from childcare leave in 2019 (retention rate) was 68.8%.

	Male	Female	Total
(a) 2021 Eligibility for parental leave (2019-2021 maternity/paternity leave)	219	112	331
(b) 2021 actual number of individuals using parental leave	5	21	26
(c) Actual number of individuals reinstated from parental leave in 2021	0	14	14
(d) Actual number of individuals applying for parental leave in 2020	3	18	21
(e) Number of people who have continued to work for one year after applying for parental leave in 2020	2	13	15
Parental leave application rate (b/a)	**2.28%**	**18.75%**	**7.85%**
Parental leave reinstatement rate (c/b)	**0.00%**	**66.67%**	**53.85%**
Parental leave rate (e/d)	**66.67%**	**72.22%**	**71.43%**

In addition, Taiwan faced the impact of a local pandemic outbreak in 2021. Under these circumstances many female employees faced the dual responsibility of work and family care, putting them under considerable pressure. In order to help female employees to balance the pressure of family care and work in the social system, Advantech strongly supports employees in applying for family care leave and work from home to balance new work models under the pandemic.

2021	Advantech Taiwan	Advantech Japan	Advantech Japan Factories
Proportion of female employees applying for family care leave (%)	2.71%	2.06%	0%
Proportion of female employees applying for work from home (%)	4.76%	12.03%	0%

*Note:
1. Advantech Japan factory comprises mostly direct employees and there were no family care leave applicationsv
2. Advantech China and the Advantech China Kunshan factory do not have mechanisms for family care leave or work-from-home applications. Only in response to the pandemic will mandatory work from home be implemented in accordance with local government regulations.

Hiring of Persons with Disabilities

According to Taiwan's People with Disabilities Rights Protection Act, the number of persons with disabilities employed by an enterprise shall not be less than 1% of the total number of employees. If the weighted total value does not meet the standard, the Company is required to make regular "difference subsidy" payments into the employment fund for people with disabilities overseen by the competent labor authority.

Advantech applied for employment of 31 persons with disabilities according to law, and by the end of 2021 employed 26 persons with disabilities. The employment-weighted ratio has not yet reached 1% of the total headcount ratio. The main reason for undertaking a manpower policy review is that resume conditions do not meet vacancy requirements, and the difference subsidy has been paid according to law. Furthermore, we will continue to actively pay attention to the resumes of people with disabilities through government employment counseling agencies, and expected that the required number will be filled in the first half of 2022.

In addition, all employees with disabilities are employees who actually participate in the Company's work and business. Before onboarding, Advantech focuses on an individual's physical or mental disabilities to assist colleagues in understanding actual conditions such as commuting lines, work flow, and so on. Furthermore, we provide appropriate personnel, equipment, and working environment assistance after their onboarding so that these colleagues may work with peace of mind.

5.4 Appendix : Occupational Safety and Health; Employee Turnover; Occupational Health and Safety

Employee Structure

2021 Advantech's Number of Employees

Region	Taiwan	China		Japan		Europe	United States	Korea	Other regions	Worldwide total
		ACN	AKMC (Kunshan)	AJP	AJMC					
Number of employees	3186	1194	2471	97	138	460	489	120	339	8494
Note	-	-	Manufacturing Center	-	Manufacturing Center	-	-	-	-	-

*Note: The number of employees does not include affiliated companies

Region	Item		Number and percentage of males %		Number and percentage of females %		Total
Taiwan	Staff employed	Number of people in the company	1834	57.60%	1352	42.40%	3186
	Number of supervisors above the levels of manager and assistant manager		425	78.60%	116	21.40%	541
	Employee age	Below 30 years	215	49.10%	223	50.90%	438
		31-49 years old	1387	60.10%	919	39.90%	2306
		50 years old and over	232	52.50%	210	47.50%	442
	Full-time and contract	Full-time	1794	57.20%	1342	42.80%	3136
		Contract	10	50.00%	10	50.00%	20
		Student participants	30	100.00%	0	0.00%	30
	Functional classification	Research and development	1042	78.20%	291	21.80%	1333
		Marketing business	108	43.00%	143	57.00%	251
		Administrative	119	37.00%	203	63.00%	322
		Manufacturing	565	44.10%	715	55.90%	1280

Region	Item		Number and percentage of males %		Number and percentage of females %		Total
China	Staff employed	Number of people in the company	2090	57%	1575	43%	3665
	Number of supervisors above the levels of manager and assistant manager		108	67%	53	33%	161
	Employee age	Below 30 years	506	59%	345	41%	851
		31-49 years old	1515	55%	1218	45%	2733
		50 years old and over	69	85%	12	15%	81
	Full-time and contract	Full-time	2075	57%	1563	43%	3638
		Contract	10	67%	5	33%	15
		Student participants	6	50%	6	50%	12
	Functional classification	Research and development	246	57%	184	43%	430
		Marketing business	448	79%	119	21%	567
		Administrative	134	35%	253	65%	387
		Manufacturing	1262	55%	1019	45%	2281
Japan	Staff employed	Number of people in the company	166	71%	69	29%	235
	Number of supervisors above the levels of manager and assistant manager		24	92%	2	8%	26
	Employee age	Below 30 years	12	100%	0	0%	12
		31-49 years old	64	53%	57	47%	121
		50 years old and over	90	88%	12	12%	102
	Full-time and contract	Full-time	165	71%	69	29%	234
		Contract	1	33%	2	67%	3
		Student participants	0	0%	0	0%	0
	Functional classification	Research and development	28	100%	0	0%	28
		Marketing business	59	75%	20	25%	79
		Administrative	29	60%	19	40%	48
		Manufacturing	53	66%	27	34%	80

Region	Item		Number and percentage of males %		Number and percentage of females %		Total
Europe	Staff employed	Number of people in the company	310	67%	150	33%	460
	Number of supervisors above the levels of manager and assistant manager		47	89%	6	11%	53
	Employee age	Below 30 years	22	5%	23	5%	45
		31-49 years old	197	43%	98	21%	295
		50 years old and over	91	20%	29	6%	120
	Full-time and contract	Full-time	301	65%	112	24%	413
		Contract	9	2%	38	8%	47
		Student participants	0	0%	0	0%	0
	Functional classification	Research and development	25	5%	8	2%	33
		Marketing business	165	36%	67	15%	232
		Administrative	120	62%	75	38%	195
		Manufacturing	0	0%	0	0%	0
Korea	Staff employed	Number of people in the company	85	71%	35	29%	120
	Number of supervisors above the levels of manager and assistant manager		19	90%	2	10%	21
	Employee age	Below 30 years	26	58%	19	42%	45
		31-49 years old	54	78%	15	22%	69
		50 years old and over	5	83%	1	17%	6
	Full-time and contract	Full-time	84	72%	32	28%	116
		Contract	1	50%	1	50%	2
		Student participants	0	0%	2	100%	2
	Functional classification	Research and development	15	88%	2	12%	17
		Marketing business	34	59%	24	41%	58
		Administrative	17	65%	9	35%	26
		Manufacturing	19	100%	0	0%	19

Region	Item		Number and percentage of males %		Number and percentage of females %		Total
Other regions	Staff employed	Number of people in the company	217	64%	122	36%	339
	Number of supervisors above the levels of manager and assistant manager		41	73%	15	27%	56
	Employee age	Below 30 years	73	68%	34	32%	107
		31-49 years old	128	60%	84	40%	212
		50 years old and over	14	78%	4	22%	18
	Full-time and contract	Full-time	235	67%	114	33%	349
		Contract	3	75%	1	25%	4
		Student participants	3	75%	1	25%	4
	Functional classification	Research and development	18	90%	2	10%	20
		Marketing business	118	71%	49	29%	167
		Administrative	64	54%	55	46%	119
		Manufacturing	23	85%	4	15%	27

*Note:

1. The denominator of the ratios in the above table is the total number of employees in the region.
2. Regular employees are defined as employees who have signed indefinite contracts, and contracted employees are employees who have signed fixed-term contracts.
3. Due to difficulties in data collection, details of the employee structure of Advantech USA are not included.

Employee turnover rate

2021 Turnover Rate

Region	Classification	Item	Number and percentage of males %		Number and percentage of females %		Total
Taiwan	Employee age	Below 30 years	57	26.51%	23	10.31%	**80**
		31-49 years old	203	14.64%	119	12.95%	**322**
		50 years old and over	18	7.76%	14	6.67%	**32**
	Job ranking	Senior executive	6	7.90%	0	0.00%	**6**
		Management level supervisor	26	7.90%	7	8.60%	**33**
		General staff	246	17.21%	149	11.84%	**395**
China	Employee age	Below 30 years	464	91.7%	241	69.9%	**705**
		31-49 years old	507	33.5%	373	30.6%	**880**
		50 years old and over	11	15.9%	1	8.3%	**12**
	Job ranking	Senior executive	1	12.5%	0	0.0%	**1**
		Management level supervisor	7	12.3%	2	7.1%	**9**
		General staff	974	48.1%	613	39.8%	**1587**
Japan	Employee age	Below 30 years	2	16.7%	1	100.0%	**3**
		31-49 years old	7	10.9%	2	3.5%	**9**
		50 years old and over	9	10.0%	0	0.0%	**9**
	Job ranking	Senior executive	0	0.0%	0	0.0%	**0**
		Management level supervisor	0	0.0%	0	0.0%	**0**
		General staff	18	12.8%	3	4.5%	**21**

Employee turnover rate in the past four years (2018-2021)

	2018		2019		2020		2021	
Worldwide average	Male	Female	Male	Female	Male	Female	Male	Female
Senior executive (Director level and above)	10.2%	7.7%	3.4%	5.7%	4.7%	0.0%	7.1%	0.0%
Management level supervisor	7.2%	15.8%	8.1%	12.7%	7.8%	10.4%	7.4%	6.7%
General staff	14.4%	12.2%	12.1%	11.4%	11.5%	10.9%	18.3%	14.9%

Taiwan

	2018		2019		2020		2021	
	Male	Female	Male	Female	Male	Female	Male	Female
Senior executive (Director level and above)	9.9%	14.3%	3.8%	0.0%	5.2%	0.0%	7.9%	0.0%
Management level supervisor	6.5%	17.8%	8.6%	13.4%	7.8%	12.0%	7.9%	8.6%
General staff	14.6%	12.2%	12.5%	11.5%	11.7%	11.2%	19.2%	15.5%

China

	Region/Nature of Job	2018		2019		2020		2021	
		Male	Female	Male	Female	Male	Female	Male	Female
Senior executive (Director level and above)	ACN (Business)	25%	0%	0%	14%	0%	0%	0%	0%
	AKTC (R&D)	0%	0%	0%	0%	0%	0%	0%	0%
	AKMC (Manufacturing)	0%	0%	0%	0%	0%	0%	0%	0%
Management level supervisor	ACN (Business)	16%	7%	6%	11%	10%	5%	5%	0%
	AKTC (R&D)	20%	50%	0%	0%	11%	0%	0%	0%
	AKMC (Manufacturing)	0%	0%	0%	0%	0%	0%	0%	0%
General staff	ACN (Business)	20%	14%	15%	9%	12%	10%	17%	15%
	AKTC (R&D)	24%	13%	5%	5%	8%	3%	21%	14%
	AKMC (Manufacturing)	0.7%	0.7%	0.5%	0.4%	0.5%	0.4%	0.5%	1.0%

Japan

*AJP: Business Office *AJMC: Operating Manufacturing System

	Region	2018		2019		2020		2021	
		Male	Female	Male	Female	Male	Female	Male	Female
Senior executive (Director level and above)	AJP	0%	0%	0%	0%	1.1%	0%	0%	0%
	AJMC	0.7%	0%	0%	0%	0%	0%	0%	0%
Management level supervisor	AJP	0%	0%	0%	0%	0%	0%	0%	0%
	AJMC	0%	0%	0.7%	0%	0%	0%	0%	0%
General staff	AJP	15.3%	3.8%	13.1%	6.0%	10.7%	2.1%	12.4%	0%
	AJMC	5.4%	31.8%	4.9%	3.5%	2.1%	0.7%	4.3%	0.7%

*Note:The tables of employee turnover rate in the past four years (2018-2021) only include indirect colleagues, and exclude direct labor employees.

Occupational Safety and Health

Management Policy

To prevent occupational injury, Advantech introduced the OHSAS 18001 occupational safety and health management system in 2006. We were ISO 45001 certified in December 2021. Advantech Taiwan has also formed an Occupational Health and Safety Committee in accordance with the law. It includes one chairperson, one management representative, and 15 labor representatives in accordance with labor regulations, accounting for one third of all representatives. The director of the Department of Labor Safety and Health presided over the meeting to announce new information on safety and health related regulations and regulations. The Director of the Occupational Safety and Health Administration presides over the meeting to announce new information on safety and health related regulations and statutes.

Advantech has formulated various workplace emergency response operation standards, implemented automatic inspection plans for machinery, equipment, and operating environments, and provided various forms of protective equipment during operations. In addition, we ensure that employees can work in a safe environment by simultaneously implementing regular and ad hoc inspections of factories and offices to reduce various hazards, and to strengthen employee safety and health and fire drill education and training so as to forestall any occupational incidents.In addition to monitoring the operating environment to meet safety and hygiene standards, Advantech pays further attention to employee health issues and regularly measures and maintains drinking water quality, noise levels, temperature and humidity, and lighting. In terms of air-conditioning equipment, we commission a professional inspection company every six months to measure the carbon dioxide concentration of the central air-conditioning building, in order to ensure the quality of the working environment, protect the health of employees, and avoid the occurrence of occupational diseases.

Advantech focuses on health benefits, providing an employee health check plan once a year that exceeds the requirements of the Labor Standards Act. We also successively handle health promotion activities such as road runs, implement a smoke-free workplace policy, and conduct regular environmental inspections for the sake of employee health examination and health management. This is complemented by health applications in public places, as there are breastfeeding rooms for female colleagues as well as sports and leisure facilities and safe and hygienic dining environments.

Occupational safety and health related data

	Disability injury frequency rate	Incidence rate of occupational illness	Disability severity rate	Work-related fatalities	Absenteeism
Advantech Taiwan Male employees	0	0	0	0	0%
Advantech Taiwan Female employees	0	0	0	0	0%
Advantech Kunshan Male employees	4.77	130	0	0	0.10%
Advantech Kunshan Female employees	0.45	2	0	0	0.0018%
Advantech Japan Male employees	5.24	0	26	0	0.09%
Advantech Japan Female employees	0	0	0	0	0%
Advantech's contractors Male employees	0	0	0	0	0%
Advantech's contractors Female employees	0	0	0	0	0%

Calculation Formulas

Disability injury frequency rate = (Total number of individuals injured and lost × 1,000,000) ÷ Total working hours (to two decimal places)

Severity of disability injury = (Total lost days of disability injury × 1,000,000) ÷ Total working hours (calculated up to the last integer)

Occupational injury mortality rate = Occupational injury deaths ÷ Total number of individuals suffering occupational injuries

Occupational illness mortality rate = number of deaths from occupational illness deaths ÷ occurrences of occupational illness

Absenteeism = (Total days of absence due to occupational injuries/total working days) x 100%

*The above data excludes commuting traffic accidents

6

Altruism and Social Benefit

6.1 Neighborhood and Community Care

6.2 Summary of Advantech Foundation Achievements

6.1 Neighborhood and Community Care

6.1.1 Strategy and Goals

Advantech Corporate Citizenship Policy

Starting from Advantech's own core capabilities, we apply IoT technology to cultivate the field of intelligent medical care and assist in the practice of SDG 3 (Good Health and Well-Being). Beyond this, we additionally respond to topics in SDG 9 (Industry, Innovation, and Infrastructure) and SDG 4 (Quality Education). We offer long-term support for IoT education and each item of innovative education (including schools and social education), hoping to provide a better learning experience and benefits for Taiwanese children, teenagers, and youth.

For social welfare, Advantech has been committed to the development of traditional culture for many years. This also echoes SDG 4 in that we promote education in national arts and literature. In addition to continuing to support the cultivation of outstanding talent with professional schools and art and literature teams, we also actively promote the aesthetic quality of all people. In the future, we will also expand our support to cultivate talent in other fields of art creation in Taiwan, enhancing Taiwan's artistic soft power.

Table 6.1.1: Listing of Social Benefit Expenditures of the Foundation in 2021

Spending Type	Arts and Culture / Charity	Industry-University	Total	Percentage
Charitable Donations	$24,791,879	$6,184,223	$30,976,102	40%
Neighborhood/ Community Investment	$5,380,776	$19,294,860	$24,675,636	32%
Commercial Initiatives	$18,833,083	$2,373,000	$21,206,083	28%
Total	**$49,005,738**	**$27,852,083**	**$76,857,821**	**100%**

Medium and Long Term Goals

We take as "enabling an intelligent and sustainable planet, becoming a brand enterprise of truth, goodness and beauty, and facilitating sound social development in which technology and the humanities go hand in hand" as our goals. Accordingly, from 2022 to 2025, we will continue to deepen our involvement in the issues of intelligent medical care and Internet of Things education on basis of the Company's core capabilities. Furthermore, we will increase the proportion of activity expenses going toward arts and cultural activities and charity activities that combine social development and strengthen the connection with the company's employees. Gradually reducing aid-type donations, we shall plan annual cooperation on key projects such as "Internet of Things innovation research and development," "artistic talent cultivation," "traditional culture development," "new media art development," and "innovative education support."

All projects of the foundation have been approved by the Board of Directors. And according to the appropriateness, we can effectively bring together the community for a response, or we can invite employees, customers, and manufacturers to participate together with all stakeholders.

Table 6.1.2: Analysis of Expenditure Items

Form of Expenditure	Arts and Culture / Public Welfare	Industry-University	Total Expenses
Cash Donations	$48,930,026	$23,370,999	$72,301,025
Volunteer Fees	-	-	-
In-Kind Giving	-	$2,640,000	$2,640,000
Management Overheads	$75,712	$1,841,084	$1,916,796
Total	**$49,005,738**	**$27,852,083**	**$76,857,821**

6.1.2 Annual Results

Telehealth Charity Program

In response to severe COVID-19 pandemic conditions in Taiwan starting from May 2021, medical institutions and care institutions have been on high alert. Advantech has been sponsoring telehealth solutions in a charity model, combining telehealth video carts and telehealth software to help medical staff quickly establish a non-contact medical care model.Advantech's AMiS-72 Telehealth Cart is equipped with a high-definition lens, speaker microphone, and 21.5-inch clinical-grade touch screen computer, it features mor than just high mobility. It can be touched with gloves, the whole machine can be cleaned and disinfected, and it does not need to be charged for up to 10 hours. As such, it can be quickly applied to a COVID-19 isolation ward. As a platform for medical staff to provide remote care for isolated patients, this significantly reduces the risk of infection for medical care. Moreover, residents of care institutions who cannot conveniently visit a hospital due to the pandemic can, with the assistance of a nurse, use a video cart with an ENT mirror and other examination equipment to have a physician see the patient from a remote location. Family members can even visit from a distance through video, offering a solution to the problem of strict prohibitions of visitors in care institutions during the pandemic.

During this period, the isolation ward of Taipei Veterans General Hospital used the AMiS-72 to initiate cross-team remote care. This facilitated immediate social worker interventions to successfully encourage isolated patients to let go of the idea of suicide. In addition, in the case of a confirmed patient who was admitted to the isolation ward of Mennonite Christian Hospital with their three-month-old son, high-quality video not only facilitated spiritual support and nursing assistance but also online reunions with family.

Link SDG	Driving Force	Axis	Business Effectiveness and Performance	Social/Environmental Benefits and Performance
3 GOOD HEALTH AND WELL-BEING	In recent years, Taiwan has faced problems such as a shortage of medical staff, an aging population, and an increase in the need for care of the chronically ill population, along with a lack of medical care resources for rural and suburban populations. Coupled with the severe COVID-19 outbreak of May 2021, these factors have also contributed to the momentum behind telehealth.	Telehealth Charity Program	Through donations in the form of charity or charity leasing models (no rent is charged), Advantech implements telehealth and accelerates the implementation of verification. Going beyond the original remote consultations, in 2021 the application was extended to different scenarios such as remote shared decision-making between doctors and patients, remote consultation in rural villages, and home tour medical treatment.	• Starting remote consultations between hospitals and rural villages, providing instant services, and saving patients from long journeys to seek medical treatment: a total of 25 medical institutions and care institutions benefited in 2021. • Popularizing medical resources to resource-scarce areas and improving the quality of medical care in such areas: In 2021, a total of 35 medical carts and 67 peripheral devices were donated/chartered for charity, and the investment amount exceeded NT$4.33 million.

IoT Education and Industry-University Co-Creation

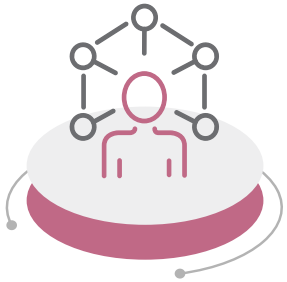
As a world-renowned and leading company for industrial computers and the Internet of Things, Advantech takes IoT talent cultivation as the focus of our business competitiveness and enterprise sustainability. Therefore, our vision is to popularize and deepen IoT education by promoting various industry-university projects, including:

AIoT Academy Higher Education Courses and Certifications in IoT

We provide a free online IoT learning platform to global learners. At the same time, we cooperates with teachers from colleges and universities in teaching and in teaching materials to popularize IoT education.

AIoT InnoWorks Developer Program

With Advantech's WISE-PaaS IoT cloud platform and technical resources, we encourage students to hone their programming skills and develop capabilities to make the world cleaner, safer, greener, and more convenient.



Elite100 Internship Program

We have introduced the Stanford d.school "Design Thinking" methodology, and have invested in Advantech product managers, marketing, and external corporate mentor resources as we focus on forward-looking topics from different application fields, helping students experience a complete innovative design process.

National Yang Ming Chiao Tung University Institute of Industry and Innovation / IoT Center

A long-term industry-university cooperation platform that integrates the core capabilities of industry and academia. Using a model of "issues from industry, solutions from academia," this guides academia to integrate with industry to solve key issues in the latter while cultivating industry talent.

We hope to use the composition of four projects to achieve IoT universal education, IoT thematic learning and innovation, IoT career exploration, and IoT research and long-term cooperation. With a multi-pronged and simple-to-understand model, the gap between industry and academia is eliminated, and the new generation of talent and innovative energy in the Internet of Things are cultivated. Furthermore, this provides academic research into the possibility of industrial development, creating more employment opportunities as well as facilitating many other projects. For more information on industry-university projects, see **3.2 Innovation Mechanisms in the report**.

Link SDG	Driving Force	Axis	Business Effectiveness and Performance	Social/Environmental Benefits and Performance
	Promoting innovation and co-creation in the Industrial Internet of Things industry	National Yang Ming Chiao Tung University Institute of Industry and Innovation / IoT Center	Establishing the practical application and technical research of industrial AIoT Internet of Things, fostering new business ideas and giving birth to new businesses R&D topics include intelligent video analytics, Industrial 4.0, IoT embedded PaaS, and AIoT domain applications; by 2021, 38 project cooperation projects had been accumulated	Cultivating outstanding talent through industry-university cooperation; in 2021, we sponsored six master's students via IoT industry-university cooperation
		AIoT Academy Higher Education Courses and Certifications in IoT	• Strengthening Advantech's brand visibility and influence in IoT • Strengthening the links of campus ecosystems, in 2021, we cooperated with six teachers in respect to teaching in Taiwan; furthermore, we cooperated with three teachers to develop Internet of Things online teaching materials	Popularizing IoT education and supporting school teaching and global student learning; 539 learners had completed certification courses in 2021
		AIoT InnoWorks IoT Developer Program	• Building connections with schools and students, participating regions include 17 schools in Taiwan, mainland China, Indonesia, Vietnam, and Malaysia with the participation of 238 students in total. • In promoting IoT applications, a total of 52 thematic implementations were produced in 2021. Topics included intelligent manufacturing, intelligent cities, intelligent healthcare, and intelligent agriculture • Advantech's brand exposure and strengthening of ecosystem links with campuses	Supporting students' project-based learning and providing opportunities to hone programming skills and undertake self-challenges
		Elite100 Internship Program	• Produced 13 special research and planning topics • Strengthen employer brand and attract top talent through internship recruitment • A total of 26 interns were recruited in 2021; and seven students extended their internships after the summer vacation, with one obtaining a standard employment contract	Assisted in the cultivation of outstanding talent through corporate internships, providing students with workplace experience and learning

Sustainability and Innovation Education

The Advantech Foundation has long supported sustainable and innovative education, hoping to provide a better learning experience and benefits for Taiwanese children, teenagers, and youth. Furthermore, we are committed to cultivating future talent through the promotion of a range of projects whose content include:

- **ACT Dreamers:**see" Project Highlights" below
- **ACT ESG Impact Program:** This program is a collaborative platform to provide a stage for young students to realize their dreams, established by a number of companies that have long been concerned about sustainability, environmental friendliness, and social innovation. It is hoped that through this industry-university collaboration program, companies will design topics for various ESG indicators while combining industry resources with the creativity and enthusiasm of the younger generation. Let us encourage the younger generation to propose sustainable solutions on corporate ESG issues, and work together with companies on various issues to contribute to a better future and to the next generation!
- **Sponsoring High-Quality Sustainable Education Platforms:** Invested funds support high-quality education teams such as Junyi Academy, Education Support for Taiwan, PaGamO, and other teams; and they provide educational resources to the public in addition to school education.
- **Hsinchu/Miaoli Rural Care Scholarship:** we cooperate with schools in rural mountainous areas and disadvantaged areas of Hsinchu and Miaoli to develop scholarship programs, where a selection committee is set up by the school to select outstanding and diligent students to receive subsidies.
- **Sponsorship of the National Taiwan College of Performing Arts:** Since 2015, Advantech has continued to vigorously support the National Taiwan College of Performing Arts, sponsoring the graduation performances of the Department of Folk Arts, the Peking Opera troupe and the stunt troupe's advanced skills training, expanding the performance stage for students engaged in traditional arts and culture, and increasing the visibility of traditional opera. In order to encourage skilled students to continue to study hard, we have sponsored the Department of Folklore Arts to establish the "Advantech ABLE Elite Award" Art Scholarship to commend outstanding students
- **GuoGuang Opera Company Youth Talent Cultivation Program:** In order to relieve the talent gap in Peking Opera and focus on training for potential young talent, we target and recruit talent and cultivate new up-and-comers from among official members and youth reserve members of the GuoGuang Opera Company and from among students of the National Taiwan College of Performing Arts
- **Charity art galleries and art salons**: In order to promote national aesthetics, we select high-quality teams every year for support and sponsorship while encouraging high-quality tours to promote national appreciation and popularization. We have also set up a gallery space in the Company and invited artists to set up exhibitions so as to enhance artistic and cultural contact between colleagues and VIP visitors.

Link SDG	Driving Force	Axis	Business Effectiveness and Performance	Social/Environmental Benefits and Performance
	Improving the quality of education and providing opportunities for diversified educational development; supporting the development of abilities among children and young people.	Advantech ACT Dreamers	Through the process of dream development and practice and by connecting with indicators for the United Nations Sustainable Development Goals (SDGs), this initiative cultivates abilities in innovation, creativity, practice, and teamwork.	More than 10 schools altogether have been sponsored, and the investment amount exceeds NT$ 1 million.
		Advantech ACT ESG Impact Program	Providing a platform for universities/graduates to practically participate in corporate ESG projects, nurturing the next generation of ESG talent.	A total of NT$1.6 million yuan was sponsored. Invitations included well-known banks in Taiwan, foreign pharmaceutical companies, and representative start-ups to participate in the grand event. The first session called for 139 teams/569 people to register.
		Sponsoring a High-Quality Sustainable Education Platform	By sponsoring innovative education platforms and supplementing gaps in school educational resources, and by inviting the education team to hold lectures on employee knowledge, we promote and advocate innovative education concepts so that colleagues can absorb new knowledge and apply it to the upbringing of children. A total of six lectures were held in 2021 with 742 employees participating.	More than NT$10 million in total has been invested in sponsorships. • Junyi: The number of users has grown exponentially during the pandemic, with platform registrations exceeding 3.6 million. We are thus accompanying more than 5,000 teachers in the transformation of teaching technology • Education Support for Taiwan: There were 90 cases of strong accompaniment in the 2021 academic year. A total of 15 elementary and middle schools are currently co-creating vision images and inventorying curriculum maps, and a total of 55 elementary, middle, and high schools are conducting curriculum design and unit planning. Another 20 are undergoing instructional design enhancements such as observation and translation courses. • PaGamO: Advantech's SDGs Sustainable Elementary School has been launched since September with 154,265 people participating.
		Hsinchu/Miaoli Rural Care Scholarship	This has long established the brand reputation of the Advantech Foundation in Hsinchu and Miaoli educational circles, rewarding students from rural areas and encouraging them to learn.	In 2021, a total of 37 schools and 1,620 students benefited; the total sponsorship amount was NT$3 million
	Inheriting and carrying forward traditional culture and art education, promoting the cultivation and succession of young talent.	Sponsorship of the National Taiwan College of Performing Arts	We actively interact with the school, invite participation in Advantech's various internal and external activities and performances, enhance the visibility of traditional art performances, and encourage stakeholders (including employees and customers) to actively appreciate them.	For the “Advantech ABLE Elite Award,” a total of 10 people were awarded this art scholarship. Total art sponsorship support at the College of Performing Arts amounted to more than NT$1.7 million.
		GuoGuang Opera Company Youth Talent Cultivation Program	Through the inheritance and performance of traditional classics combined with the cultivation of key talent, we seek to comprehensively improve the performance ability of young actors and promote the coexistence and co-prosperity of the cultivation of opera professionals and the performing arts market.	We arranged 21 lessons for senior actors to teach and guide, and more than 10 young actors learned this heritage and starred in an annual series of performances to demonstrate their skills. Annual sponsorship funds exceeded NT$1.8 million.
	We supported and encouraged performances of high-quality arts and culture teams, promoting education in aesthetic literacy for all people	Charity Art Galleries and Art Salons	We improved opportunities for stakeholders to practically participate in arts and culture, promoting arts and culture among all people.	Over NT$3 million has been invested to support more than 70 performances by superlative art and cultural teams; six exhibitions were held in charity art galleries

6.1.3. Advantech Global Highlights Project

Taiwan "ACT Dreamer"

Since 2020, the Foundation has invested resources to hold the "ACT Dreamer" activity to cultivate three major abilities among students of "action," "creativity," and "teamwork." Through the process of students forming their own teams and searching for their dreams, the activity process encourages children to experience and observe social issues surrounding their lives and propose creative action plans to implement their dreams.

In 2021, the original sponsorship scope was expanded and divided into a dream take-off group and a dream pilot group of elementary and middle schools, and student empowerment courses were added to cultivate students' thematic exploration and learning ability in terms of project-based learning (PBL). Students were also encouraged to align with UN SDG sustainability indicators and discuss life issues in depth. In 2021, student teams focused on topics including health, ecology, local innovation, education and learning, stray animals, and so on. The Foundation hopes that through these activities, we might sow the seeds of innovative action and provide opportunities for students to care about society while developing problem-solving skills.

China's "Western Sunflower High School Student Aid Program"

Now in its tenth year, the Foundation has provided grants for rural high school students since 2011. In funding activities for high school students from Shanyang County of Shaanxi Province to Huangnan Tibetan Autonomous Prefecture of Qinghai Province, a total of 182 Advantech colleagues participated in financial aid initiatives and more than 90 participated in home visit activities for economically disadvantaged students.

A symbol of hope and faith, the sunflower is a flower that symbolizes light. The main focus of the activity is to encourage those economically disadvantaged high school students attending Qinghai Huangnan Tibetan Autonomous Prefecture Minority Middle School who are excellent in both character and learning. With the material and spiritual help of Advantech's sponsors, they might persevere in completing high school and entering the university, and on relying on their own hard work to change the circumstances of oneself and one's family.

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interviews with students in rural villages, data collection, and funding of volunteer recruitment. Due to the pandemic, online interviews have been adopted starting from 2020. A total of 35 students were sponsored in 2021 and the total funding amount was 53,900 RMB. In the future, we also plan to expand to donate books and used computers, allowing more Advantech colleagues to participate together.

Europe's "Donated Products to Support Education in Rural Areas"

Advantech Europe donated a batch of 54 touch panel PCs to be used for teaching in a school located in northern Sri Lanka. These computers are generally used in hospital bedside care systems. This time, we donated them to the Kalyani Foundation in the Netherlands, which focuses on supporting the development of education in Sri Lanka. This was done so that products can be used in more ways while at the same time responding to Advantech's SDG focus.

Italy's "Supporting Covid Pediatric Hospitals to Improve Pandemic Safety"

In response to the COVID-19 outbreak, Advantech Italy used the budget originally slated for customers' Christmas gifts in 2021 instead to make a donation to the Buzzi Foundation in Milan, helping the Pediatric Surgery Department of Buzzi Hospital. The hospital is the only COVID pediatric hospital in Milan. The Buzzi Foundation will use the donation to purchase related equipment and secure hospital emergency COVID channels.

Advantech Italy donated a total of 2,200 euros and informed customers through Christmas cards that this year's Christmas budget is different from in the past. (Traditionally, clients would be given wine, traditional Christmas food items, and so on.) The customer response was very enthusiastic as they cited acknowledgment and appreciation for our initiative and generosity.

Japan's "Future Data Scientists - Programming Course for Middle School Students"

We participate in GLEAP, a student programming course initiated by the Nogata City Government of Fukuoka, where Advantech is located. Advantech's colleagues serve as industry instructors, conducting a 3-day course with 20 middle and high school students. this allows middle school students to experience and learn to write programs as data scientists, and to understand the contexts in which programming can be applied. Students who are not familiar with computer operations at the beginning eventually come up with unique programming ideas make this course very meaningful, and we expect to continue this project in the future.

US "A4C Plan"

Advantech North America released its A4C (Advantech for the Community) Plan at the end of 2020/early 2021 to encourage employee proposals, and to lead the use of funds and activity arrangements through the A4C Committee. It is expected to achieve the goals of giving back to the community, strengthening the connection between the community and employees, and improving employee morale. Successful 2021 initiatives included: beach cleanups, sponsorship of marine animal conservation, food banks, and so on. The most notable event was our sponsorship of the CHOC Walk. Children's Health of Orange County (CHOC) is a renowned hospital located in Orange County, California. Its purpose is to provide children's medical resources regardless of whether a child can afford it financially. In addition to the Company's direct sponsorship of US$10,000, an additional $10,087 was raised through a series of employee activities.

In addition to promoting social welfare, A4C focuses on employee participation. Taking CHOC as an example, we conducted employee charity raffles in Irvine, Cincinnati, and Ottawa, and donated the raffle ticket proceeds. In addition, we arranged three employee walks arranged according to the activity design of CHOC Walk. Finally, we held a manager push-up challenge to raise money; at noon on May 21, supervisors at the manager level or above must do push-ups in the parking lot of the Irvine office in response to employee donation amounts. While engaging in charity, these activities also promotes team interaction and cohesion. This year, A4C successfully achieved its annual walking distance goal of 5,000 miles and its target of raising US$5,000 in donations.

6.2 Summary of Advantech Foundation Achievements

In 2021, the Advantech Education Foundation spent a total of NT$27,852,083 on IoT talent cultivation; expenditures for arts and cultural charity/community good came to a total of NT$ 49,005,738. Focus items are listed in the following table:

Focus	Project name	2021 Results	2022 Goals
Education on the Internet of Things and Cultivation of Innovative Talent	AIoT InnoWorks Developer Program AIoT Academy Higher Education Courses and Certifications in IoT	• More than NT$5.1 million has been invested. • Global participation of 17 universities and 238 students, and production of 52 special topics. • 539 learners completed the certification course. • Cooperated with six colleges and universities on Internet of Things courses, serving as lecturers and conducting instruction on IoT. • Co-developed three sets of IoT textbooks in cooperation with three professors.	Estimated investment: NT$34 million. • InnoWorks: 20 schools around the world participated • Internship: Expanded to 80 students participating in the internship program • National Yang Ming Chiao Tung University Institute of Industry and Innovation / IoT Center Promoted two large-scale campus IoT application projects and eight industry-university cooperation projects • AIoT Academy: 1. 1. Produced 30 hours of AIoT basic courses (digital teaching materials for industry-university cooperation); 2. Spread knowledge to at least 100 students, participating in AIoT Internet of Things training
	Elite100 Internship Program	• More than NT$2.5 million has been invested. • A total of 43 students (26 from Taiwan, 17 from China) participated in summer internships. Seven students from Taiwan extended their internship after the summer vacation, and one received a regular employment contract. Meanwhile, five students from China became regular employees after graduation.	
	National Yang Ming Chiao Tung University Institute of Industry and Innovation / IoT Center	• More than NT$8.4 million has been invested. • Collaborated on three research projects. • Sponsored six master's students via industry-university cooperation	
Cultivation of IoT Industrial Application Entrepreneurs	IoT Innovation and Entrepreneurship Accelerated Incubation Platform	• More than NT$3.1 million has been invested. • We sponsored two important startup accelerators and one IoT innovation application project in Taiwan; and through their networks, we facilitated 37 international start-up companies to link with Taiwan's industrial ecosystem. • Supported AI scheduling startups to develop intelligent scheduling products with cloud resources. • Supported Swedish startups to develop intelligent factory systems and applications with cloud resources.	Estimated investment: NT$4.1 million. • IoT Innovation and Entrepreneurship Accelerated Incubation Platform • Establish a new innovation, co-learning and co-creation mechanism, and cooperate with the Taipei Entrepreneurs Co-Creation Platform to support the growth of 10-15 industrial IoT startups in terms of business, products, and operations.

Focus	Project name	2021 Results	2022 Goals
Teacher talent training for business management cases	EACC Case Study	• More than NT$1.63 million has been invested. • Sponsored professors to research and complete case writing, published in the traditional Chinese version of the Harvard Business Review: 1. 6 short cases. 2. 1 feature article.	Estimated investment: NT$1.32 million. • In 2022-2023, we sponsored professors to research and complete case writing for a total of 14 articles in the traditional Chinese version of the Harvard Business Review. • Sponsored a case study of National Taiwan University's digital transformation strategy.
Quality Education	ACT Dreamers	Sponsored more than 10 schools for an investment amount of over NT$1 million.	Continued to expand the scale to invite schools to participate, with an investment amount of over NT$4 million.
	ACT ESG Impact Program	Providing a platform for universities/graduates to practically participate in corporate ESG projects, nurturing the next generation of ESG talent.	A total of NT$1.6 million yuan was sponsored. Invitations included well-known banks in Taiwan, foreign pharmaceutical companies, and representative start-ups to participate in the grand event. The first session called for 139 teams/569 people to register.
	Sponsoring a High-Quality Sustainable Education Platform	• More than NT$11 million has been invested. • Junyi: The number of users has doubled during the pandemic, with platform registrations exceeding 3.6 million. We are thus accompanying more than 5,000 teachers in the transformation of teaching technology. • Education Support for Taiwan: There were 90 cases of strong accompaniment in the 2021 academic year. A total of 15 elementary and middle schools are currently co-creating vision images and inventorying curriculum maps, and a total of 55 elementary, middle, and high schools are conducting curriculum design and unit planning. Another 20 are undergoing instructional design enhancements such as observation and translation courses. • PaGamO: Advantech's SDGs Sustainable Elementary School has been launched since September with 154,265 people participating.	Continued to support the education innovation team, deepening the connection of cooperation and incorporating it into the peer selection mechanism to select cooperative units.
	Hsinchu/Miaoli Rural Care Scholarship	Total donations amounted to NT$3 million, benefiting 1,620 people from 37 schools.	Continued to invest NT$3 million to sponsor 37 schools.
Art - Inheritance and development of art	GuoGuang Opera Company's "Taiwan's Successors to Peking Opera - Youth Talent Cultivation Program"	More than 10 young actors have learned this heritage, and annual sponsorship funds exceed NT$1.8 million.	In addition to nurturing young talent, we are deepening the cooperative relationship and expanding financial sponsorship that amounts to NT$2.5 million.
	National Taiwan College of Performing Arts Talent Cultivation Program	With over NT$1.7 million in sponsorship funds, the “Advantech ABLE Elite Award” art scholarship has been awarded to 10 individuals.	Strengthening the interaction with the school, sponsoring the needs of practice, and supporting students who are economically challenged.

Focus	Project name	2021 Results	2022 Goals
Arts and culture	Art salons, art education in rural villages, and other art promotions	Sponsorship of nearly NT$3 million (NT$2.96 million). (*Due to the pandemic, many performances have been canceled or postponed and the actual number of performances and numbers of individuals have not been counted)	We expect to promote diversified arts and culture and organize professional arts and cultural activities for rural villages in order to expand artistic visions. The associated investment is estimated at about NT$8 million
	Charity Gallery	More than NT$370,000 in sponsorship.	Expected investment is NT$400,000.
Social Enterprise Innovation and Incubation	Social Enterprise Streaming iLab Incubation Program	• NT$1 million in sponsorship. • Held three online social enterprise seminars for Advantech colleagues, and a total of more than 150 colleagues participated. • Sponsorship funds are mainly used for the incubator and accelerator operation support of the social enterprise stream itself, as well as counselling activities.	We expect to sponsor NT$1 million as we continue to hold lectures, participate in training activities, invite social enterprises to participate in charity markets, and support social enterprise incubation/acceleration/consultation activities. Furthermore, we look forward to deepening the strategic cooperation between the social enterprise stream and Advantech's ESG.
	TiC100 Social Innovation and Entrepreneurship Competition	• Sponsorship of NT$1 million. • Signed up 104 teams. • Supported one workshop and one dialogue between social innovation practitioners and social networks. • The total number of participants was 400.	We expect to invest NT$1 million, with a targeted outcome: • Number of registered teams: 100 teams • Number of applicants: 350 individuals • Incubation workshops: 16 events • Team coaching: 4 events • Results exchange meeting: 1 event
	Social innovation school (School28)	In sponsoring a social innovation school, this event attracted nearly 500 Taiwanese potential recruits to sign up, from which School28 screened and nurtured 28 partners and eventually persuaded nearly 30% to actually transfer to the field of social innovation.	It is estimated that NT$2 million will be invested to jointly support the cultivation of social innovation talent, and to provide relevant information of Advantech colleagues so that young colleagues who are enthusiastic about social enterprises and have a total working experience of 2-5 years have the opportunity to participate in the selection and cultivation.

Appendix 1: Advantech's ISO Certifications in Relation to SDGs

ISO certification		Certification scope				Corresponding SDGs
Category	ISO name	HQ	ATMC	AKMC	AJMC	
Quality	ISO 9001 Quality management system	✓	✓	✓	✓	1 NO POVERTY, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 14 LIFE BELOW WATER
	ISO 13485 Medical equipment quality management system	✓	✓	✓		3 GOOD HEALTH AND WELL-BEING, 10 REDUCED INEQUALITIES
	ISO 17025 Laboratory quality management system	✓	✓	✓		-
Environment	ISO14001 Environmental management system	✓	✓	✓	✓	1 NO POVERTY, 2 ZERO HUNGER, 3 GOOD HEALTH AND WELL-BEING, 4 QUALITY EDUCATION, 6 CLEAN WATER AND SANITATION, 7 AFFORDABLE AND CLEAN ENERGY, 8 DECENT WORK AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 13 CLIMATE ACTION, 14 LIFE BELOW WATER, 15 LIFE ON LAND
	ISO 14064 Greenhouse gas inventory standards	✓	✓	✓		9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 13 CLIMATE ACTION
Safety	ISO 45001 Occupational safety and health management system	✓	✓	✓		3 GOOD HEALTH AND WELL-BEING, 5 GENDER EQUALITY, 8 DECENT WORK AND ECONOMIC GROWTH, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 10 REDUCED INEQUALITIES, 11 SUSTAINABLE CITIES AND COMMUNITIES, 16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Information	ISO 27001 Information security management system		✓	✓		-

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Management policy (Greenhouse gas inventory and energy management actions)	103-1	Explanation of the major themes and their boundaries	1.4. Sustainability Goals and Material Issues 4.3. Actions for Greenhouse Gas Inventory and Energy Management	20,100,107
	103-2	Management policy and its elements		
	103-3	Evaluation of management policies		
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Water	303-1	Water withdrawals by source*	4.4 Environmental Management	113
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	305-2	Energy indirect (Scope 2) GHG emissions	4.3. Actions for Greenhouse Gas Inventory and Energy Management	102 - 103
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Supplier environmental assessment	308-1	Screen new suppliers using environmental criteria	2.3 Supply Chain Sustainability Management	41,45

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Management policy (Talent cultivation and development)	103-1	Explanation of the major themes and their boundaries	1.4. Sustainability Goals and Material Issues 5.1 Talent Cultivation and Development	20,120,124
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Labor-management relations	401-1	New employees and former employees	5.1 Talent Cultivation and Development 5.4 Appendix:Employee Turnover Rate	121,148
	401-2	Benefits provided to full-time employees (excluding temporary or part-time employees)	5.2. Employee Communication and Benefits	135
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Occupational safety and health	403-1	Occupational safety and health management system*	5.4. Appendix:Occupational Safety and Health	150
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Supplier social assessment	414-1	New suppliers screened using social criteria	2.3 Supply Chain Sustainability Management	41
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Appendix 3: Statement of Third Party Verification

SGS

ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE ADVANTECH SUSTAINABILITY REPORT FOR 2021

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 Advantech Sustainability Report for 2021 (hereinafter referred to as the Report). The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the sampled text, and data in accompanying tables, contained in the report presented during verification(2022/02/14~2022/03/25). SGS reserves the right to update the assurance statement from time to time depending on the level of report content discrepancy of the published version from the agreed standards requirements.

INTENDED USERS OF THIS ASSURANCE STATEMENT
This Assurance Statement is provided with the intention of informing all ADVANTECH's Stakeholders.

RESPONSIBILITIES
The information in the Report and its presentation are the responsibility of the directors or governing body (as applicable) and the management of ADVANTECH. SGS has not been involved in the preparation of any of the material included in the Report

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.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognized assurance guidance, including the Principles contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) 101: Foundation 2016 for report quality, and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Providers.

The assurance of this report has been conducted according to the following Assurance Standards:

Assurance Standard Options and Level of Assurance	
A.	SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)
B.	AA1000ASv3 Type 2 High Level (AA1000AP Evaluation plus evaluation of Specified Performance Information)

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SCOPE OF ASSURANCE AND REPORTING CRITERIA
The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

Reporting Criteria Options	
1.	GRI Standards (Core)
2.	AA1000 Accountability Principles (2018)

- evaluation of content veracity of the sustainability performance information based on the materiality determination at a high level of scrutiny for ADVANTECH and moderate level of scrutiny for subsidiaries, joint ventures, and applicable aspect boundaries outside of the organization covered by this report;
- AA1000 Assurance Standard v3 Type 2 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2018); and
- evaluation of the report against the requirements of Global Reporting Initiative Sustainability Reporting Standards (100, 200, 300 and 400 series) claimed in the GRI content index as material and in accordance with.

ASSURANCE METHODOLOGY
The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, Sustainability committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant. In response to COVID-19 pandemic situation the assurance process was partially conducted via Teams.

LIMITATIONS AND MITIGATION
Financial data drawn directly from independently audited financial accounts. Task Force on Climate-related Financial Disclosures (TCFD) 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, RBA, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

VERIFICATION/ ASSURANCE OPINION
On the basis of the methodology described and the verification work performed, we are satisfied that the specified performance information included in the scope of assurance is accurate, reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the reporting criteria.

We believe that the organisation has chosen an appropriate level of assurance for this stage in their reporting.

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AA1000 ACCOUNTABILITY PRINCIPLES (2018) 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 and partners, suppliers, investors, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, Advantech may proactively consider having more direct two-ways involvement of stakeholders during future engagement.

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

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

Impact
Advantech has demonstrated a process on identify and fairly represented impacts that encompass a range of environmental, social and governance topics from wide range of sources, such as activities, policies, programs, decisions and products and services, as well as any related performance. Measurement and evaluation of its impacts related to material topic were in place at target setting with combination of qualitative and quantitative measurements.

GLOBAL REPORTING INITIATIVE REPORTING STANDARDS CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

The Report is adequately in line with the GRI Standards in accordance with Core Option. The material topics and their boundaries within and outside of the organization are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. Disclosures of identified material topics and boundaries, and stakeholder engagement, GRI 102-40 to GRI 102-47, are correctly located in content index and report. For future reporting, more disclosure about stakeholders in material topics is expected. More disclosure of results, or even analysis, in stakeholders communication is also recommended. As more and more frameworks and standards are adopted with the report, information integration and completeness should be taken more consideration.

Signed:
For and on behalf of SGS Taiwan Ltd.

AA1000
Licensed Report
000-8/V3-GJF2I

David Huang
Senior Director
Taipei, Taiwan
04 May, 2022
WWW.SGS.COM

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