

ADVANTECH

2020 CSR Report



About Advantech's 2020 CSR Report

Report Editorial Principles

Advantech Co., Ltd. issued its 2020 CSR Report with the major aims of transparently and openly presenting to its stakeholders and society the company's various CSR-related measures, results, management directions, and strategies, and expanding to environmental and social concerns. The report was published in 2021. The major task of the present edition is to adjust the report according to Global Reporting Initiative (GRI) Standards and expand how the company communicates and negotiates with various stakeholders.

Report Boundary and Scope

The boundary of the Advantech CSR Report consists of Advantech Taiwan (Ruiguang-Headquarters, Sunny, Donghu, and Linkou), and Advantech Kunshan, China, as critical operation bases. This report also discloses the performance data of Advantech's Hsinchu, Taichung, and Kaohsiung offices. The number of employees in these locations accounts for at least 66% of all employees worldwide. In 2019, Advantech purchased 80% of the stock of the Japanese company OMRON Nohgata, renaming it Advantech Technologies Japan (ATJ). In the near future, we will establish this branch's ESG organization and communication channels so that we can collect and disclose relevant information in future reports.

Other subsidiaries and offices of Advantech are primarily involved in marketing and sales, so they are not included in this report. In the future, we plan to gradually disclose their ESG-related information.

Reporting object and time

The present report primarily presents various performance data from 2020 (2020/1/1–2020/12/31). Information before this period, as well as policies, goals, and plans for the future, are also partially disclosed.

Reporting Criteria

Following the "Core" option in the GRI Standards, this report was written to disclose Advantech's CSR strategies, philosophies, measures, and performance. Monetary values in this financial report are reported in New Taiwan Dollars (NTD). Performances related to environmental protection and safety are expressed in line with internationally accepted indicators. Conditions that are inferred or assumed are specified in relevant chapters. Compared to the previous edition, although changes have been made to improve the readability of some sections, the present report does not set out to amend any descriptions in such a way that could lead to critical misjudgments by readers referring to the previous report.

Report Verification

To provide reliable and open information to readers, this report has been verified by an independent third party, SGS Taiwan Ltd, to ensure that it meets the requirements for AA1000AS (Type 2 - High Assurance). The verification statement is provided in the appendix of this report.

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

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

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1

Vision and Objectives on Sustainability

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1.1 Message from Top Management

Chairman

At the 2021–2025 Five-year Vision Planning Meeting we held in September 2020, we decided on environmental, social, and corporate governance (ESG) as one of Advantech's most important directions. This shift from implementing CSR-based projects to ESG is a substantial change that has full support from the Board of Directors, management, and general employees. It is my hope that 2021 marks a successful beginning for Advantech to adopt and implement ESG as a basis for gauging the sustainability and social impact of our operations.

I believe that 2021 will be a watershed that channels our learnings from CSR into this new ESG era. The main differences I see for Advantech are:

- By expanding our perspective from the mindset of being a corporation that fulfills its social responsibilities, such as conducting social welfare and charity activities, we will now move on to formally realize the Lita (altruism) concept as a foundation of our corporate culture. This will allow us to cooperate more closely with the communities in which we operate, co-enriching them and forming a cycle of reciprocity.
- By adopting a broader perspective of social governance and using specific KPIs to measure performance, we will be able to systematically drive the long-term implementation of ESG. Looking immediately to 2021, some of the items we will be incorporating include (1) energy-consumption management, (2) green operations, (3) IoT education, and (4) corporate governance.
- We have established a designated ESG & Corporate Sustainability Office and have hired external consultants for specific special projects. We have also incorporated Advantech Foundation into the scope of our ESG strategy, making it easier and more efficient to leverage resources and talents.
- We will be proactive in planning and establishing ESG-centered business groups. This will include building energy management, energy storage, and new smart energy solution projects. We have also expanded our IoT platform to further facilitate sharing and co-creation between industry and academia, and to provide solutions for smart factories and hospitals. In 2021, these

business groups will be basing their strategies on ESG and working to co-enrich society and industrial operations.

- We have integrated employee care and social co-enrichment to develop human-oriented strategies into our long-term goals.

In recent years, the media and investors have emphasized ESG as an emerging trend. As one of the founders and the Chairman of Advantech, I profoundly agree with this observation and am determined to steer Advantech's future toward becoming a company that adopts an ESG model to realize the spirit of Lita and co-enrichment.

Advantech has been established for 38 years, and I have reached an age where I am considering passing on the torch. It is thus my wish to succeed with ESG in the long run and plant the seeds of corporate sustainability into the systems we develop and talents we nurture.

Advantech Chairman
KC Liu




President of General Management

Advantech has held the vision of “enabling an intelligent planet.” Based on the Lita spirit, we have been cooperating with our suppliers and partners to build up the IoT industry. The principle of reciprocity in our Lita-based operations has been explained in our previous CSR reports. We have also defined our core abilities, making sure our operations are in line with our CSR direction. Collectively, these efforts have paved the foundation for our sustainable operations.

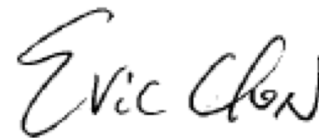
The year 2020 was largely disrupted by the COVID-19 pandemic. In September, Advantech held the 2021–2025 Five-year Vision Planning Meeting, where we decided to add ESG to the existing CSR scope. We expect that we will be in a position to leverage our unique AIoT core ability to align the company's strategies with the United Nations Sustainable Development Goals (SDGs) and work together to overcome global challenges.

Since 2021, we have already taken action on several sustainability topics, described as follows:

- We have established the ESG & Corporate Sustainability Office, to which we have designated personnel to promote ESG. We have hired consultants for specific special projects such as Science Based Targets (SBTi)
- We have communicated with stakeholders and confirmed our ten major sustainability topics, such as green operations and product innovation. We have also established goals that can be implemented in the coming 3 years.
- We will improve our publicly disclosed ESG information so that it is better structured. This will include updated reporting via our website. This way, our actions toward sustainability and ESG can be comprehensively and transparently updated for employees, partners, and other stakeholders.
- We have leveraged our core products to proactively realize new smart energy management solutions. Through our IoT education platform, WISE-PaaS@Education, we are able to share and co-create with industry and academia worldwide.

Advantech has been working in the IoT industry for over 30 years. We have been assisting clients with industrial applications in a broad range of fields to help realize Industry 4.0, including the development of smart medicine and smart transportation to make the world more intelligent and sustainable. In recent years, ESG has been a strong point of emphasis by people in many different fields, and I believe that based on the corporate visions of the Lita spirit and co-enrichment as well as building a more sustainable world, Advantech and all of our employees will work together on the journey of making Advantech a model company for ESG.

Advantech President of
General Management
Eric Chen

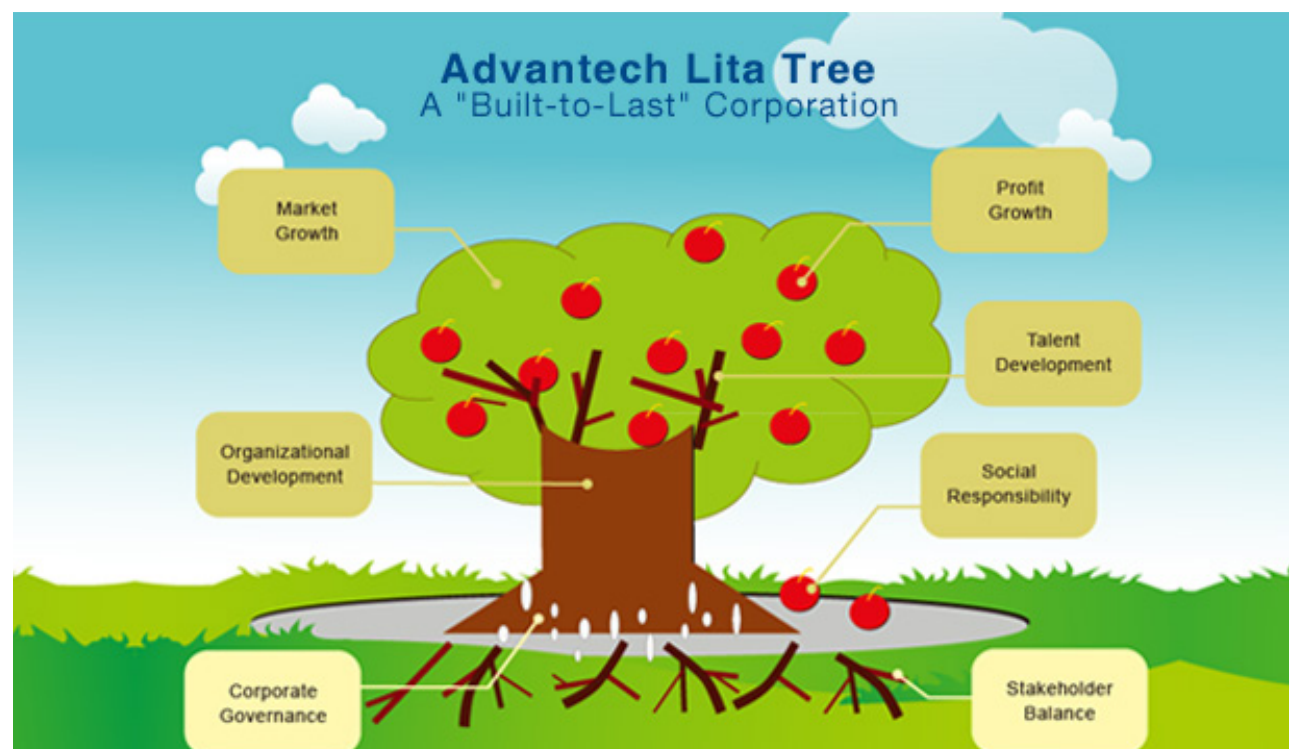


1.2 Advantech ESG Governance

The philosophy of the Lita Tree

Advantech believes that rigorous corporate governance and striving for the perfect balance between stakeholders are the foundations for sustainable corporate management. In the past few years, we have begun viewing our internal operations and relationship with society as a Lita tree. Society provides the nutrients for the tree to grow while comprehensive corporate governance and stakeholder balance ensure that the tree's roots are deep and provide a strong corporate foundation. Sound organizational development strengthens the trunk to support our operations, while cultivating proactive talent enables us to branch out and give shade and shelter to promote market growth. The fruits that these branches bear represent our profits; the nourishment from the fruit falling to the ground symbolizes us sharing our success with our stakeholders and fulfilling our responsibility as a social citizen.

Fig. 1.2.1 Advantech Lita Tree



Shifting from CSR to ESG

Advantech released the company's first CSR report in 2013. Related matters have been led by the Chairman, with CSR special projects reported to the Board of Directors by the Presidents. Each year, the board has been responsible for reviewing the company's annual CSR report. While performing this review in 2020, we considered our past efforts, the resources we have used, and international trends in CSR to determine the degree to which our CSR special projects align with our core development strategies. This led us to establish the ESG & Corporate Sustainability Committee and Office, through which we hope that by considering the environmental, social, and governance aspects of our operations, we can more comprehensively cover management items that have a substantial influence on our sustainable development.

The Advantech ESG & Corporate Sustainability Committee consists of six members: the Chairman of Advantech (also the founder of the company), one external director (Donald Chang was first to serve, selected for his management experience in cross-country corporate operations and his specialty in the environment), the President of General Management, the head of Quality Assurance, the VP of Auditing, and the VP of Human Resources (Fig. 1.2.2).

The ESG Office establishes plans annually. Each year, in January, April, July, and October, it holds committee meetings to propose relevant special project plans and report on the progress of ongoing special projects or other major topics. For new special projects, work begins after the committee confirms the objectives, expected results, responsible teams, and timetable. The ESG Office regularly tracks its results and reports to the committee for improvement plans. Each year, the ESG Office also regularly reports to the Board of Directors on the issuing of the annual sustainability report, progress on critical special projects, and future plans. At the time this CSR report was compiled, the most recent committee meetings had been held in October 2020 and January 2021. The motions discussed at these meetings included Advantech ESG development strategies, improvements in energy-saving technologies in Taiwan and China, building energy management systems, carbon disclosure and carbon reduction objectives, talent cultivation and development, and IoT education.



Fig. 1.2.2 Advantech sustainability governance



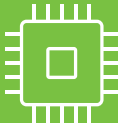


1.3 Stakeholder Engagement

Based on Advantech's daily operations and our substantial topic selection mechanism, the Advantech ESG Office invites employees from different departments to identify key stakeholders. Based on the five major principles of the AA1000 Stakeholder Engagement Standard—dependency, responsibility, tension, influence, and diverse perspectives—we identify priority communication issues and respond to topics that are of key concern. We preliminarily identify seven types of key stakeholders: employees, clients and cooperating partners, suppliers, shareholders/investment organizations, the media, guilds and associations, and communities and nonprofit organizations.

In addition to maintaining interaction with stakeholders during daily operations, we also utilize various channels to engage with them, such as via our CSR mailbox (csr@advantech.com.tw), phone calls, meetings, satisfaction surveys, onsite visits, and participating in guilds and associations.

Table 1.3.1 Advantech stakeholders' communication channels








Stakeholders	Communication channels	Frequency
 Employees	Employee Welfare Committee	Ongoing
	In-person and online employee meetings	Semi-annual
	Internal employee website and social media website	Ongoing
	Employee e-newsletters	Seasonal
	Global electronic billboard	Ongoing
	Mailbox for employee complaints	Ongoing
	CSR education training	New employee orientation
	ABLE Line community	Ongoing
 Clients and cooperating partners	Key Account quarterly business review	Seasonal
	Advantech Connect (online conference)	Irregular
	Assistance from local sales representatives and engineers	In time
	Activity satisfaction surveys	Irregular
	MyAdvantech magazine	Seasonal
	Client CSR audits	Irregular
	Designated zone for CSR on the company website	Ongoing
 Suppliers	Supplier CSR promotion and assessment	Annual
	Supplier environmental protection assessment	Annual
	Supplier meetings	Irregular
	Supplier assessment	Annual
	Anti-corruption report mailbox	Ongoing

Stakeholders	Communication channels	Frequency
 Shareholders/ Investment organizations	Investor service mailbox and phone number on the company website	Ongoing
	Public information observation station	Ongoing
	Shareholder meeting	Annual
	Institutional investor conferences	Semi-annual
	Conferences involving domestic and foreign investment institutions as well as face-to-face meetings	Irregular
	Annual report	Annual
	Company news releases on the company website	Irregular
	Designated zone for investors on the company website	Ongoing
 Media/ Guilds and associations	Interview or phone interview	Irregular, on average once a month
	Media luncheons	Irregular, on average once every 6 months
	Announce revenue information	Monthly
	Press conferences	Irregular, on average four sessions a year
	Press releases	Irregular, on average one per month or more
	Specific company activities	Irregular
	Designated public relations personnel	Regular
	Institutional investor conferences specifically for the media	Annual
 Communities and nonprofit organizations	Designated units responsible for communicating with the community	Irregular
	CSR mailbox on the company website	Ongoing
	Disclosing information about the CSR report on the company website	Ongoing



Besides, we conducted stakeholder degree of concern survey and went through materiality analysis accordingly. Detailed methodology and result please refer to 1.4 Sustainability objectives and topics.

Table 1.3.2 Stakeholders and the topics they concern

Stakeholders	Topics	Chapters
 Clients and cooperating partners	<ul style="list-style-type: none"> • Client and partner relations • Information security management • Supply chain sustainable management 	CH3 Innovation and Services CH2 Corporate Management and Governance
 Employees	<ul style="list-style-type: none"> • Talent cultivation and retention • Employee–employer relations and equality • Economic performance 	CH5 Employee Development CH2 Corporate Management and Governance
 Shareholders/ Investment organizations	<ul style="list-style-type: none"> • Risk management • Economic performance • Eco design and product responsibility 	CH2 Corporate Management and Governance CH4 Commitment to Green Operations
 Media	<ul style="list-style-type: none"> • Innovative products and technology • Sustainable intelligent solutions • Economic performance 	CH3 Innovation and Services CH2 Corporate Management and Governance
 Suppliers	<ul style="list-style-type: none"> • Innovative products and technology • Economic performance • Client and partner relations 	CH3 Innovation and Services CH2 Corporate Management and Governance
 Communities and nonprofit organizations	<ul style="list-style-type: none"> • Talent cultivation and retention • IoT education 	CH5 Employee Development CH6 Lita and Coenriching Society
 Guilds and associations	<ul style="list-style-type: none"> • Sustainable intelligent solutions • Client and partner relations • Innovative products and technology 	CH3 Innovation and Services

1.4 Sustainability Objectives and Topics

Identify materiality topics and their boundaries

We identify sustainability topics related to our operations through our Stakeholder Degree of Concern Survey, and the degree of their impact and influence is then assessed by upper management. This allows us to conduct a materiality analysis from two dimensions. The Sustainability Committee then reviews the criticalness of each topic identified in the analysis. The results are used as a reference for information disclosure, sustainability strategy development, and special project planning.

Fig. 1.4.1 Process of establishing suitability objectives and strategies



▲ Sources of Advantech sustainability topics

Advantech’s procedure for identifying materiality topics is guided by the GRI Standards for sustainability reporting. Because sustainability topics cover a wide scope, we seek input from both internal and external sources to ensure that we are considering the widest range of possibilities.

Table 1.4.1 Sources of sustainability topics

External	Internal
<ul style="list-style-type: none">• Aspects and indicators in the GRI Standards• Opinions and feedback from stakeholders• SDGs	<ul style="list-style-type: none">• Corporate sustainable development goals (Advantech’ 2025 Vision Declaration)• Corporate operating strategies and development goals

Advantech’s 2025 vision declaration and the United Nations Sustainable Development Goals (SDGs)



In August–September 2020, Advantech ran the 2025 Vision Planning Workshop. In September, we officially established the 2025 Vision Declaration, and ESG is a critical part of this. Advantech’s ESG Vision Declaration is as follows: “Emphasize environmental, social, and corporate governance topics, implement Lita co-enrichment, and enable an intelligent and sustainable planet.”

Advantech’s ESG vision began with our corporate vision of “Enabling an intelligent planet.” Considering our core competitiveness, key development strategies, and response to the UN SDGs, we aim to leverage our AIoT core competencies and smart solutions to assist in realizing SDG 7 and SDG 13 for improved energy efficiency, energy-saving in buildings and in manufacturing, and low carbon emissions in logistics and retail. Through our open, innovative environment and education efforts aimed at popularizing IoT platforms and solutions, we seek to provide outstanding education (SDG 4) and promote partnerships (SDG 17).

Fig. 1.4.2 Advantech 2025 Vision and our focuses on UN SDGs



Based on the external opinions, reference indices, and international initiatives (Table 1.4.1), as well as our internal development strategies and goals (Fig. 1.4.2), the ESG & Corporate Sustainability Office selected 17 sustainability topics for 2020 and planned the survey content accordingly.

Table 1.4.2 Sustainability topics in Advantech 2020 survey

Governance	Environmental	Social
<p>No.01 Economic performance</p> <p>No.02 Innovative products and technology</p> <p>No.03 Supply chain sustainable management</p> <p>No.04 Client and partner relations</p> <p>No.05 Risk management</p> <p>No.06 Information security management</p> <p>No.07 Anti-corruption and anti-competition</p>	<p>No.08 Climate change strategies and environmental management</p> <p>No.09 Eco design and product responsibility</p> <p>No.10 Energy management</p> <p>No.11 Waste and water treatment</p> <p>No.12 Sustainable intelligent solutions</p>	<p>No.13 Employee–employer relations and equality</p> <p>No.14 Talent cultivation and retention</p> <p>No.15 Occupational safety and health</p> <p>No.16 IoT education</p> <p>No.17 Community care</p>

Materiality analysis

In 2020, we conducted our first survey of our overseas branches. It was the first time we studied materiality topics and their degree of influence and impact on our operations by surveying the opinions of upper management. Table 1.4.2 details the survey content for the 17 sustainability topics we identified.

Stakeholders Degree of Concern Survey

We surveyed our stakeholders via an online questionnaire to collect their opinions.

Upper management survey

The ESG & Corporate Sustainability Office used online questionnaires and emails to survey the Board of Directors as well as local and overseas upper management (directors and higher).

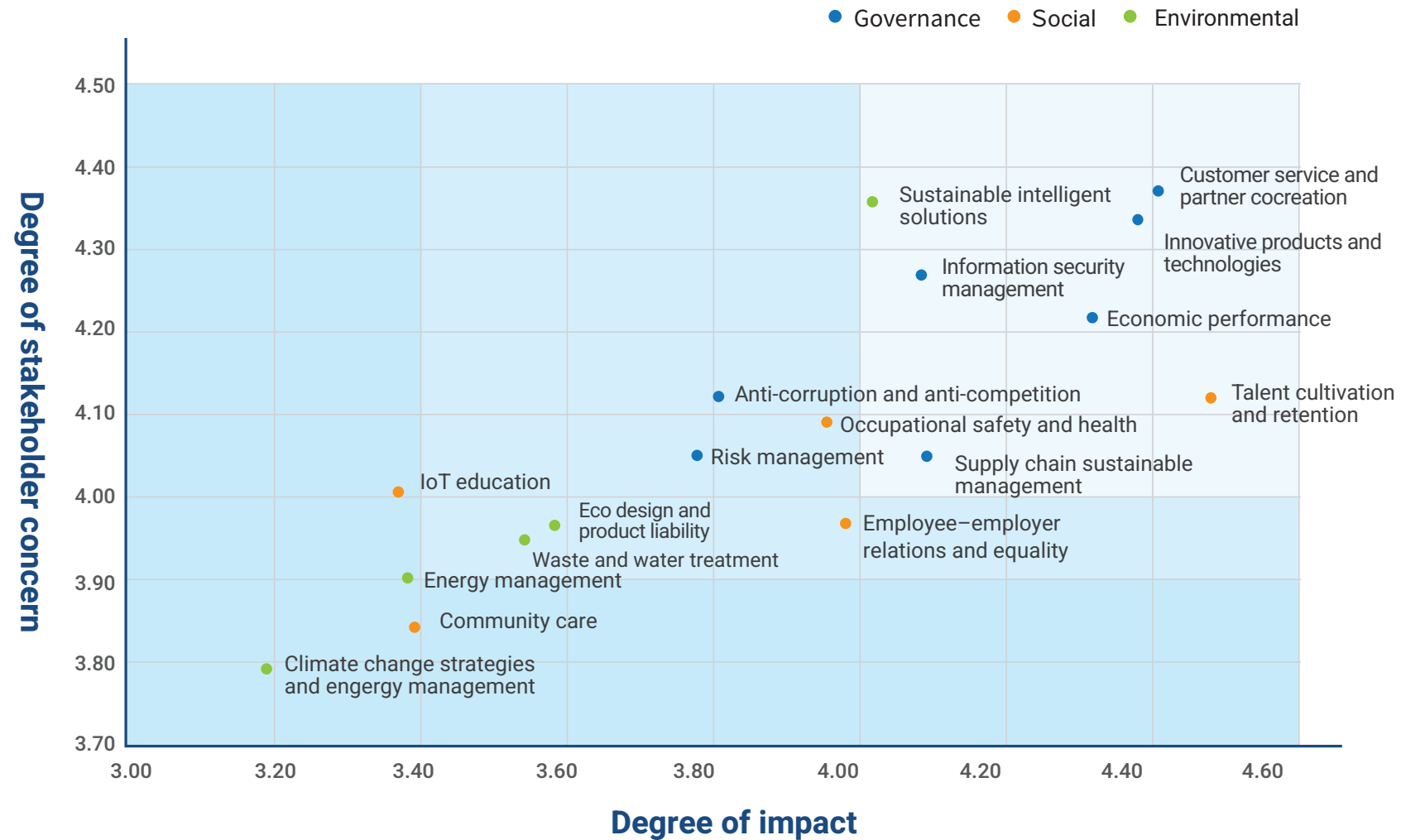
A total of 339 valid questionnaires were returned (282 from the stakeholder survey and 57 from the upper management survey).

Because the number of valid questionnaires varied between the different stakeholder groups, we calculated the mean within each group for each questionnaire item. This was done to prevent the results from being biased by the number of individuals in each stakeholder group, effectively giving each stakeholder group the same weight. The preliminary results of the materiality analysis are presented in the Figure 1.4.3.

Table 1.4.3 Questionnaire statistics for Advantech's 2020 materiality analysis

Survey aspect	No. of valid questionnaires returned	Taiwan	Other overseas branches	Total
Degree of concern of stakeholders	Employees	139	22	161
	Clients and partners	34	10	44
	Suppliers	15	0	15
	Shareholders and investment institutions	17	3	20
	Media	14	3	17
	Guilds and associations	5	0	5
	Communities	20	0	20
Survey of upper management	Board of Directors and Executives	46	11	57
Total		307	49	339

Fig. 1.4.3 Preliminary materiality analysis results



As shown in the figure above, in the original analysis, items exceeding 4.00 on the degree of impact of operations and the degree of stakeholder concerns are considered the original results of our materiality topics.

The preliminary analysis results were handed to the ESG Office, who evaluated the company's core development strategies and coordinated with the Committee to advise on any necessary adjustments. The major adjustments of topics and their justifications are explained as follows:

1. Add climate change strategies and energy management

Climate change is an international topic with wide public concern. As an industry leader, we are expected to respond to concerns on climate change, and so we must carefully assess the opportunities and risks that it has brought about. Because demonstration and promoting energy-saving in buildings and operations are key themes in our ESG, we have merged our climate change strategies and energy management and included it in our materiality analysis.

2. Add eco design and product responsibility

Innovation is one of Advantech's key strengths and has always been a driver of the company's progress. Eco design has now been incorporated into our innovation process. In 2021, we plan to promote green innovation at our headquarters and as such have included it in our materiality analysis for disclosure and management.

3. Add community care

We hope to be more systematic in providing art sponsorships based on the level of employee interest. We also plan to run special education projects for children and adolescents.

4. Add IoT education

IoT education is one of Advantech's 2025 visions and a critical direction in our ESG strategy.

5. Remove economic performance

Advantech is a listed company. Complete financial and economic performance data are disclosed in the company's annual report (Chapter VI. Financial Information).

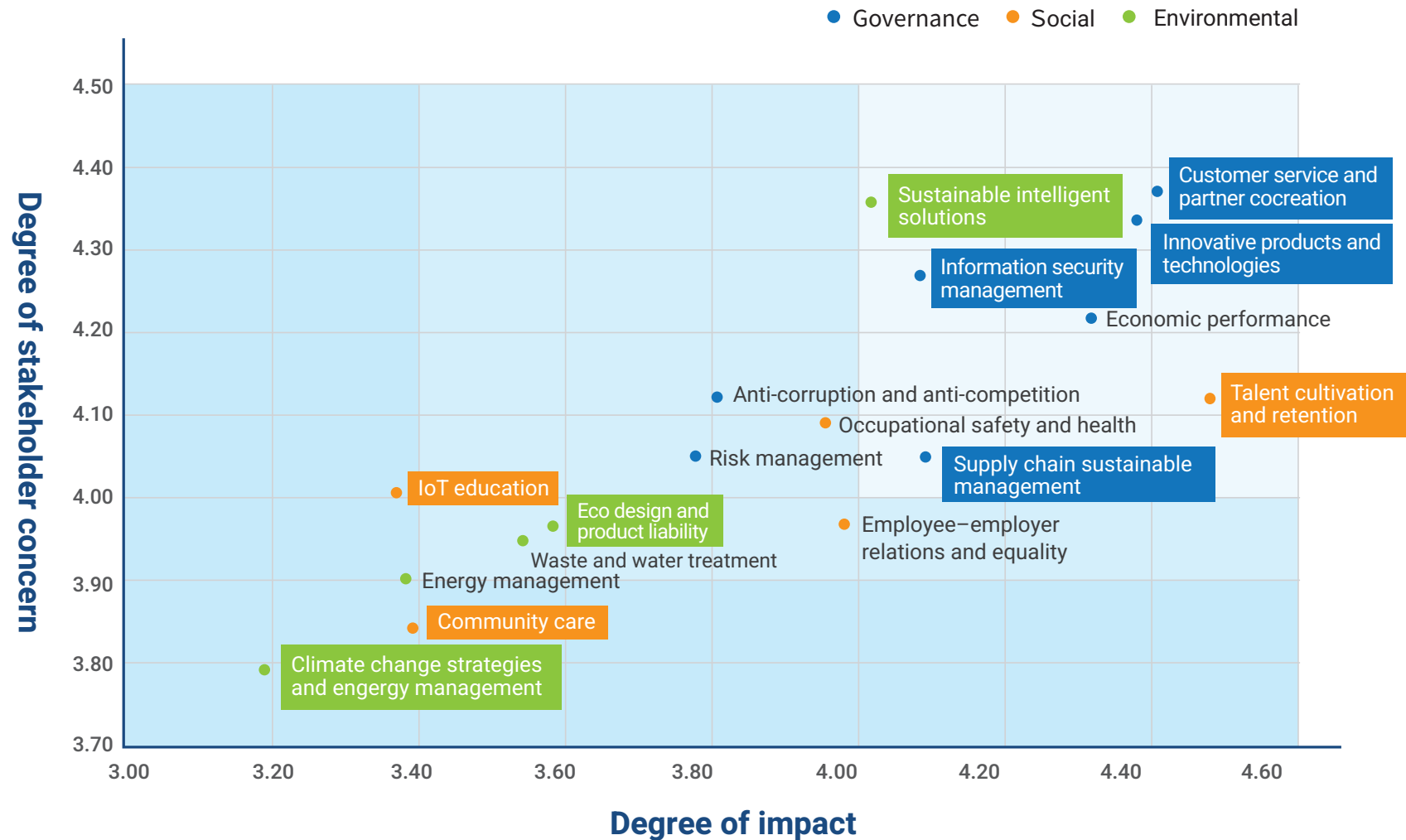
Materiality topics in the 2019 CSR Report contained two topics of wastewater and waste as well as emissions; in 2020, they were merged into waste and water treatment. Although they no longer identified as materiality topics in the materiality analysis, we voluntarily disclose them in Chapter 4.3. Market status was also merged with economic performance and disclosed in our annual report. Labor-employment relationships and labor-management relationships were merged into labor-employment relationships and equality. Occupational health and safety was renamed to occupational safety and health. After the materiality analysis



was conducted, these three items were not identified as materiality topics, but they are voluntarily disclosed in Chapters 5.1 and 5.4. Training and education were adjusted as employee development planning, which belongs to talent cultivation and retention under materiality, and it is disclosed in Chapter 5.2.

The descriptions of other topics have been modified slightly based on our ESG development strategies. Figure 1.4.4 shows the 10 materiality topics in the 2020 report that were reviewed and adjusted by the Advantech ESG & Corporate Sustainability Committee.

Fig. 1.4.4 Ten major materiality topics in the current report



Identify the boundary of topics

For each materiality topic, we assessed its impact and determined whether its effects are internal or external. Table 1.4.4 shows the boundaries of each topic within and outside of the organization.

Table 1.4.4 Boundaries of critical materiality topics

Aspect of consideration	Boundary	Internal		External	
		Advantech Taiwan	Advantech Kunshan	Suppliers	Customers
Economic Governance	Customer service and partner cocreation	●	●		●
	Innovative products and technology	●	●		
	Information security management	●	●		
	Supply chain sustainable management	●	●	●	
Environmental	Sustainable intelligent solutions	●	●		●
	Eco design and product responsibility	●	●	●	
	Climate change strategies and energy management	●	●		
Social	Talent cultivation and retention	●	●		
	WISE-PaaS IoT education	●	●		
	Community care	●	●		

● Can be fully disclosed in this report ● Can be partially disclosed in this report

Materiality management approach

The ESG office collaborates with departments or units responsible for each materiality topics (please refer to Fig. 1.2.2 Advantech sustainability governance) to establish management approach and set goals for materiality topics. After the committee confirms the adequacy in written form, the ESG office implements and follow-up on the performance. In addition to SDG4, 7, 13, and 17, we responded to other SDG in different materiality topics. Among the ten identified materiality topics, this year's newly established ones were innovative products and technology, information security management, sustainable intelligent solutions, WISE-PaaS IoT education, and community care. They correspond to GRI103.

Table 1.4.5 Goals and management approach for materiality topics

Materiality topic	Materiality	Management strategy	Achievement status in 2020	Goals for 2021	Goals for 2025	Corresponded SDGs	Related chapters in this report
Customer service and partner cocreation	Favorable client relations can increase our competitiveness. Outstanding partnerships can also enhance overall creativity across the entire IoT industry.	View clients as partners. Cocreate products or services with clients and co-operate the market.	<ul style="list-style-type: none"> Started 19 cocreation projects in places such as Taiwan, China, and Switzerland. Held 95 global online talks. 	Increase brand value by double digits.	Increase global client satisfaction rate by 10%.	SDG 17. Partnership for the goals	3.3
Innovative products and technology	Innovative ability is the key to Advantech's competitiveness. Technology innovation reduces R&D cost and resource wastage while increasing overall performance.	Run various innovation projects across different business groups to promote interdepartmental collaboration technology and emerging business opportunities.	<ul style="list-style-type: none"> 17 products received A+ product nominations. Completed three cross-business unit R&D technology sharing projects. 	<ul style="list-style-type: none"> Establish EBO (Emerging Business Opportunities) mechanism. Incubate at least one potential emerging business. 	<ul style="list-style-type: none"> At least 80% of A+/A standard items to reach an annual sales of USD 10M. Establish at least 3 new business units via EBO. 	9. Industry, Innovation, and Infrastructure	3.1
Information security management	With the emergence of RaaS (Ransomware-as-a-Service), information security is now a critical risk. This has made effective risk management even more critical to maintaining employee and client privacy.	Strengthen information security management through implementing policies on auditing designated information security units, data preservation, endpoint protection, and network framework adjustment	Added to materiality in 2020.	<ul style="list-style-type: none"> Key IT services (ERP, PLM, Mail) to operate normally 99.9% of the time. Disaster recovery time to be reduced to less than 24 hours. 			2.3 2.4
Supply chain sustainable management	Establish and develop stable and friendly relations with supply chain partners to ensure consistent quality, reduce risk, and fulfill social responsibilities together.	<ul style="list-style-type: none"> Require suppliers to comply with our Supplier Code of Conduct. Regularly identify suppliers for high risk on meeting our sustainability standards. We conduct audits them and require any improvements to be made within a reasonable time limit in order to reduce the risk level to medium to low. 	Key suppliers: 100% met our Corporate Social Responsibility Commitment; 100% signed an agreement to not to use conflict minerals.	<ul style="list-style-type: none"> Key suppliers: 100% to meet our Supplier Code of Conduct and agree to not use conflict minerals. Zero environmental pollution, incidents of human rights violations, or major occupational hazards. Suppliers with high sustainable risks: 100% to obtain ISO 14001 certification. 	<ul style="list-style-type: none"> Key suppliers: 100% to complete ESG risk assessment Suppliers with high sustainable risks: flaw improvement rate to reach 70% or above. 	17. Partnership for the goals	2.2 2.3
Sustainable intelligent solutions	Our software, hardware, and integrated solutions are designed to enhance competitiveness while promoting sustainability.	Include the philosophy of sustainability in our strategy blueprint for business groups to develop new products. Establish quantifiable goals and continue to develop solutions aimed at greater sustainability.	15.79% of revenue came from products for sustainable purposes.	18% of revenue to come from products for sustainable purposes.	25% of revenue to come from products for sustainable purposes.	7. Affordable and clean energy	3.2

Materiality topic	Materiality	Management strategy	Achievement status in 2020	Goals for 2021	Goals for 2025	Corresponded SDGs	Related chapters in this report
Eco design and product responsibility	Launching more products that are environmentally friendly will enhance our competitiveness while reducing losses from failure to meet clients' environmental standards.	In response to the company's ESG initiative, we have incorporated the Green Mark into our innovative design procedures.	Added to materiality in 2020.	Green design: 10% of standard products of new projects must meet the four major aspects set out in our Eco Design Guidelines	Green design: 80% of standard products of new projects must meet the four major aspects set out in our Eco Design Guidelines	9. Industry, Innovation, and Infrastructure 12. Responsible consumption and production	4.4
Climate change strategies and energy management	Climate change is a critical topic for humans. Our global operations are exposed to potential risks that may result from climate change. We strive to proactively fulfill our responsibility to protect the global environment and create a sustainable green industry.	<ul style="list-style-type: none"> • Meet all environmental regulations. Achieve zero pollution and zero violations. • Identify potential risks resulting from climate change and respond accordingly. • Establish short-, mid-, and long-term goals for energy-saving and carbon reduction. Develop actual practices and promote them. 	<ul style="list-style-type: none"> • Ranked in the B List in the 2020 Climate Disclosure Project climate change questionnaire evaluation. • Implemented an environmental management system for regular inspection of performance; no problems pertaining to environmental protection required amendment in 2020. • Overall GHG emission density per unit revenue was reduced by 2.1% compared to 2019. 	<ul style="list-style-type: none"> • Introduce a building energy management system (BEMS) at Linkou and Kunshan • Kunshan plant to continue to obtain green factory certification. • Linkou solar panel power generation to account for 4.5% of total electricity use. 	<ul style="list-style-type: none"> • The proportion of green power use in China and Taiwan to reach 20% • Linkou solar panel power generation to account for 6.5% of total electricity use 	7. Affordable and clean energy 13. Climate action	4.1 4.2
Talent cultivation and retention	Due our industry's high demand for low volume/ high variety products that deliver on innovation and flexibility, we require both domain-specific and cross-domain talents. Talent attraction, cultivation, and retainment are thus paramount for our operations.	<ul style="list-style-type: none"> • Right People on Bus recruitment mechanism: First attract outstanding talents and then find suitable positions for them. • Offer interdisciplinary, cross-national, and diverse job opportunities as well as comprehensive learning courses to cultivate outstanding talents. 	<ul style="list-style-type: none"> • In 2020, the Right People on Bus channel accounted for approximately 11.6% of all new employees in Taiwan. • In 2020, we identified 49 talents with high potential. The development plan achieve rate was 93.6%, and the retention rate was 98%. 	Establish the HCM (Human Capital Management) digital talent database.	<ul style="list-style-type: none"> • At least 25% of AVP levels or above have been through rotation process. • Use HCM to realize the visibility of global talents. • 15% of global new employees to be recruited through the Right People On Bus channel. 	8. Decent work and economic growth	5.1 5.2
WISE-PaaS IoT education	Reducing the gap between industry and academia and cultivating outstanding and innovative talents are critical to our sustainable operation in the future.	Use various industry-academia projects, internships, and accelerator projects to cultivate IoT talents and start-ups.	<ul style="list-style-type: none"> • 14 universities worldwide participated in InnoWorks. • 17 students participated in summer internships, which yielded five innovative proposals. • We cooperated in six research projects and sponsored five IoT industry-academia elite PhDs and four industry-academia master's. 	<ul style="list-style-type: none"> • InnoWorks: 20 schools worldwide to participate. Two A+ projects to be yielded from Taiwan. • Internship: 20-30 students to participate in internships. • IoT Lab: Three large-scale industry-research projects to be conducted. • AIoT Academy: Complete 10 A+ projects. Assist over 500 students in obtaining WISE-PaaS certification. 	Over 50 schools worldwide to cooperate with us in industry-academia projects.	4. Quality education	6.2
Community care	The Lita concept is a part of our corporate DNA. For this reason, community care is a materiality for the company.	With the two major themes of arts and culture as well as a sustainable education platform, we invite employees and their families to participate in the activities and to coenrich the community.	We input over NT\$10 million and sponsored 23 NGOs or social enterprises.	Expand children sustainable education on the education platform: ACT Dreamer (from two schools to eight schools.)		4. Quality education 11. Sustainable cities and communities	6.1

2

Corporate Management and Governance

- 2.1 Operation Performance and Corporate Governance Framework
- 2.2 Supply Chain Sustainable
- 2.3 Risk Management Mechanisms
- 2.4 Information Security Management
- 2.5 Appendix : Guilds and Associations



2.1 Operation Performance and Corporate Governance Framework

Advantech was founded in 1983. Since then, the company has been playing the role of a pioneer in developing and manufacturing high-quality and high-performance calculation platforms. We now offer various solutions and services, including comprehensive software–hardware system integration, customer-oriented design service, and global logistics support. In 1999, Advantech became a listed company in Taiwan. Advantech Headquarters is located in Neihu Science Park, Taipei, Taiwan. Based on our customers' needs, the company is divided into three major business groups: Industrial IoT, Embedded IoT, and Service IoT. We operate out of 27 countries across Europe, the Americas, and Asia. Table 2.1.1 shows our product sales performance for 2020. For more details and for production costs, please refer to pages 76 and 97 in the Annual Report.

*Note 1: See <http://www.advantech.com/contact> for the complete list.

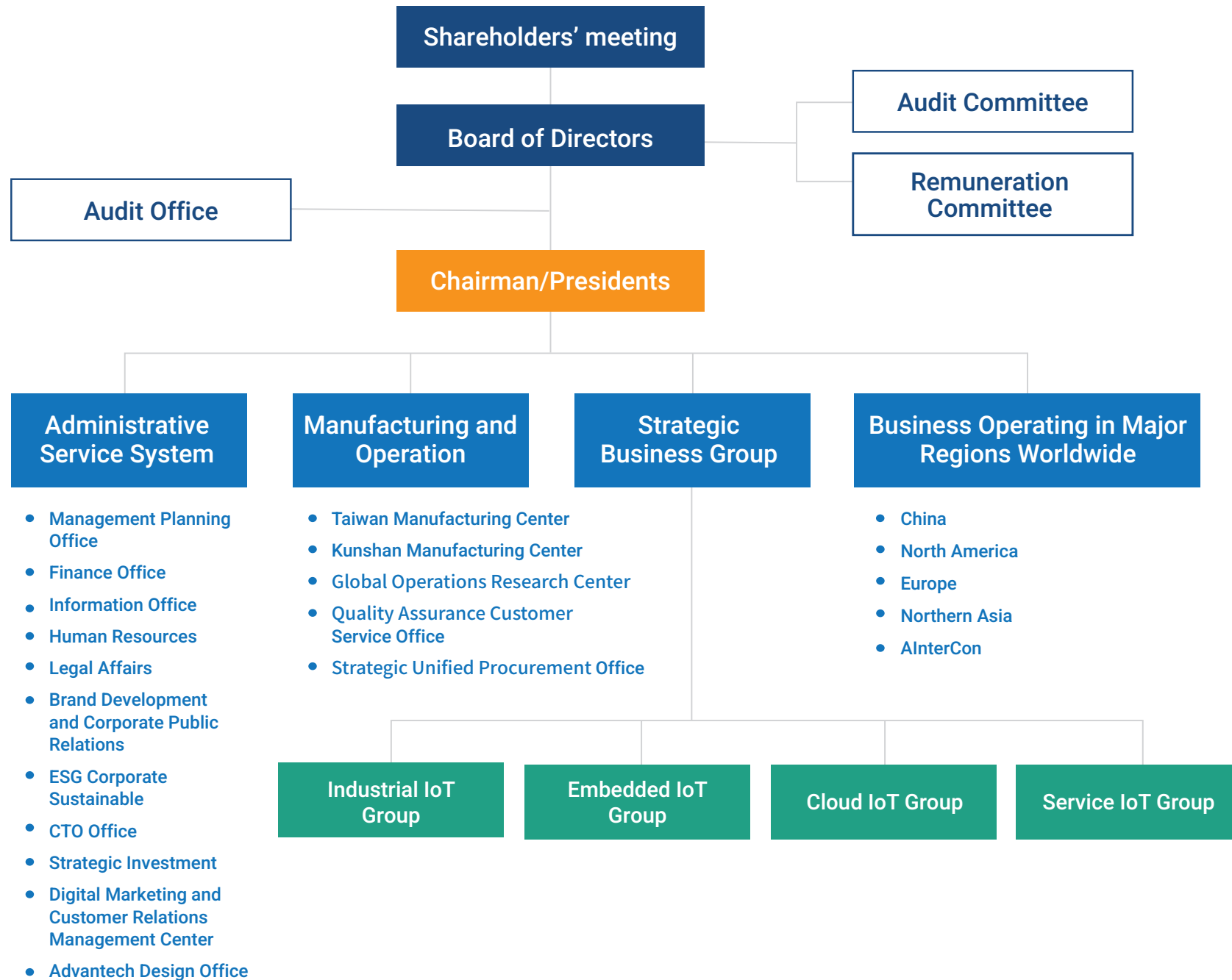
Advantech and our affiliates are mainly involved in product manufacturing, assembly, sales, and after-sales services for industrial computers. Some of our affiliates invest in technology and sales activities related to our products. Advantech's organizational structure is shown in Fig. 2.1.1. For more details, please refer to page 11-13 of the Annual Report.

Table 2.1.1 Advantech's 2020 product categories and corresponding sales performance

Major products	2020	
	Sales amount (TWD, thousand)	%
Embedded boards and systems	23,887,240	47
Industrial computers and industrial controllers	21,424,703	42
After-sales service and other services	5,807,465	11
Total	51,119,408	100



Fig. 2.1.1 Advantech organizational structure

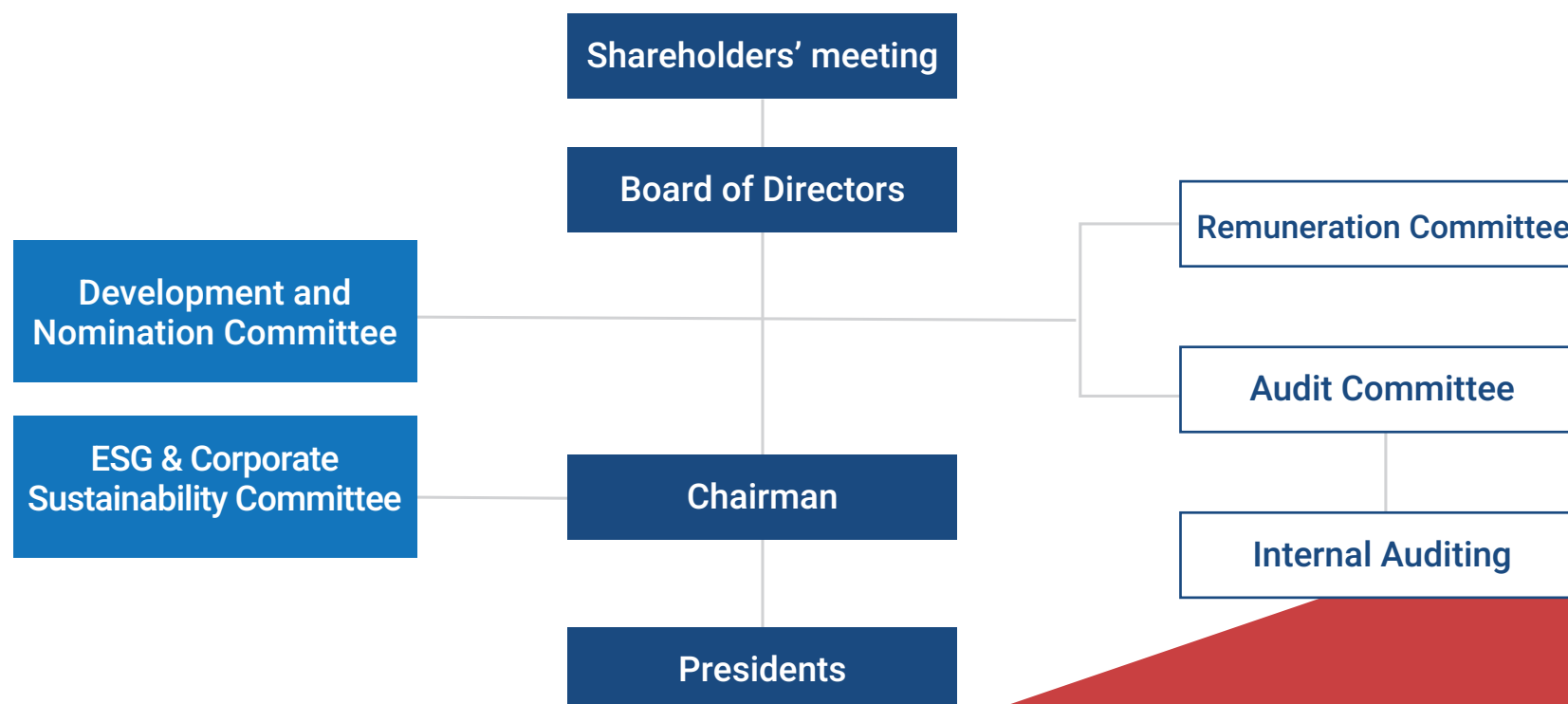


Corporate governance

Advantech values corporate governance and strives to realize the Lita spirit, and we continuously seek to strengthen the composition and functions of our Board of Directors. In addition to ensuring shareholders' legal rights, we also consider the benefits we bring to our stakeholders. Our Board of Directors follows relevant regulations and uses the powers conferred by the shareholders' meeting to establish various regulations and guidelines. The board also supervises the implementation results of various projects and operational goals. Biannually, we hold expanded board meetings to discuss topics such as industry and organizational reform, operation model innovation, succession planning, and mid- to long-term visions.

We have established the Audit Committee, the Remuneration Committee, and the Corporate Development and Nomination Committee to consolidate the various supervisory and internal auditing functions, provision of salary incentives, and mechanisms for upper-level talent cultivation. In 2020, we established the ESG & Corporate Sustainability Committee and Office with the Chairman as the responsible person, the aim of which is to more broadly promote environmental sustainability, social responsibility and giveback, and corporate governance.

Fig. 2.1.2 Advantech's corporate governance framework



Board of Directors composition and functions

Advantech's board consists of seven directors, including four directors and three independent directors with a term of 3 years. Following the candidate nomination system in the Company Act Article 192-1, the directors were selected from a candidate list at the shareholders' meeting. In 2020, the board was reelected.

The board has a diverse and professional background. Three directors have vast experience in Advantech's core industries, three are internationally renowned CEOs or senior managers of foreign businesses, and one is a famous professor. The other functional Committees invite scholars and experts to serve as consultants or become regular committee members. In 2020, six board meetings and two expanded Board of Directors meetings were held. All board members were present at all meetings.

In addition to attending these meetings, board members are often invited to discuss forward-looking topics, conduct upper management interviews, and attend industry forums held by Advantech. We offer monthly courses from the Taiwan Corporate Governance Association, Securities and Futures Institute, and Taiwan Institute of Directors for board members to select what interests they wish to pursue through study. The overall operation and performance of the board are regularly reviewed by a third party. In 2020, the review result was 6%–20%. The board members achieved an overall satisfaction rate of 95% with regard to board operations.



For more information, please refer to Advantech's official website [Board of Directors](#).

Investor relations

Shareholders and investors are key stakeholders in Advantech. When we receive questions from investors and analysts, we strive to answer them with a reasonable level of information disclosure as allowed under law. We also collect feedback and opinions as a reference for our operations management.

In 2020, due to the COVID-19 pandemic, most meetings were held online. Our Investor Relations Department participated in three external investors' forums, held four institutional investor conferences, and hosted 82 investor phone meetings with over 700 investors.

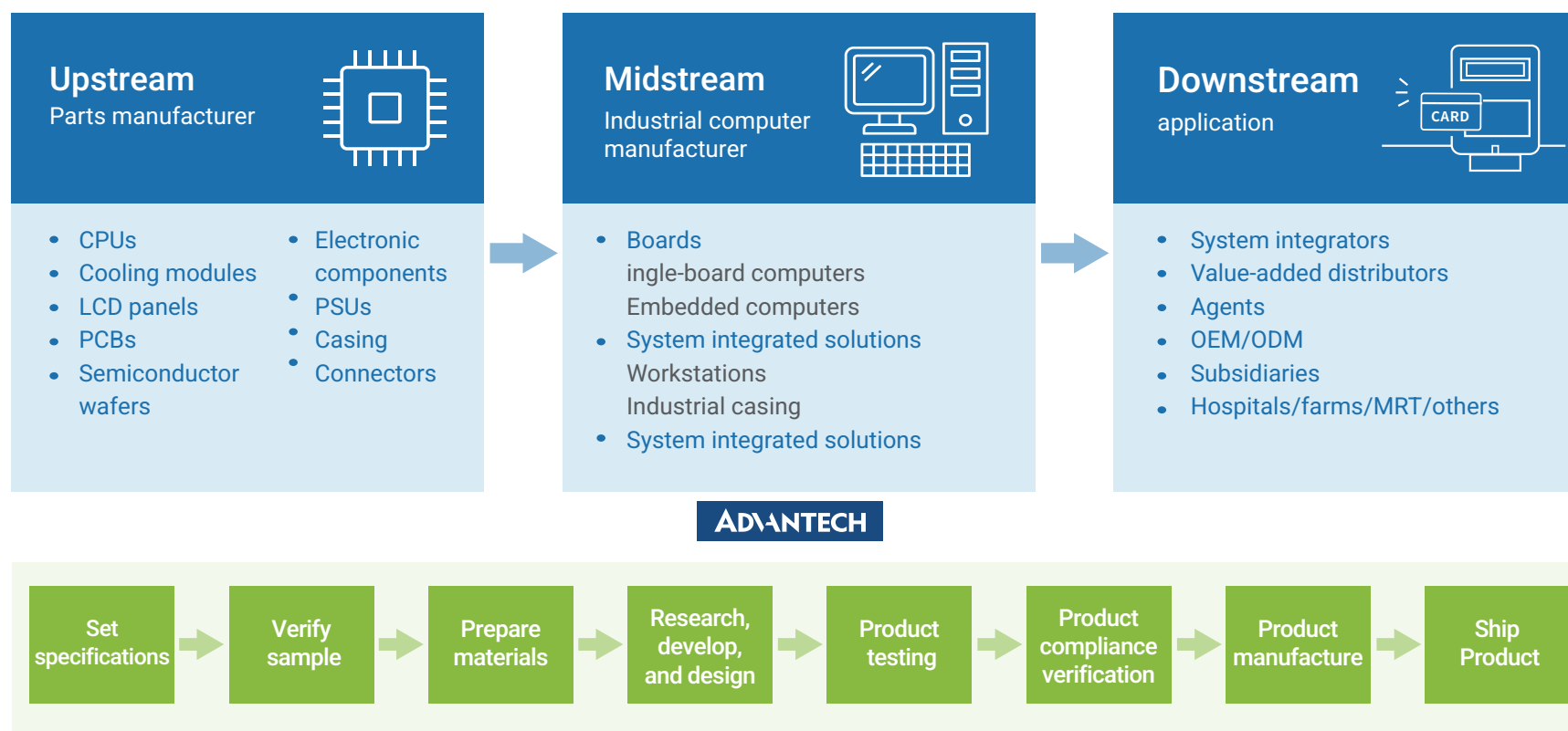


2.2 Supply Chain Sustainable Management



Advantech's operations philosophy is to create a win-win situation with its suppliers and consumers and to establish a sustainable IoT supply chain ecosystem where all supply chain partners adhere to principles that promote an ethical and environmentally friendly supply chain and production management practices. Advantech provides services in industrial IoT sector. Our main manufacturing process involves purchasing components from upstream suppliers, assembling and manufacturing devices, and then delivering products to our clients. Because of the characteristics of our industry, the products we purchase vary considerably and are highly customized. To date, we have more than 10,000 items listed in our supplier database. Procurement and Quality Assurance teams regularly assess our suppliers to ensure supply chain stability and supply quality, and to understand the processing ability of suppliers. Items of consideration when evaluating suppliers include product quality, timeliness of delivery, degree of cooperation, industrial safety management, and CSR management, and we constantly communicate with all of our suppliers on these matters. We have "Corporate Social Responsibility and Supply Chain Sustainable Management" in our supply chain assessment regulations to ensure that any cooperation will be at minimal cost. Our goal is to achieve the highest level of quality and sustainable value in our products and services.

Table 2.2.1 Advantech industry value chain



Material topic management policy/management framework

Material topic	Supply chain sustainable management
Criticalness to operations	We establish stable and friendly relationships with our supply chain partners under our corporate sustainability philosophy. While we seek to ensure the highest level of quality, we are devoted to environmental protection and hope that by establishing a sustainable supply chain, we can engage in CSR together with our partners.
Management policy	<ul style="list-style-type: none"> Suppliers are required to comply with the Advantech Supplier Code of Conduct. We ensure this by clearly informing our suppliers on the standards we require them follow. We establish short- and mid-term critical goals as well as concrete measures to effectively promote and consolidate them. We regularly identify high-risk ESG suppliers. We conduct auditing and require them to improve any shortcomings within a certain period of time, thereby reducing their risk level to medium or low.
Goals and effectiveness	To improve management, we annually examine set management policy goals to evaluate whether KPIs have improved from the previous year.

Item	2020 results	Goals for 2021	Goals for 2025
Key suppliers (PVL)	<ul style="list-style-type: none"> 100% of our PVL met our CSR commitments 100% of our suppliers signed that they do not use conflict minerals 	<ul style="list-style-type: none"> 100% of suppliers to meet the Advantech Supplier Code of Conduct 100% of our suppliers to not use conflict minerals Zero environmental pollution, violation of human rights, and major occupational hazard incidents 	100% of suppliers to undergo a complete ESG risk assessment
High-risk ESG suppliers	Performed assessments and planning to identify and manage high-risk suppliers.	100% of high-risk ESG suppliers to pass ISO 14001	Defect improvement rate to reach 70%

Project highlights and performance

100%

All key suppliers on our PVL have signed the Supplier Code of Conduct Agreement

100%

All new suppliers in 2020 have passed the environmental code assessment

100%

All key suppliers on our PVL have signed a declaration to not use conflict minerals

82%

Advantech's local procurement ratio reached 82%

100%

All suppliers were audited in 2020

2.2.1 Supplier management

Supplier composition

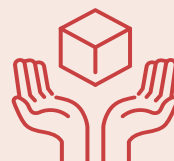
Our products and services are designed largely for IoT, automation, and embedded computing. This requires us to cooperate with more than 1,000 suppliers worldwide. Major supplier categories for Advantech are raw materials and packaging, in addition to contractors for engineering, security, and cleaning. Raw material suppliers in particular have a substantial influence on our operations and production. We divide these suppliers into two categories: direct material suppliers (whose materials are directly related to production) and packaging material suppliers (whose materials are either related to packaging or not directly related to production).

To effectively manage raw material suppliers and allocate resources appropriately, we screen all suppliers for those whose annual procurement amount is high, those who offer key raw materials, and those whose materials cannot be replaced. We categorize these suppliers as key Level 1 suppliers. Our key raw material suppliers are identified through an integrated management approach.



Tier 1 suppliers

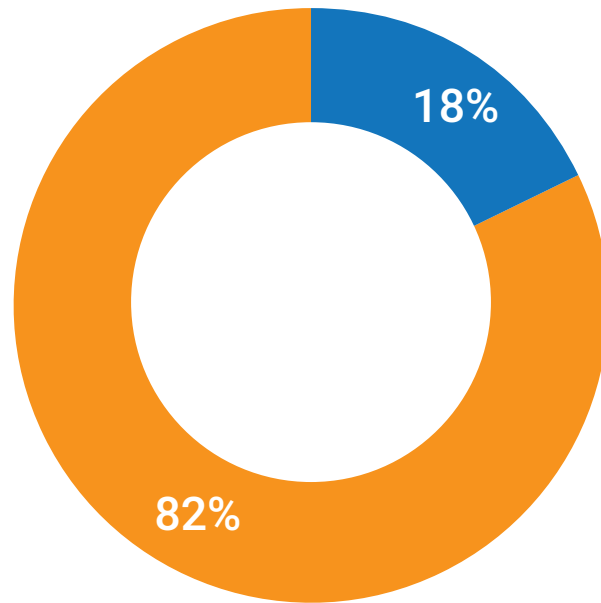
Suppliers who provide Advantech with direct or indirect materials



Key suppliers

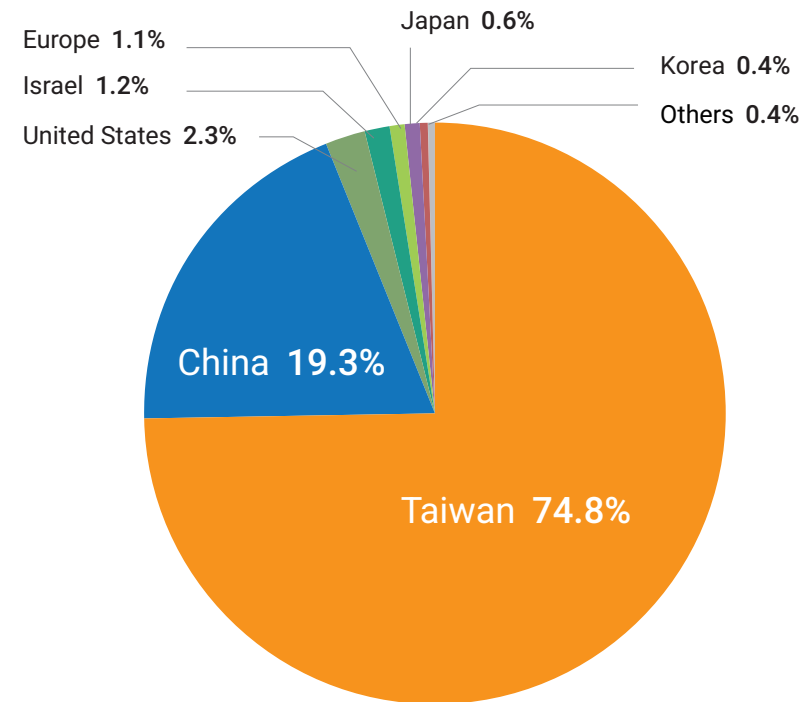
High-volume suppliers and those who provide critical raw materials that cannot be replaced. These are our PVL suppliers.

2020 distribution of key and non-key suppliers



Key suppliers Non-key suppliers

2020 distribution of raw material suppliers

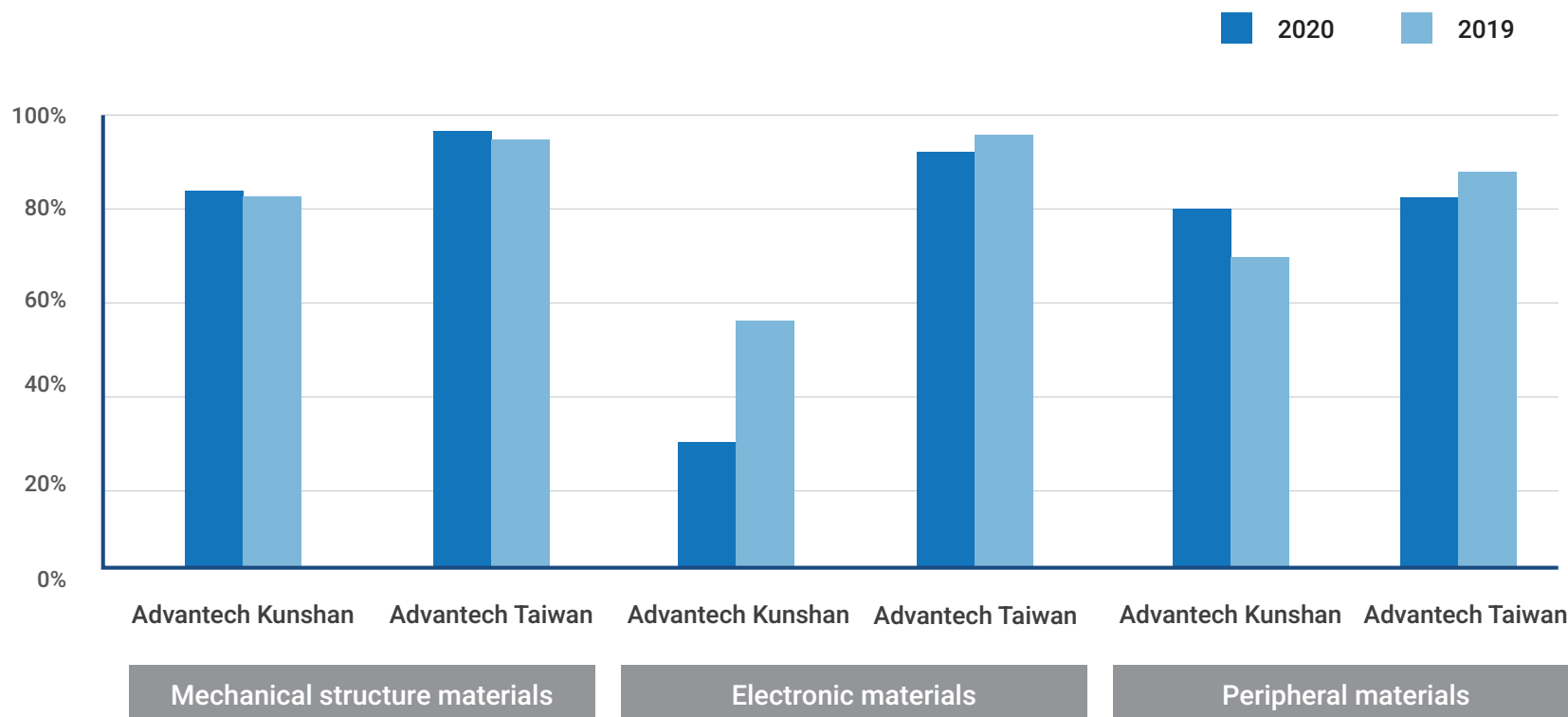


Taiwan China United States Israel
Europe Japan Korea Others

Cultivate local suppliers

Advantech continues to utilize its local procurement strategy to establish close relations with local partners to create local job opportunities while working to reduce CO2 emissions from manufacturing and transportation. Over the years, we have prioritized local suppliers of products that meet RoHS/HSF regulations. Overall, in 2020, Advantech Taiwan's local procurement ratio was approximately 88%, while that for Advantech Kunshan was 63% (the lower percentage is attributed to some electronics and peripheral raw materials having been procured by Advantech Taiwan*). Figure 2.2.1 illustrates the local procurement figures for the past two years.

Fig. 2.2.1 Local procurement statistics for Advantech Taiwan and Advantech Kunshan



*Note:

- (1) Local procurement is defined as trading with manufacturers in Taiwan for Advantech Taiwan and trading with manufacturers in China for Advantech Kunshan.
- (2) Despite the switch to a self-procurement strategy, the local procurement ratio of electronic materials in Kunshan was lower in 2020 because most of their suppliers were operating in Taiwan.

Supplier management strategy

When we onboard new suppliers, we require them to sign a procurement contract to ensure that delivery dates, quality, and warranty regulations are met. Of particular importance, we require suppliers to immediately inform us in the event of a natural disaster or any humanmade difficulties that may delay deliveries. For common electronic components, we have mechanisms in place to procure components from secondary sources. For major materials, we maintain safety stock to prevent shortages or quality problems.

For different materials, we have dedicated procurement personnel monitoring market information for weekly and monthly review at supervisor meetings. To centralize procurement, we have established a preferred vendor list (PVL) of outstanding suppliers. In addition to achieving highly efficient cooperation with PVL suppliers, this approach to risk management ensures that the materials we procure are of high quality and delivered on schedule.

Advantech is proactively involved in developing our supply chain to realize the goal of sustainable development together with our suppliers. Our procurement strategy is to have multiple suppliers so that we not only have an alternative source for materials, but because this approach also promotes market competition. It diversifies our procurement risks and reduces costs. We require suppliers to sign an agreement that they will comply with the Advantech Supplier Code of Conduct. To establish a sustainable line of procurement, it is critical that they adhere to all laws and regulations in the country or region where they operate, and this extends to labor rights, health and safety, the environment, corporate ethics, and their management model. Suppliers are also required to ensure that these requirements are also met by their suppliers further down the supply chain.



For 2021, we plan to regulate material suppliers to complete an ESG sustainability risk assessment questionnaire. The content of the questionnaire will cover law compliance, sustainable management, supplier management, conflict minerals management, environmental protection, health and safety, labor rights, and human rights. This will help us better understand our suppliers' sustainability risk. As necessary, we will conduct on-site audits to ensure that suppliers meet our sustainability standards. We also expect suppliers to continuously work toward improving their sustainability performance by encouraging (and in some cases requiring) both existing and new suppliers to obtain certification for international standards such as ISO 9001, IATF 16949, ISO 14001, ISO 45001, and ISO 14064-1.



On the topic of environmental management, Advantech incorporates strict environmental protection principles in our supplier management mechanism. Since 2010, we have been following the Responsible Business Alliance (RBA) management system (formerly the Electronic Industry Citizenship Coalition). We have since expanded our scope and called on our suppliers to promote CSR values by adopting such measures as regulations prohibiting the use of conflict minerals. To date, our management of selection indicators for all suppliers has included critical CSR indicators such as RoHS (HSF) QC080000, ISO14001, ISO 45001, and RBA, which regulate the localization of suppliers. We also require all suppliers to maintain basic human rights and comply with labor regulations. The aforementioned index is listed under new supplier audit items via the Supplier Audit Table.

Our Purchasing and General Affairs departments manage our suppliers and contractors (including security companies) to ensure they follow the equality principle in the Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy of the International Labor Organization. Table 2.2.2 shows an overview of the management principles we apply to our suppliers. In the future, we will gradually work with more suppliers to help them achieve high standards in CSR.

Product substance management and the environment

The IECQ QC 080000 system has been introduced at all of Advantech's main plants. We employ the Green Product Management (GPM) system to conduct material procurement management based on the risk level of the materials we use in our products. Both Advantech Taiwan and Advantech Kunshan require suppliers of raw materials or packaging materials to follow the company's No Hazardous Substance Management Operation Procedures. All raw materials must meet international environmental protection regulations, such as Restriction of Hazardous Substances (RoHS); Registration, Evaluation Authorization and Restriction of Chemicals (REACH) of the European Union; Substances of Very High Concern (SVHC); and Persistent Organic Pollutants (POPs).

Since 2010, Advantech has been promoting a green supply chain management system, using GPM as a shared platform for promoting environmental information for supply chains. We deliver the latest international environmental protection regulations to our supplier partners in a timely manner, giving them a reference for law compliance and for constructing material supply systems. On this supply chain platform, suppliers must promise that their products do not contain hazardous substances prohibited by Advantech, and they are required to provide the following information:

- Toxicity and prohibition information (MSDS/MCD) on relevant chemical substances they use
- Review results on their green product management system



Table 2.2.2 Management principles for suppliers and contractors

Type	Management principle	Implementation percentage	Focus for future management
All key PVL suppliers (All 270 have signed a contract)	Implement supplier inspections and sign the Supplier Code of Conduct Agreement	100%	Clearly state CSR terms in the agreement
New suppliers in 2020 (All 21 new suppliers received an inspection)	The Supplier Inspection Table is employed for assessment (16 items on environmental health and safety, 16 items on labor and ethics regulations, and 13 items on HSF)	100%	Maintain the percentage of on-site inspections
	Environmental principles are adopted to assess new suppliers, including an assessment of environmental, safety, and health principles; supports and commitment from high-level managers; concrete effort to promote our principles among employees; compliance with environmental regulations; and external communication	100%	Maintain the percentage of on-site inspections
	Adopt social principles to assess new suppliers (social principles include whether employees are free to choose their occupation, whether a company exploits child labor, whether employees are paid according to regulations, and whether the discrimination is forbidden.)	100%	Maintain the percentage of on-site inspections
In 2020, inspection was conducted to existing suppliers (All 72 planned inspections were successfully completed)	The Supplier Inspection Table is employed for assessment (16 items on environmental health and safety, 16 items on labor and ethics regulations, and 13 items on HSF)	100%	Increase the percentage of on-site inspections
Contractors such as security, cleaning, and engineers	Sign the Contractor Environmental Health and Safety and Supplier Code of Conduct Agreement	100%	Clearly state human rights terms in the contract

*Note: Due to COVID-19, on-site inspections could not be conducted in 2020. Instead, document review was adopted as an alternative. Additionally, data on contractors does not include Kunshan.

2.2.2 Sustainable supply chain management

Advantech hopes that through its international influence, we can deepen relations with global clients and cooperating partners to create value in corporate sustainability. In addition to complying with the RBA code of conduct to assess labor, environmental, and ethics management in our operations, we are proactive in ensuring the sustainable management of our supply chain. Our efforts to promote sustainable development throughout the supply chain including prohibiting our suppliers from engaging in forced labor or child labor, and we will cease cooperating with any supplier who severely violates these regulations. In 2020, there was no instance of having to terminate our cooperation with any supplier due to them engaging in forced labor or child labor.

Supplier sustainable management procedure

To consolidate Advantech's procurement and supply chain policy, we have established a four-stage procedure for managing supply chain sustainability. Through annual roll refinement and circulation, we ensure that our suppliers meet our standards and in doing so we help them improve their sustainable performance.

To better understand the sustainable development situation and suitability risk within the supply chain, in addition completing the existing supplier assessment, we will also commence conducting supplier ESG risk assessments from 2021. To ensure that we can effectively control and minimize any risk, the ESG survey will be used to identify suppliers with potentially high economic, environmental, or societal risk. When necessary, we will conduct on-site audits to ensure that suppliers comply with our standards on sustainability.



Supplier assessment

Each year, Advantech conducts on-site inspections of high-risk ESG suppliers in accordance with our procurement procedure. The Supplier Inspection Table is used to check their manufacturing processes, quality, environment, health and safety, labor conditions, and CSR management. Using the supplier management platform, we review suppliers quarterly on the basis of their quality, timeliness of delivery, and level of cooperation. For suppliers who score lower than 80, our procurement team will immediately search for new suppliers and cease procuring from them once substitutes have been found. We will consider working with them again in the future if they are able to demonstrate their improvement. Following inspection of high-risk component manufacturers, we provide supervision or coaching on any suitability problems we identify in the previous year. For common electronic parts, we have established backup suppliers. For major materials, we maintain a safety inventory to prevent material shortages or quality problems.




Advantech supplier assessment item category



Advantech has a diverse product portfolio and works with over 1,500 raw material suppliers. In 2020, based on trading volumes and quality risk, we selected 72 existing suppliers (60 in Taiwan and 12 in China) for on-site inspection. We provided coaching to suppliers where shortcomings were identified, and this was fundamentally aimed at improving their quality. These suppliers were required to demonstrate improvement within a given time period. Further analysis revealed that most deficiencies were related to quality and manufacturing process control. Most suppliers did not have any major deficiencies in their CSR performance.

Regarding new supplier selection, suppliers whose products are widely adopted in the industry and whose quality systems demonstrably meet international standards may be listed as qualified manufacturers if sufficient proof is provided. Other suppliers must undergo on-site inspections. Key inspection points include quality, environment, health and safety, and CSR performance. In 2020, we inspected 21 new suppliers, 12 of which were approved (8 in Taiwan and 4 in China).

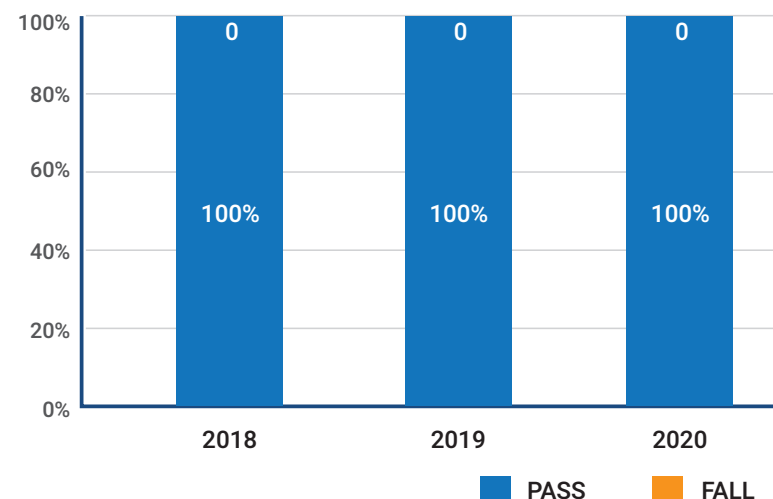
Table 2.2.3 Supplier auditing deficiencies and improvement actions (2020)

Category	Major deficiencies discovered	Improvement action
 EHS management	One supplier had established appropriate environment, health and safety directions for activities, products, and services, but they did not promote and implement them.	We requested the supplier to reinforce the promotion of its environment, health and safety policies.
	One supplier had established environment, health and safety goals and indices that considered major environmental factors, such as its activities, products, and services, but they were not certified by a third party.	We requested the supplier to apply for ISO-14001 certification.
	One supplier did not establish a system for reducing waste or for energy conservation.	We requested the supplier to regularly conduct inspections to ensure the classification and storage of hazardous substances.
 Social responsibility	One supplier had established a mechanism for the identification, assessment, and control of worker safety hazards, but they did not implement it.	We requested the supplier to conduct regular assessments pertaining to worker safety hazards.
 Management of zero HSF	One supplier had established a zero HSF policy and goals, but they did not regularly assess them.	We requested the supplier to regularly assess their policy and goals to reinforce their HSF management.
	One supplier had appropriately labelled machines, working tables, equipment, and fixtures used for producing HSF products, but they did not regularly conduct inspections to ensure that hazardous substances were correctly categorized.	We requested the supplier to regularly conduct inspections to ensure that hazardous substances were appropriately classified and stored.

Conflict mineral procurement strategy

Advantech complies with the RBA Code of Conduct. Through our actions, we wish to demonstrate that our entire supply chain respects human rights. As such, we have a strict policy of not using conflict minerals in our products. We declare and guarantee that we do not use metals procured from conflict mines, and we require our suppliers to comply with this standard and guarantee that will not use such materials themselves. As of 2020, 100% of Advantech's key suppliers have signed the Declaration of Not Using Conflict Minerals.

Our policy and demand for our suppliers to not use conflict minerals is communicated via our green procurement website. Key suppliers must comply and forward our policy to their suppliers along the supply chain. In addition, suppliers must conduct to a reasonable extent a reasonable country of origin inquiry (RCOI) for any minerals they use, so as to ensure they do not purchase conflict minerals (3TG*). The RCOI survey consists of the following steps:



STEP1 Conduct inventory

Through the Conflict Minerals Reporting Template (CMRT), we survey the source of minerals used by suppliers and identify those from a 3TG smelter.



STEP2 Sign an agreement

Key suppliers must sign an agreement that they will comply with Advantech's conflict mineral policy and ensure that they correctly and comprehensively disclose the source of their smelters.

*Note: *3TG: minerals mined from the Democratic Republic of Congo and its peripheral countries, such as tantalum, tin, tungsten, and gold.

2.3 Risk Management Mechanisms

Our perspective on risk management is threefold: to protect and increase company value, to structurally and systematically assess existing and potential risks the company may face, and to respond with decisions that align with the company's operational goals and strategies. We believe this view provides more opportunities for promoting continuous improvement. As an international leader in our industry, we continue to pay attention to and improve upon a range of risk management topics.

In preparation for emerging risks and any other possible risks that may interrupt our business operations or damage our reputation, we established the company's Risk Management Policy in 2008 and Business Continuity Plan in 2009. By regulating how operations are managed when a risk is identified, we are not only able to minimize any possible impacts and influences when a risk actually occurs, but we are also in a position to respond accordingly and adapt as necessary. Furthermore, whenever we face risk, we strive to provide transparent, immediate communication with any and all stakeholders who might be affected.

Improvement plan

The year 2020 saw sweeping changes occur in many industries worldwide. Changes in international trade, the subsequent wave of digitalization following the impact the COVID-19 pandemic, and cybersecurity incidents were major risks that Advantech has faced in the past year. We therefore believe it essential to reinforce existing organizational structures and procedures pertaining to risk management. In late 2020, we held several meetings to discuss how to improve the company's risk management. In addition to reviewing our risk management governance framework, the operation of the risk management committee and our SOP for risk management, we plan to complete updating relevant guidelines in 2021 Q1. In the future, we also plan to promote risk management in a more systematic and structured manner. At the beginning of each year, we will review both existing and emerging risks in our operations and quantitatively confirm any major risks. The Risk Management Committee will then review and follow-up on the assessment each quarter, and any major risks that are identified will be presented to the Board of Directors and the Auditing Committee, and to be discussed and traced. The plan will then be adjusted quarterly based on actual risks and impacts.

Emerging risk: COVID-19

Given the international situation resulting from the COVID-19 pandemic, we paid close attention to our risk management principles in 2020. Internally, we offered employees letters from the President in both English and Chinese and provided weekly briefings on employee health and operations (e.g., employee health status, which offices were operating, and the status of part procurement, logistics, and factory operations). We also established a designated website for internal employees to communicate key information and facilitate changes in the workspace (e.g., health status of employees at each location, principles for working from home, and download links for relevant tools). Externally, we released press releases in English and Chinese to provide updates on the company's status, and this information was also communicated via the company website. Also, higher level managers conducted two live global broadcasts in English to share information on this topic.

Improvement plan

Advantech established an SOP for emerging risks. This SOP has been confirmed by our Risk Management Committee, who set the expected risk response timing.

Table 2.3.1 Risk category and management

Category	Risk	Management strategy
Material procurement risks	Shortage risk	<p>Supplier management When Advantech takes on a new supplier, we require them to sign a procurement contract to ensure that delivery times, product quality, and warranty regulations are all met. In particular, suppliers are required to immediately report any delivery delays resulting from either natural or human made disasters.</p> <p>Safety stock For common electronic components, we have mechanisms in place to establish and manage secondary sources. For major materials, we have safety stock to avoid the risk of material shortages or quality issues.</p> <p>Centralized procurement Advantech's approach to material procurement management is diverse. Specific procurement personnel designated to monitor the market, and weekly and monthly meetings are held to examine market dynamics. We adopt a centralized procurement strategy and have built up a preferred vendor list of outstanding suppliers. Through convergence and concentration, we achieve high-efficiency cooperation with suppliers, thereby ensuring high-quality materials and stable delivery.</p>
Financial risk	Exchange rate risk	Advantech's operational activities and the net investment of foreign operating organizations are primarily conducted in foreign currencies. To avoid losses on foreign currency assets and fluctuations in future cash flow due to changes in exchange rates, we leverage the pre-sale of foreign currency hedging contracts to reduce risk. The hedge rate for 2020 was 0%–75%.
	Interest rate risk	Advantech holds bank savings under floating interest rates. We regularly monitor the interest rate risk, which is reviewed by management. When needed, we consider taking essential hedging measures on significant interest rate risks.
	Other price risks	Advantech holds listed and OTC equity securities investments as well as beneficial certificates of open-end funds. The risk is controlled by holding portfolios of varying risk. Also, because the price risks for Advantech primarily center on equity instruments and beneficial certificates of open-end funds in Taiwan, the risk is relatively low.
	Credit risk	To reduce financial losses due to trading partners delaying the fulfillment of contractual obligations, Advantech has a designated team responsible for determining credit limits, approving credit, and other monitoring procedures to ensure that appropriate action is taken on overdue receivables. In addition, on daily balance sheets, we review the amount of money that can be retrieved to ensure that receivables that are not received will be recorded as an impairment loss.

Category	Risk	Management strategy
Financial risk	Liquidity risk	By effective management and maintaining sufficient cash and cash equivalents, Advantech can support operations and reduce impacts on cash flow fluctuations. Management supervises the bank financing limits and ensures that the company complies with any and all loan contract terms. The ultimate responsibility of liquidity risk management lies with the Board of Directors. Advantech has established an adequate liquidity risk management framework to respond to short-, mid-, and long-term demands in financing and liquidity management.
Information security risk	Cybersecurity threats	On the basis of information security policies and the ISO/IEC 27001:2013 standard, the Information Security Governance Taskforce establishes, implements, maintains, and continues to improve the information security management system.
Climate change risk	Transition Risks	Promote data inventory to understand the current situation on greenhouse gas emissions and energy use. Carbon reduction goals are then based on the inventory results. Consider government policies on using renewable energy when planning the purchase of renewable energies and obtaining licenses and carbon credits. Ensure service quality and provide green and low-carbon products and services.
	Physical risks	Establish risk management procedures and build disaster prevention and response capabilities. Consolidate supplier assessment mechanisms to strengthen supplier quality and environmental management ability. Increase the number of approved backup suppliers. Each year, regularly conduct supplier audit management.

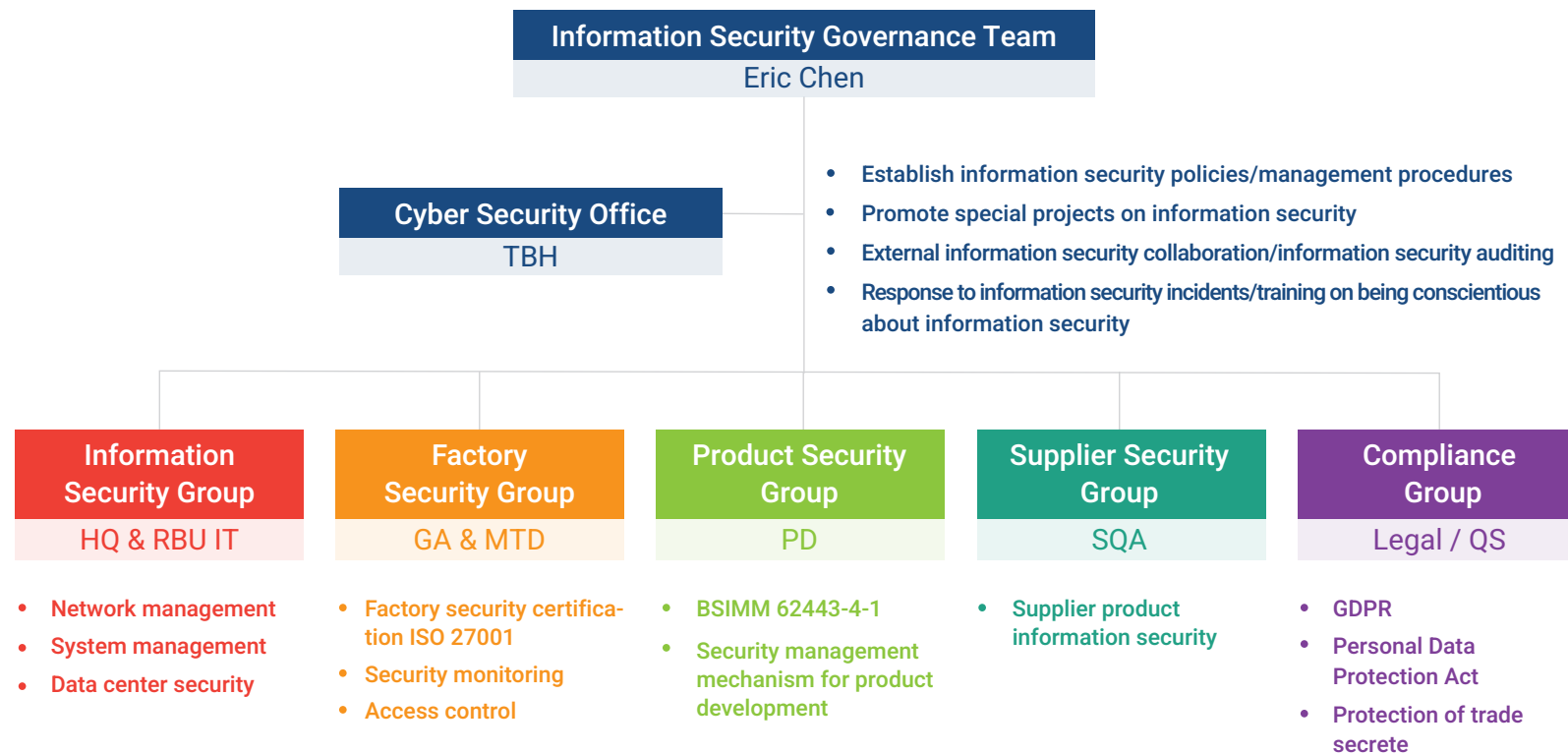
2.4 Information Security Management

Information security policy guidelines

Advantech strives to offer reliable and secure solutions for customer projects. In the face of emerging and evolving cybersecurity threats, we have proposed the following information security policy guidelines:

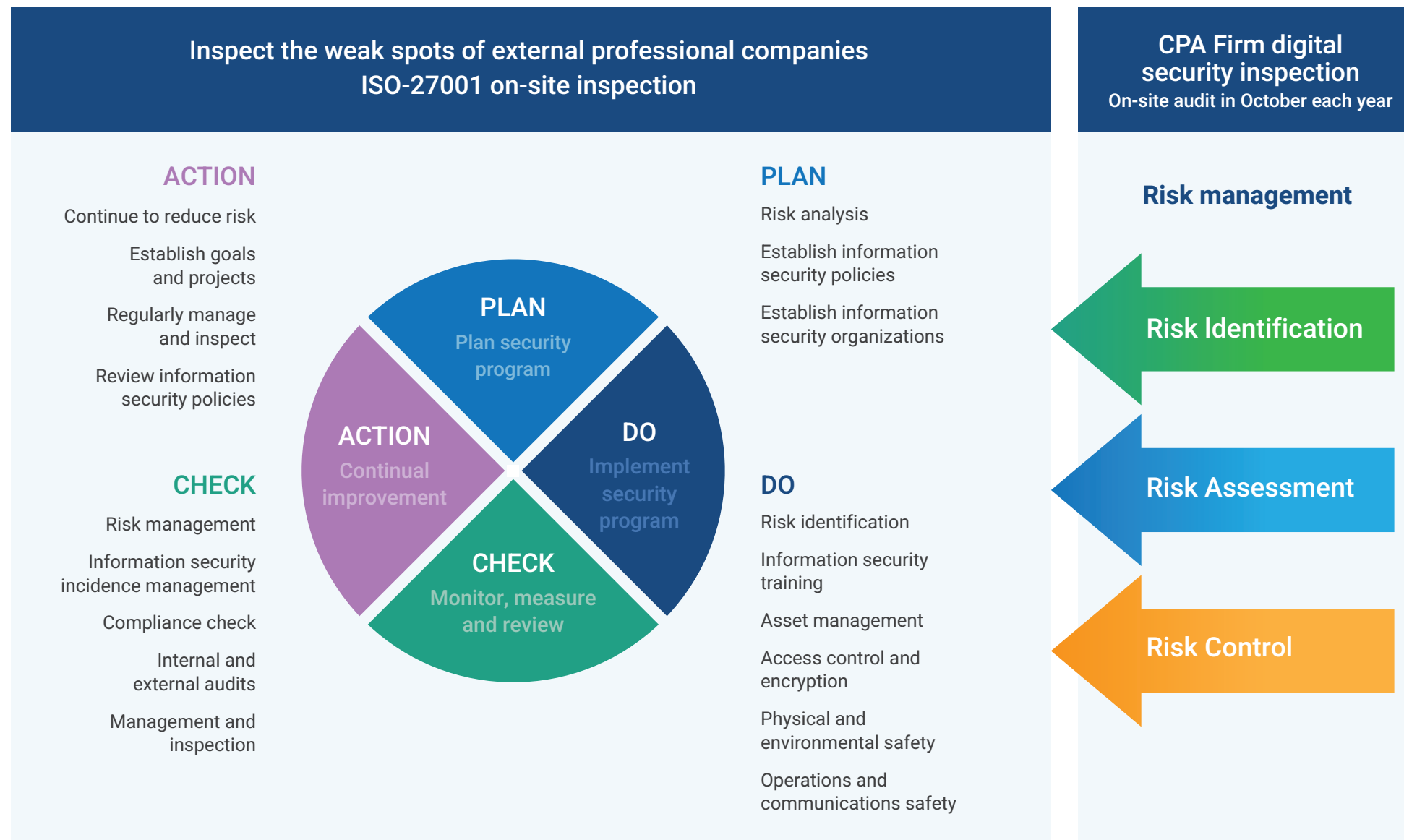
- Establish a designated information security organization and management procedure to ensure the confidentiality, integrity, and availability of Advantech's information assets. Value and protect the data privacy of all users and clients. Offer comprehensive security measures and improve system availability and reliability.
- Incorporate IT backup mechanisms as well as reliable and secure backup solutions. Regularly host disaster drills to help control any potential damage the company may experience from interruptions.
- For critical operating systems and operating activities, obtain third-party information security certification. Regularly conduct external inspections, especially for production and assembly plants and critical e-commerce platforms websites.

Information security governance organization



Information security governance operation

Advantech establishes, implements, maintains, and continuously improves its information security management system in accordance with the ISO / IEC 27001: 2013 standard. The processes involved in the Information Security Management System (ISMS) are based on the following PDCA model:



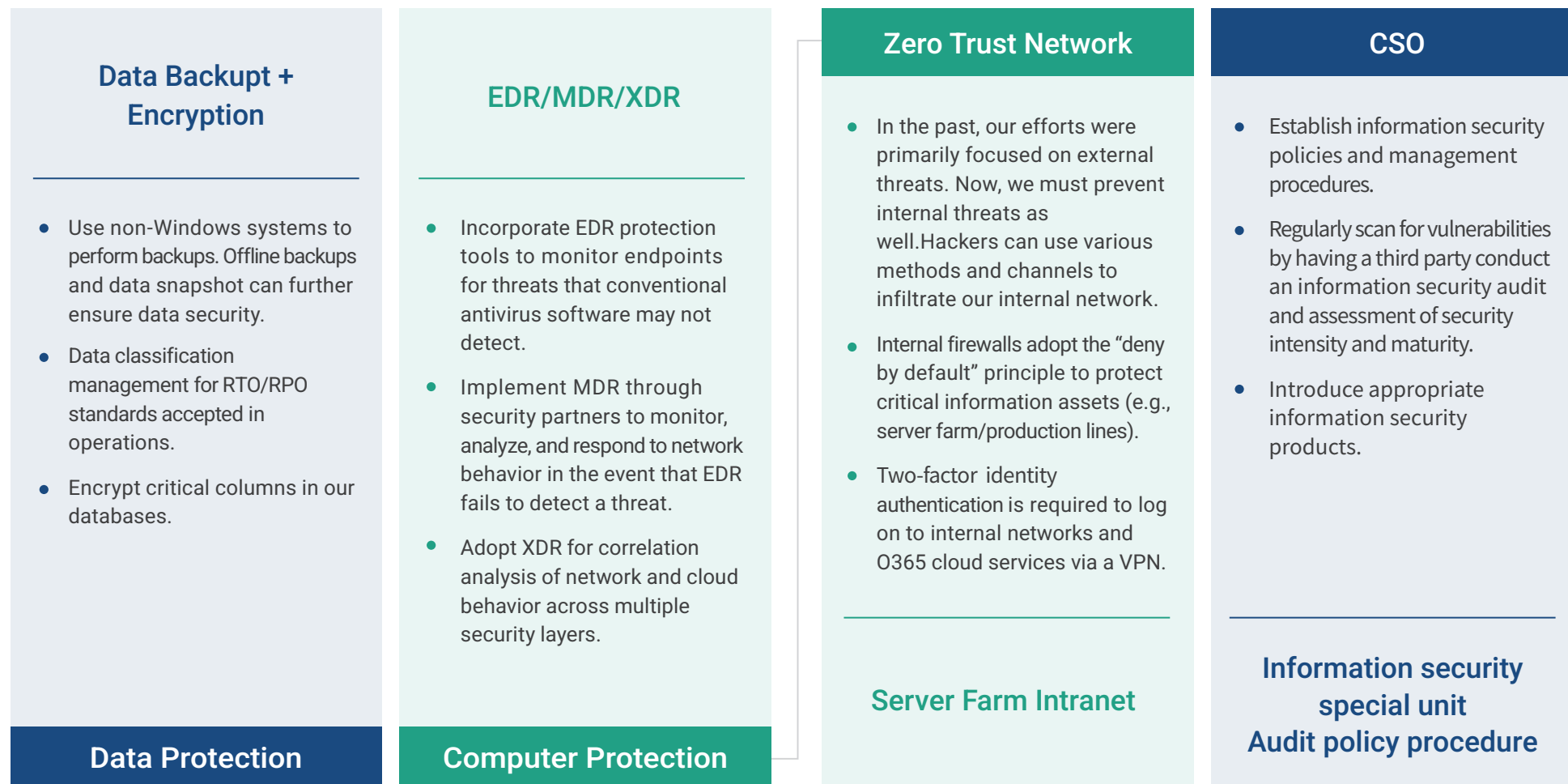
Assessing the effectiveness of information security management policies

Regarding information security management, our mechanism for assessing the effectiveness of management policies is to commission a third party to audit our information security management procedures. From July to November 2020, we commissioned Deloitte to assess the maturity of our information security. The assessment results are as follows. We will continue to work toward achieving our goals.



Information security reinforcement

In response to the emerging Ransomware-as-a-Service (RaaS) cybersecurity threat, we are reinforcing the following four aspects:



Major security incidents and handling

Description

On November 20, 2020, Advantech was subject to a ransomware attack. In total there were 267 servers (53 in Taiwan, 90 in Kunshan, and the rest in the US and European countries), and over 500 PCs and NBs in Taiwan were encrypted during the attack.

Impact on operations and follow-up response

- Advantech adhered to the ideal of instant and transparent information delivery. Under the principles of personal data protection regulations such as EU GDPR regulations, the following response measures were implemented: The President released a letter in English and Chinese to all employees, we prepared Chinese and English media release scripts, and we provided a Q&A for our clients. For clients whose information was leaked, we actively notified them of the scope of the problem, offered support on frequently asked questions, and provided a designated privacy communication channel.
- Critical IT services were resumed on Monday, November 23, 2020. The servers that were encrypted were restored from backups and without major data loss. By November 30, 90% of host services were resumed.
- Regarding the impacts on operation, approximately US\$ 6 million worth of shipping due in November was delayed until December.
- Multiple adjustments and upgrades were made to reinforce security for networks, servers, and endpoints, including server farms, VPNs, and end-point solution deployment. These measures have substantial blocking and predictive effects on subsequent multi-band continuous attacks.
- Because this incident affected the information security of global clients, we have been in contact with multiple local police and data-protection units, such as the Autoriteit Persoonsgegevens of the Netherlands. External information security teams together with Taiwan's Investigation Bureau of Ministry of Justice intervened and provided assistance and support.
- Other information security enhancements will be implemented in 2021 Q1.

Appendix : ISO 27001 Certification

Region	Certification scope	Certification	Certification date	Certified by
Taiwan	Linkou and Donghu Plants	ISO 27001	2019/07	SGS
China	Kunshan Plant	ISO 27001	2018/04	CQC

2.5 Appendix : Guilds and Associations

Working with guilds, associations, and governments to promote Industrial IoT

In 2010, Advantech's adopted the corporate vision "Enabling an Intelligent Planet." In addition to deepening its internal product applications and projects, the company has been cooperating with both public and private organizations since 2013, with a clear goal of promoting relevant topics such as smart cities, IoT, and Industry 4.0. Ultimately, we believe that this cooperation will accelerate the formation of Industrial IoT ecosystem, and this will assist industries in Taiwan and the world to shift to a new technological paradigm.

To expand the promotion of policies related to IoT and the development of industry, we have been proactively cultivating relations with key ambassadors and government personnel in Taiwan, as well as opinion leaders in various industries.

Highlight of Advantech's participation in guilds and associations



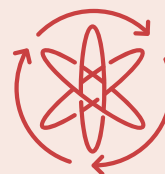
Each year, Advantech actively participates with **at least 13** local (Table 2.5.1) IoT application and associations.



Advantech invites **8–10 groups of people, a total of over 100 guests**, to visit the Advantech AIoT Co-Creation Campus every year so as to promote the application and development of IoT (Table 2.5.3).



Advantech invests **at least NT\$300,000** in membership fees this year to support and promote IoT relevant activities (Table 2.5.2).



Advantech allocates **at least NT\$30,000** every year to plans or activities related to climate or the environment. The company has been rated on the CDP B List for several consecutive years, which demonstrates our effectiveness in promoting carbon management strategies.

Performances and Results

Result 1

Advantech's Chairman participated in the Intelligent Mechanical Cloud Result Presentation and Developer Application Service Conference held by the Taiwan Association of Machinery Industry. Together with the association and the Industrial Technology Research Institute, Advantech signed the Letter of Intent for Cooperation in Mechanical Cloud and Ground-End Standardization.

Result 2

Advantech Indonesia Office participated in the Indonesia Central Java Investment and Business Forum on November 11–12, 2020, hosted by the Chinese International Economic Cooperation Association.

Result 3

Advantech cooperated with the Taiwan Cold Chain Association and participated in Taiwan International Agricultural Cold Chain Technology Expo 2020.

Result 4

Advantech submitted an article to the Journal of Automation Intelligence and Robotics of the Taiwan Automation Intelligence and Robotics Association, discussing the application of intelligent factories to realize lean manufacturing.

Result 5

Advantech actively participated in the Taiwan–Vietnam Cold Chain Seminar held by the Taiwan Cold Chain Association.



Table 2.5.1 Advantech's memberships with guild and association

Participating unit	Membership payment	Membership type	Strategic importance
Cloud Computing and IoT Association in Taiwan	✓	Type B member	Promote cloud application services to increase the value of Taiwan's information and communications industry.
Taipei Computer Association	✓	General member Acting director	Promote computer use, economic development, and coordinated industries
Taiwan Automation Intelligence and Robotics Association	✓	Grade 1 member Acting director	Signed a memorandum of cooperation in 2014. Currently providing for the association's practical courses.
Taiwan Electrical and Electronic Manufacturers' Association	✓	Grade 1 member	-
Chinese International Economic Cooperation Association	✓	-	Participate with the association in international economic cooperation to assist in expanding the application of Taiwan's IoT technology and build relations with countries worldwide.
Taiwan Association of Machinery Industry	✓	-	Assist with introducing intelligent machinery applications in machine tools in the machinery industry.
Taiwan Telematics Industry Association	✓	Type B member Acting director	Promote the development of Taiwan's telematics industry to improve its international competitiveness.
Taiwan Cold Chain Association	✓	Grade 1 member	Form a cold chain national team with partners from industry, government, and academia to help establish cold chains in Taiwan and promote solutions to markets in Southeast Asia and South Asia.
Taiwan Smart City Solutions Alliance	-	Founding member	Promote a real site demo in Taiwan, as well as smart city exhibitions, and key roles Taiwanese manufacturers have in smart city construction.
Asian Silicon Valley-Major League IoT	-	General member	Application and promotion of IoT technology to establish an innovative IoT industry.
Edgecross Consortium	-	Founding member	Actualize the connection and integration of factory automation and information technology to rapidly realize Industry 4.0.
e-F@ctory Alliance	-	General member	Promote factory automation and Industry 4.0 applications.
Embedded Linux and Android Alliance	-	Founding member	Promote open, standardized Linux and Android software and hardware architecture and establish a comprehensive ecosystem for software and hardware industries.

Table 2.5.2 Advantech's annual membership fees for guilds and associations

Guild/association name	Details of fee payment	NTD
Cloud Computing and IoT Association in Taiwan	2020 Type B membership annual membership fee	47,619
Taipei Computer Association	2020 annual membership fee	15,000
Taiwan Automation Intelligence and Robotics Association	2020 annual membership fee	40,000
Taiwan Electrical and Electronic Manufacturers' Association	2020 First period fee	21,000
Taiwan Electrical and Electronic Manufacturers' Association	2020 Second period fee	21,000
Cloud Computing and IoT Association in Taiwan	2021 Type B annual membership fee	47,619
Chinese International Economic Cooperation Association	Annual membership fee	20,000
Taiwan Association of Machinery Industry	Annual membership fee	26,400
Taiwan Telematics Industry Association	Annual membership fee	50,000
Taiwan Cold Chain Association	Annual membership fee	20,000
Total		308,638

Table 2.5.3 Representatives and opinion leaders who visited the Advantech IoT Park

Visit date	Visitor
07/18	Lai Ching-Te, Vice President of Taiwan
08/13	M. Jean-François Casabonne-Masonnave, French representative in Taiwan
10/13	Mr. Brent Christensen, US representative in Taiwan
10/27	Mr. Mitsuaki HOSHINO, Deputy Representative of Japan in Taiwan
11/04	Mr. Guido Tielman, Dutch representative in Taiwan
11/12	Cheng Wen-Tsan, Taoyuan City Mayor
11/24	Thirty-seven representatives from various countries, led by the Taiwan External Trade Development Council (see the following list)



No.	Embassy/ Office	Name	Title
1	Hong Kong Trade Development Council Taipei Office	Stella Poon	General Manager
2	Malaysian Friendship and Trade Centre, Taipei (Trade Division)	Saudah Mat Isa	Director of Trade
3	Embassy of the Republic of the Marshall Islands	Anjanette C. Anjel	Deputy Chief of Mission
4	Embassy of the Republic of the Marshall Islands	Dorianne T. Kabua	First Secretary
5	Manila Economic and Cultural Office	Michael Alfred V. Ignacio	Trade Representative/ Director of Commercial Affairs
6	Manila Economic and Cultural Office	Angelito T. Banayo	Chairman and Resident Representative
7	Vietnam Economic and Cultural Office in Taipei	Nguyen Anh Dung	Representative
8	India-Taipei Association	Gourangalal Das	Director General
9	Embassy of the Republic of Nauru	H.E. Jarden Kephass	H.E. Ambassador
10	Embassy of Tuvalu	H.E. Limasene Teatu	H.E. Ambassador
11	Embassy of Tuvalu	Siaeki Teatu	First Secretary
12	Papua New Guinea Trade Office in Taiwan	Tommy Kambu Kunji	Representative
13	Commercial Office of the Sultanate of Oman-Taiwan	Sulaiman Sultan Salim Al Mughairy	Director
14	Liaison Office of South Africa	Sibongile Mabasa	Deputy Representative
15	Somaliland Representative Office in Taiwan	Mohamed Omar H. Mohamoud	Representative
16	Somaliland Representative Office in Taiwan	Aileen Tai	Executive Secretary
17	Somaliland Representative Office in Taiwan	Hassan Mohamed Hussein	Head of Commercial and Economic Section
18	Polish Investment & Trade Agency	Michalina Jendrzeczyk	Head of Trade Office
19	The Trade Council of Denmark, Taipei	Bo Mønsted	Director
20	Finpro Taiwan, Finland's Trade and innovation Office	Mikko Antero Karppinen	Representative
21	German Trade Office Taipei	Wanda Chang	Senior Manager
22	German Institute Taipei	Dr. Thomas Prinz	Director General
23	Confederation of Asia-Pacific Chambers of Commerce and Industry (CACCI)	Amador Honrado	Deputy Director-General
24	Hungarian Trade Office	Ferenc Fási	Director of the Investment & Trade
25	Luxembourg Trade and Investment Office, Taipei	Sophie Liao	Senior Advisor
26	British Office	Fandy Chen	Senior Commercial Officer
27	Canadian Trade Office in Taipei	Duane Robson	Director- Trade and Investment
28	Embassy of Belize	H.E. Diane C. Haylock	H.E. Ambassador
29	Embassy of The Republic of Guatemala	H.E. Willy Alberto Gómez Tirado	H.E. Ambassador
30	Embassy of The Republic of Honduras	H.E. Eny Yamileth Bautista Guevara	H.E. Ambassador
31	Embassy of The Republic of Honduras	Juan Carlos Barahona	Counsellor
32	Embassy of The Republic of Paraguay	Macarena Barboza	Commercial Attaché
33	Chilean Trade Office	Agustín Alejandro Cases Nardocci	Director
34	Embassy of Saint Vincent and the Grenadines	Shebby Ann Dennie	Counsellor
35	Embassy of Saint Lucia	H.E. Edwin Laurent	H.E. Ambassador
36	The Jordanian Commercial Office	Nabeel Al-Tel	Director
37	Brunei Darussalam Trade and tourism Office	Ainatol Zahayu Mohammad	Representative

3

Innovation and Services

- 3.1 Innovative Products and Technologies
- 3.2 Sustainable Intelligent Solutions
- 3.3 Customer Service and Partner Cocreation



3.1 Innovative Products and Technologies



In promoting IoT co-creation, a key task for Advantech is to grow its core business by innovating mainstream trends and applying advanced domain-focused technologies. We implement innovative mechanism to review the effects and trends of innovation, encourage the development of innovative products, and continuously adjust our product strategies.

Our special projects focusing on innovation include the following:

Corporate level

A+X Innovation Meetings: The Chairman himself hosts meetings on innovation and evolution topics out of Advantech Headquarters. The format of these meetings promotes discipline in formulating innovative ideas.

Business Group level

Annual business plan meetings are held to integrate the internal strategic directions of each business group in order to discover new opportunities for innovation. Key content is aimed at reviewing product innovation/business group development strategies.

A+ product management policies

- Definition of an A+ product: In 3 years, annual sales revenue reaches US\$3 million or the annual product sales amount reaches 10,000 pieces.
- A+ product KPI: From 2021 to 2025, the revenue ratio of an A+ product increases 10% each year.


Management methods

Upper-level coaches offer development guidance to assist the product departments with integrating newly developed products as quickly as possible. To be an A+ product candidate, products must achieve an annual sale volume of 10,000 pieces in 3 years or reach an annual revenue of US\$3 million. To assist with this process, we have established the A+ product proposal review and reward mechanism, described as follows:

Proposal channels	<p>1. In A+X meetings, after a product passes the Chairman's review, it is listed for follow-up.</p> <p>2. Business units may nominate products in their annual business planning meetings. The development procedure for A+ product candidates must meet the product development management procedure for new products.</p>	
Reward stages	There are two types of rewards: "A+ Nomination Award" and "A+ Outstanding Product Award"	
Review key points	<p>A+ Nomination Award</p> <p>Proposed by the Product Department and reviewed by the A+ Product Review Committee. The key points are as follows:</p> <ul style="list-style-type: none"> ● Target market demand and analysis ● Usage scenarios, user pain points, and solutions ● Product and customer values or product characteristics ● Innovative functions ● Unique design in appearance or industrial design 	<p>A+ Outstanding Product Award</p> <p>After an A+ product reaches mass production, the product departments can nominate the product for selection for the A+ Outstanding Product Award, for which the product undergoes review by the A+ R&D Bonus Review Committee. The following key points are considered:</p> <ul style="list-style-type: none"> ● The product development meets Advantech's IPD procedure ● Development timeline management ● Budget and cost management ● RBU sales team feedback and case sharing of clients' user experience

2020 A+ Models Evaluation and Selection Results

01




IoT

Industrial IoT Business Group

- From 12 models nominated, 7 received an A+ Nomination Award
- The awarded models were: SPC-115W/121W / UNO-137 / UO-430 / SPC-800 / WISE-750 / iDAQ series / IPC-242

02




EIoT

Embedded IoT Business Group

- From 7 models nominated, 6 received an A+ Nomination Award and 1 received an A+ Outstanding Product Award.
- The awarded models were: AIMB-506 / DS-082 / DS-085 / RSB-4710 / SOM-6883 / SOM-7583

03



SIoTT

Service IoT Business Group

- From 5 models nominated, 4 received an A+ Nomination Award.
- The awarded models were: UK615 / UTC-115 / POC-621 / TREK-60

Management policy evaluation

Mechanism to evaluate the effectiveness of management policies

- Number of innovative proposals: Each business group may have at least four models receiving a Nomination Award each year.
- Market performance of A+ products: E-manager (Advantech's internal system) is used to track whether the sales of A+ products reach the aforementioned A+ product standards.

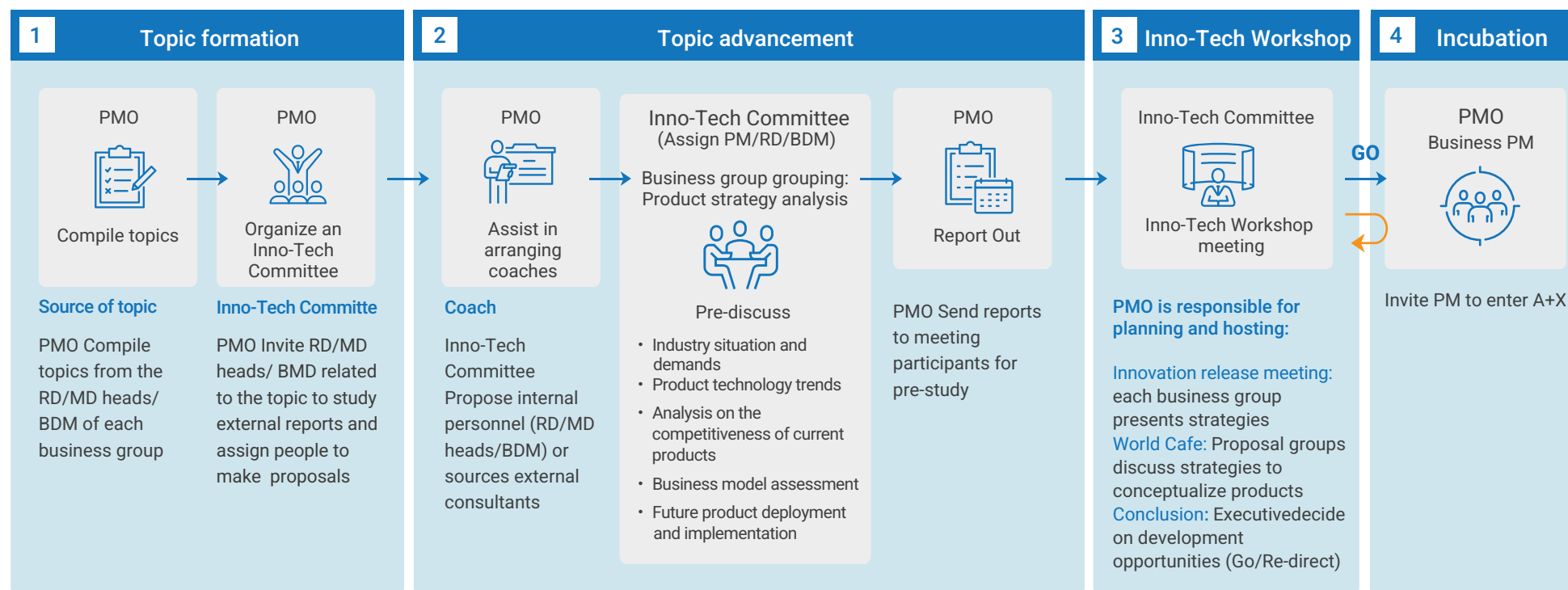
Management policy evaluation result

Advantech reached its annual goals on the number of innovative proposals in 2019 and 2020.

Any relevant adjustments on management policies

- (1) Long-term technology development and optimization: Establish the Cross-Business Group Horizontal Integration R&D Technical Committee to achieve the following goals:
 - Sharing – interdepartmental collaboration and technology sharing
 - Innovation – Increase the core technology of products and value-added services
 - Intercommunication – modularized design to create different series of products
 - Develop the Inno-Tech Innovation Workshop, which was held for the first time in 2020.
- (2) Initiate the EBO mechanism: To assist Advantech in long-term innovation management, we will continue to guide and cultivate new business and technology development opportunities. For this, we plan to introduce an EBO mechanism. From perspectives including industry, commerce, and technology, we are planning long-term strategic proposals regarding global market trends and innovative technology development for the coming 5 years.





Innovation results of the Inno-Tech Innovation Exchange Workshop

Case: Vision AI X Smart Transportation

Robust AI products for smart transportation	Software and hardware value-added ecosystem	Image capture development plan
<p>MCT extends the discussion to build a hardware platform for ISV for rapid testing on:</p> <ul style="list-style-type: none"> ✓ Vehicle/roadside thermal solutions ✓ Certification modules (e.g., connectors, chassis module designs) ✓ Modularization of I/O and sensor communication 	<ul style="list-style-type: none"> • Establish AI partners and case-sharing platforms, and develop AVL SW partners • Help customers rapidly deploy AI value-added solutions ✓ Establish a smart transportation AI pre-training model ✓ Establish a user-friendly GUI 	<ul style="list-style-type: none"> • Existing market (railway inspection) ✓ Develop standard products, combine with ISG ITA transportation business, and promote POC ✓ Provide an overall solution: Combine cameras and photoelectric converters to form an overall solution • New market: find UAV manufacturers with AI expertise to cooperate to develop the high-speed image capture market

3.2 Sustainable Intelligent Solutions



In 2010, Advantech proposed the vision of “enabling an intellectual planet.” In addition to continuing to innovate and broaden the range of our products, we also proactively cooperate with upstream and downstream partners to cocreate solutions specific to various industries. In 2016, Advantech proposed the WISE-PaaS Industrial IoT Cloud Platform and provided a low-code application framework. Industry partners can now quickly and easily create industrial apps (I.Apps) and integration solutions via the WISE-Marketplace one-stop IIoT app market.

Advantech's hardware, software, I.Apps, and integration solutions consist of various products designed for specific applications, such as in energy (solar energy, wind energy, smart grids, electric vehicle charging stations, building energy-saving, and energy-saving monitors), flood and disaster prevention, sewage treatment, remote education, public safety (smart street lighting, transportation safety), public health, telemedicine, smart medicine, cold chain management (food safety), smart agriculture, information security, and cloud computing. In 2020, our worldwide revenue for the sale of products used for sustainable purposes accounted for 15.79% of our total revenue (Table 3.2.1)



Table 3.2.1 Revenue ratio of Advantech's products for sustainable purposes

Business group	Revenue ratio per business group
Industrial IoT	11.36%
Embedded IoT	18.49%
Cloud IoT	23.17%
Service IoT	60.82%
Global customer services	19.14%
Revenue ratio vs. total revenue	15.79%

Focused case 1: Smart electricity stations and PV poverty alleviation\

Clean energy sources, such as solar energy and wind power plants, are typically dispersed over a wide geographic area, which makes management difficult. Problems faced by management include the strict climate conditions required for efficient power generation and energy storage. Advantech's solution development plans are based on the WISE-PaaS platform, which integrates industrial PCs, gateways, and edge computing. By integrating edge devices and cloud systems, we have been able to develop comprehensive operation and maintenance systems for PV and wind power plants in Singapore, the United Arab Emirates, Myanmar, and Mongolia, helping to improve management efficiency in clean energy industries.

In 2020, Advantech cooperated with Shanghai PTIT Network Engineering Co., Ltd and launched the Photovoltaic Poverty Alleviation (PVPA) Electricity Station Digital Upgrade Special Project. We offer PV solutions including framework design, data acquisition planning and implementation, onsite monitoring, edge analysis, key data sharing, cloud platform operation and maintenance, and app mobile management. Farming families participating in the PVPA project can now more accurately calculate and earn money from their household electricity generation.



▲ Focused case 2: Smart healthcare

Advantech is proactive in developing smart healthcare. During the COVID-19 pandemic, we have provided extensive support for Taiwan's public health and medicine systems. In 2020, we sponsored the Department of Health of New Taipei City Government, Fun Jen Catholic University Hospital, and the Tamsui branch of MacKay Memorial Hospital to assist the Shimen District Public Health Center and Sanzhi District Public Health Center in establishing telemedicine systems. Long-term care patients no longer need to travel to hospital, and both doctor-patient relations and medical quality have improved. We have also implemented WISE-PaaS AI technology in the field of medical management, and have sponsored Taipei Veterans General Hospital to establish a smart medicine situation room that utilizes medical AI to improve medical management quality.

In cooperation with Nogata City Government in Fukuoka, Japan, we provided facial recognition technology, IR cameras, and image AI technology for a non-contact body temperature measuring system that can measure body temperature and monitor for social distancing in crowded areas.



Improvement plans

Advantech's business units (i.e., Industrial IoT, Embedded IoT, Service IoT, and WISE-PaaS) work continuously to develop smarter solutions. However, the increase in our products being used for sustainability purposes (from 14.76% in 2019 to 15.79% in 2020) has largely been due to organic growth. Without fully understanding the social impact of our products being used for sustainable purposes, it is also difficult for us to set goals and to conduct a comprehensive performance assessment. To overcome this, we need to be able to precisely calculate and analyze such factors as the total amount of power generated from our PV systems and the total number of people who benefit from smart medicine each year. In the future, we hope that through c-level meetings and the ESG Promotion Office, we will be able to achieve market expansion by incorporating sustainability concepts into our strategy blueprint for developing new products in different industries. We will set quantitative goals and continue to develop smart solution plans to make the world cleaner, safer, healthier, and more convenient.

3.3 Customer Service and Partner Cocreation

17 PARTNERSHIPS
FOR THE GOALS



Advantech first proposed the concept of “Co-creation” in 2017. As we meet our clients’ needs and provide them our services, we also view them as partners. We invite them to cooperate through innovating technology, products, business models, marketing, and other activities.

Trend and strategy sharing

At Advantech Headquarters, we hold the World Partner Summit every 2 years, which is a large summit with over 1,000 participants. Branch offices worldwide also hold large client forums, meetings, exhibitions, and distributor conferences annually. It is through these activities that we share with our clients the latest company development strategies, technology breakthroughs, and new product releases. We also invite industry experts to share industry insights and market future visions. In addition, we invite key clients to be speakers to talk about IoT applications from a client perspective.

In 2020, due to COVID-19 pandemic, all Advantech activities were conducted online instead. We launched the Advantech Connect forums series, which involved holding six forums around the world for a total of 95 talks. Over 85,000 people signed up, and nearly 20,000 people were online for the live broadcast. (These figures only included Chinese and English sessions. They do not include Advantech online forums in other languages, nor do they include people who watched the talks later.)

Data analysis of the online forums (e.g., the number of people registered for each forum, maximum number of people online at once, mean viewing duration, and peak viewing hours) helps Advantech Headquarters understand regional market preferences and trends. Through online interactions with clients and having them provide a satisfaction rating and feedback for each session, we can understand their needs and expectations and know how effective we have managed this materiality–customer service and partner cocreation. Also, employees and clients from different regions can also clearly see our development goals and growth strategies.



Partner co-creation

In 2020, Advantech commenced 19 cocreation projects in locations such as Taiwan, China, and Switzerland. These projects were in domains including energy saving in buildings, substation management, environmentally friendly water treatment, public safety for 5G, and automated driving. Through investment, technology cooperation, business model counseling, WISE-PaaS platform resources, business opportunity matching, and collaborative deployment of overseas channel, we are able to cocreate innovative IoT applications with our partners.

Advantech also spares no effort in supporting startups. Through sponsoring domestic and foreign accelerators and incubators and directly providing resources, technology counseling, and business counseling to startup teams, we hope to stimulate the growth of the IoT industry ecology and make it more diverse.

Table 3.3.1 List of startups supported by the Advantech Foundation

Startup team		
Region	No. of companies	Field
Canada	2	Visual AI/AI optimized engine
Netherlands	2	Facility prognosis monitoring, smart factory
Taiwan	5	Smart scheduling, indoor orientation, facility prognosis monitoring, AutoML, VisionAI
Total WISE-PaaS points supported		900 points (equivalent to NT\$534,600)
Incubators and accelerators		
Taiwan	4	-
Total sponsored amount		NT\$3.4 million

Client opinion survey and client audit

Advantech considers customers who contribute a relatively high proportion of revenue as key accounts (KAs). The Quality Project Management (QPM) unit conducts KA quarterly business reviews (KA QBRs), which involves review meetings with KAs and client opinion surveys. In 2020, a total of 15 KA QBRs were conducted, revealing that we are meeting all of our clients' expectations with regard to product quality, production quality, sales, technology services, and after-sales services.

In 2020, a total of 24 KAs visited Advantech for auditing (including online and document audits). The scope included quality systems, environmental health and safety systems, and CSR. In response to the COVID-19 pandemic, Advantech also launched an online audit module to explain production processes and smart management mechanisms so that we could still meet the demands of clients visiting and auditing in the post-pandemic era.

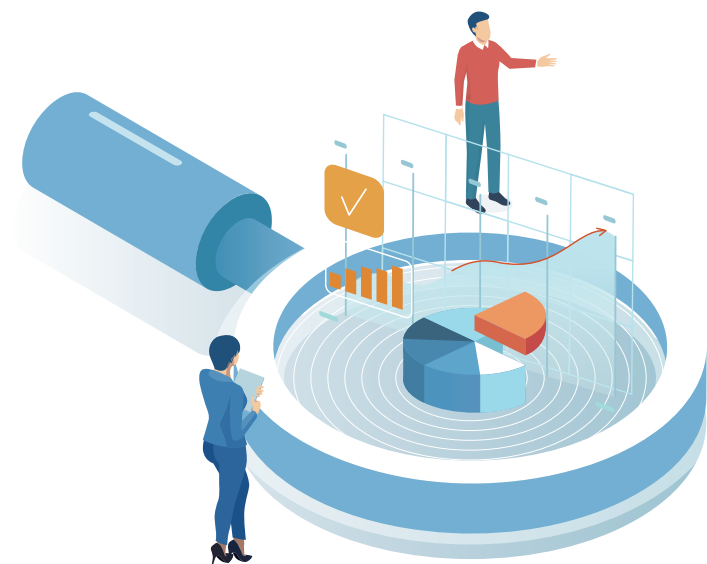
Client rights and privacy

To ensure that Advantech's products meet international regulations and our clients' needs, we regularly review our compliance with environmental health and safety regulations, and we also provide regulations on fair trade and antitrust clauses in our Employee Code of Conduct. In recent years, there has been no violation of relevant regulations or standards in marketing and communications, nor has there been any breach of the Employee Code of Conduct. To ensure that we can effectively respond to our clients' questions, our client service personnel are required to respond to client complaints within 3 business days.

Advantech's service platform collects various data so as to operate effectively and to offer the best experience possible with our products. We comply with all regulations on privacy. To enhance privacy, we have built in technological and procedural safeguards designed to prevent certain data combinations.



For more information on our privacy policies, please refer to <https://www.advantech.com/legal/privacy>.



Improvement plans

1. Customer opinion survey: Our KA QBRs allow us to survey opinions from KAs. We also use marketing activity satisfaction surveys (both online and offline) to understand our clients' satisfaction with, demand for, and expectations of our products and services. In the meantime, our branch offices in each region (such as Advantech US) conduct satisfaction surveys with local clients. However, to date, Advantech Headquarters has not conducted a large-scale client satisfaction survey. In the future, we plan to introduce more comprehensive online client satisfaction survey measures to more effectively and comprehensively understand the directions in which we should improve or make progress.
2. Client privacy: Regarding the cybersecurity incident we experienced in November 2020 (see Chapter 2.5), some client data was suspected to have been leaked. We proactively notified these clients, provided FAQs, and offered a designated communication channel for any concerns that clients might have regarding their privacy. We also immediately arranged for critical data encryption to take place in early 2021, in addition to implementing information security engineering drills and information security leaking tests as preventive measures. We didn't receive customers' complaints regarding to this issue.

4

Commitment to Green Operations

- 4.1 Climate Change Strategies
- 4.2 Energy Management Actions
- 4.3 Environmental Management
- 4.4 Eco Design and Product Liability
- 4.5 Appendix : Conformation Status of Product and Environmental Regulations



4.1 Climate Change Strategies



As part of guiding people to be Earth citizens and being a corporation that leads people to live happy lives, Advantech strives to improve the environment and maintain labor safety. In 1996, we introduced the ISO 14001 Environmental Management System standard, followed by the OHSAS 18001 (changed to ISO 45001 in 2020) Occupational Safety and Health Management System standard in 2005. Through complying with governmental regulations on environmental protection, labor, safety and health, we focus on reducing the impact of our operations on overall environment, safety and health, by engaging in activities such as greenhouse gas management and product design, use, and disposal. It is through the participation and commitment of all members that Advantech is able to achieve the goal of environmental protection and corporate sustainability.

Material topic management policy / management framework

Material topic	Climate change strategy and energy management
Criticalness to operations	Global climate change is a critical topic currently faced by humans. Advantech considers itself a protector of the global environment, and we endeavor to reduce greenhouse gas emissions and energy waste. We are strict in conducting greenhouse gas inventory and implementing air and water pollution prevention measures. We strive to protect the global environment and construct a sustainable green industry.
Management policy	<ul style="list-style-type: none"> • Meet all environmental regulations. Our goal is zero pollution and zero violations of relevant regulations. • Identify risks caused by climate change and respond to them. • Establish short-, mid-, and long-term goals for saving energy and reducing carbon emissions, and develop practical processes and promote them.
Goals and effectiveness	To improve management, based on the set management policy goal, we will annually evaluate whether KPIs have improved from the previous year.

Item	Results in 2020	Goals for 2021	Goals for 2025
Energy management	<ul style="list-style-type: none"> • Compared to 2019, our overall GHG emission density per unit revenue in 2020 was reduced by 2.1% • Compared to 2019, the energy consumption output value at Kunshan (manufacturing plant) was reduced by 3.2% • Compared to 2019, the energy consumption per capita at Kunshan (R&D park) was reduced by 14.2% 	<ul style="list-style-type: none"> • Introduce a BEMS to Linkou and Kunshan • Obtain the green factory certification for the Kunshan plant 	<ul style="list-style-type: none"> • Compared to 2019, Advantech's overall GHG emission density per unit revenue is reduced by 30% • Reach 20% on the proportion of green power use in China and Taiwan
Develop renewable energy	Collected regulations and conducted internal studies. We have evaluated that in the future, we will purchase renewable energy (Currently, we are preliminarily evaluating solar power.)	Linkou solar panel power generation accounts for 4.5% of the total electricity use	Linkou solar panel power generation accounts for 6.5% of the total electricity use

Project highlight and performance

B List ranking

Ranked in the B List in the 2020 Climate Disclosure Project (CDP) climate change questionnaire evaluation.

Zero violations

We use our environmental management system to regularly inspect our performance. In 2020, we did not violate any environmental protection policy.

-2.1%

Compared to 2019, Advantech's overall GHG emission density per unit revenue reduced by 2.1%

4.1.1 Climate risk identification and response

The impact of global climate change has become a critical topic that cannot be overlooked. In 2015, the United Nations passed the Paris Agreement and proposed a reduction goal for global carbon emissions. The Greenhouse Gas Reduction and Management Act has been read third times and passed in Taiwan. Clearly, both Taiwan and other countries have growing concerns about climate change topics. As a global citizen facing the risks caused by global warming, Advantech is extremely concerned global climate change. As such, we continuously strive to minimize our greenhouse gas emissions and save energy. We also focus on climate disaster risk management and are devoted to taking clear and concrete action.

Climate risk identification and response

To protect corporate assets and the rights of critical stakeholders and to meet corporate governance principles, Advantech implements risk management procedures to reduce and eliminate potential risks while offering suitable compensation measures and timely recovery mechanisms. For natural disaster risk management, we review risks in the realms of climate regulations, climate disasters, and other climate-related topics on operation management, and we take effective measures to reduce or eliminate any risks.

Risk type: Transition Risks			
item	Impact assessment	Climate opportunities	Actions in response
Policy and regulation risks	Greenhouse gas inventory and disclosure	Improve energy efficiency to reduce operation costs	Promote data inventory to understand the current situation on greenhouse gas emissions and energy use. Carbon reduction goals are set based on the inventory results (2020 KPI: to reduce 2.5% CO ₂ e/revenue).
	Regulations on reducing and managing greenhouse gas emissions	Improve energy efficiency to reduce operation costs	Upgrade old equipment to improve energy use efficiency. In 2020, all chillers were replaced at Advantech Headquarters. In 2021, we plan to replace plant equipment.
	GHG total quantity control and emission trading system	Participate in the carbon emission trading market	Plan to purchase renewable energy and obtain licenses and carbon credit. In 2020, we conducted assessments for purchasing renewable energy licenses.
	Regulation fees increase operation costs	Establish policies that go above and beyond legal requirements to increase corporate competitiveness	Consolidate legal compliance and corporate sustainability. Respond to the government's usage policies on renewable energy.
Technology risks	Stakeholders pay more attention to low-carbon products and services	Develop or expand energy-saving products and services to gain stakeholder trust	To ensure service quality, we provide green and low-carbon products and services. For further details, please refer to Chapter 4.4.
Market risks	Fluctuations in global fuel prices affecting production and operation costs	Develop renewable energy plans to promote the diversification of corporate energy	Promote renewable energy development plans and use clean energy. Solar power generators have been established at Linkou and Kunshan. In 2021, we plan to continue installing solar power at new factories.

Risk type: Physical Risks			
item	Impact assessment	Climate opportunities	Actions in response
Immediate risk; long-term risk	Climate change can exacerbate natural disasters, which can damage our plants, resulting in unstable product quality and a higher risk of goods being returned	Strengthen organizational operations to enhance production line resistance against natural disasters.	Establish crisis management procedures and disaster-prevention and response capacity. We have established crisis management procedures for our overseas plants.
	Climate change can exacerbate natural disasters, resulting in the unstable supply of energy and resources	Identify high-risk supply chain components and actively enhance the stability of suppliers	Consolidate supplier assessment mechanisms. Strengthen supplier quality and environmental management ability. Increase the number of approved backup suppliers. Each year, we regularly audit our suppliers.
	Climate change can exacerbate natural disasters, resulting in higher raw material costs and reduced or interrupted production capacity	Identify high-risk supply chain components and actively enhance the stability of suppliers	Consolidate supplier assessment mechanisms. Strengthen supplier quality and environmental management ability. Increase the number of approved backup suppliers. Each year, we regularly audit our suppliers.

4.1.2 Greenhouse gas inventory and management

Based on Taiwan's Greenhouse Gas Reduction and Management Act and ISO 14064-1, which states the quantification, supervision, report, and verification process for greenhouse gas inventories, Advantech established the Greenhouse Gas Inventory Promotion Committee to ensure low carbon emission operations through the promotion of various tasks on greenhouse gas inventory and reduction. Each year, we have been gradually reducing our direct and indirect emission of CO₂, CH₄, N₂O, and HFCs. Since 2011, we have participated in the international organization Carbon Disclosure Project (CDP). Accordingly, we disclose our carbon emission reduction plans and results each year.

Greenhouse gas inventory

Advantech's plants in Taiwan adhere to ISO 14064-1 and the GHG Protocol. In addition to conducting a self-inventory, starting 2019, SGS Taiwan has been conducting third-party onsite inspections. Organizational boundaries refer to requirements and suggestions in the ISO 14064-1:2006 standard, with operational control employed to establish organizational boundaries. Domestic and foreign subsidiaries are not included. Our greenhouse gas inventory management procedures and inventory reports are used to reidentify emission sources. Our organizational boundary includes Ruiguang Headquarters, Sunny Building, Donghu Plant, and Linkou Park. The scope of the inventory consists of the qualitative and quantitative inventory of Scope 1 (direct greenhouse gas emissions), Scope 2 (indirect greenhouse gas emissions from energy), and the inventory on items in part of Scope 3 (other indirect greenhouse gas emissions).

For Advantech plants in Taiwan, Scope 1's total emissions were 636.13 tons CO₂e. Table 4.1.1 lists the emission levels for each region. In 2015, Advantech Kunshan first adopted the 2014 ISO14064-1 Greenhouse Gas Emission Inventory. The China Quality Certification Centre also conducted third-party on-site inspections. The inspection results for 2020 revealed that in Advantech Kunshan, major emission sources under Scope 1 generated 1,520 tons CO₂e.

Table 4.1.1 Advantech Scope 1 greenhouse gas emissions amount in 2020

Region	Greenhouse gas	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃	Total tons CO ₂ e
Taiwan	Ruiguang Headquarters	0.2137	-	-	113.3860	-	-	-	113.5997
	Sunny Building	0.3422	-	-	116.3520	-	-	-	116.6942
	Donghu Plant	0.1345	-	-	-	-	-	-	0.1345
	Linkou Park	30.7420	0.0140	0.0265	374.9201	-	-	-	405.7026
China	Kunshan Plant	697.9509	16.8450	2.4526	803.9600	-	-	-	1,521.2086
Total		729.3833	16.859	2.4791	1,408.6181	-	-	-	2,157.3396

*Note: 1. The Donghu Plant had no direct combustion source, and its facilities that used refrigerant mostly used R22 refrigerant, which is regulated by the Montreal Protocol on Substances that Deplete the Ozone Layer (not in this inventory). As such, emissions for this year were zero.

2. The Kunshan Plant was expanded.

Scope 2 for Advantech Taiwan only involved the use of purchased electricity. Carbon emissions are calculated using the emission factor for grid electricity, 0.509 kg CO₂e, as announced by Taiwan's Bureau of Energy of the Ministry of Economic Affairs in 2019, totaling 9,819.0357 tons CO₂e. Scope 2 for Advantech Kunshan, including the use of purchased electricity and purchased steam, totaled 18,555.362 tons CO₂e. Electricity carbon emissions were calculated to be 0.8046 kg CO₂e., which is based on the IV Emission factor value, 2012 East China Regional Power Supply Network. Carbon emissions from steam were 110 kg CO₂/GJ, which was based on Guidelines for Accounting Methods and Report of Corporate Greenhouse Gas Emissions in Other Industrial Industries. Table 4.1.2 shows the emission levels for each region.

Table 4.1.3 shows the emission levels for Scopes 1 and 2, which was 30,568.9404 tons CO₂e in 2020.

Table 4.1.2 Advantech Scope 2 greenhouse gas emissions amount in 2020

Region		Source of greenhouse gas	Emission equivalent (tons CO ₂ e)
Taiwan	Ruiguang Headquarter	Electricity	1,252.4921
	Sunny building	Electricity	1,511.5186
	Donghu Plant	Electricity	846.6502
	Linkou Park	Electricity	6,208.3748
China	Kunshan Plant(Note*)	Electricity	17,553.9261
		Steam	1,038.6387
Total			28,411.6005

Note: China Kunshan Plant was expanded, so its emission amount increased compared to in 2019.

Table 4.1.3 shows the emission levels for Scopes 1 and 2, which was 30,568.9404 tons CO₂e in 2020.

Region		Scope 1 Direct greenhouse gas emissions	Scope 2 Indirect greenhouse gas emissions from energy	Total CO ₂ e (tons)
Taiwan	Ruiguang Headquarters	113.5997	1,252.4921	1,366.092
	Sunny Building	116.6942	1,511.5186	1,628.213
	Donghu Plant	0.1345	846.6502	846.785
	Linkou Park	405.7026	6,208.3748	6,614.077
China	Kunshan Plant	1,521.2086	18,592.5648	20,113.7734
Total		2,157.3396	28,411.6005	30,568.9404

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

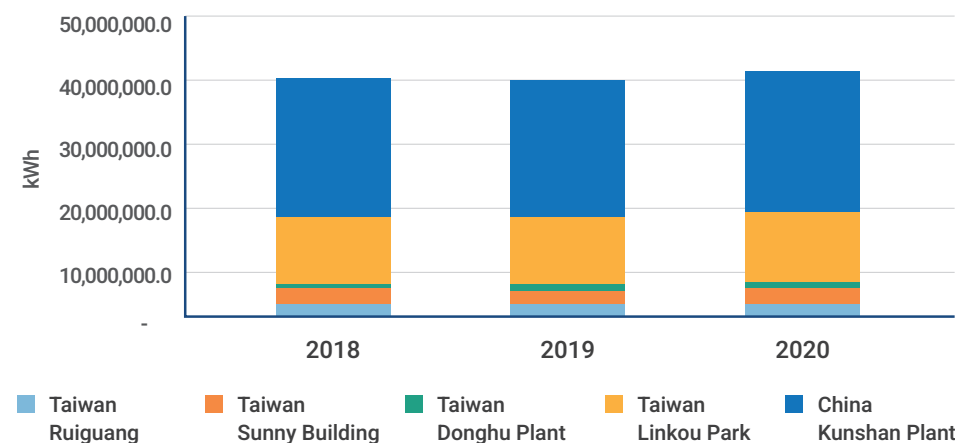
Advantech Taiwan's greenhouse gas emissions were primarily CO₂ generated during the power generation of purchased electricity. This source of emissions accounted for at least 93% of Advantech Taiwan's total annual emissions for 2020. In 2020, the average greenhouse gas emission (Scopes 1 and 2) turnover per unit was 0.058 tons CO₂e/US\$1000, which was down 0.059 tons CO₂e/US\$1000 compared to 2019. The main reason was that Advantech integrated the manufacturing systems in the Linkou and Donghu plants. By improving manufacturing efficiency and by utilizing the Linkou energy-saving system, we were able to reduce our overall electricity use. In 2019, Advantech Kunshan initiated various energy-saving special projects, including mechanisms for comparing the energy-saving efficiency of each unit, assessing and verifying the energy-saving performance of electrical equipment, and reducing the cost of general electricity use. In future, we will continue to set goals for reducing electricity consumption per unit of turnover per year. We will embed the concept of energy saving in the hearts of our employees, making it a critical part of our company culture.

To identify key factors to slow down climate change, Advantech Taiwan seeks to identify not only greenhouse gas emissions from its own operations, but also other emission sources. Starting from 2019, we have adopted the GHG Protocol Evaluator Tool to conduct emissions identification for Scope 3. We have also established relevant inventory methods to identify emission hot points, set goals for reducing emissions, and implement reduction measures incrementally. Table 4.1.4 lists the identification and emissions of Advantech Taiwan for Scope 3 in 2020. Because the emission sources of Kunshan plant are difficult to identify, we have not conducted an inventory for that plant. However, we will include it in the future.



Fig. 4.1.1 2018–2020 annual electricity use among Advantech plants

Statistics of the electricity use of Advantech pants



*Note: In 2020, China Kunshan Plant was expanded, causing an increase in electricity use.

Fig. 4.1.2 2018–2020 electricity use trend of turnover per unit

Advantech's electricity use per unit revenue in recent years

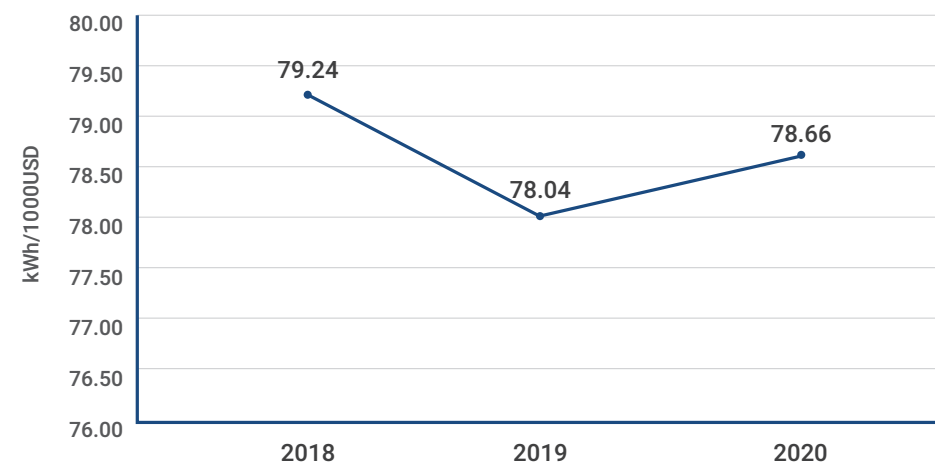


Table 4.1.4 Advantech Taiwan greenhouse gas Scope 3 identification and emissions

Category	Verification category description	Emissions (tons CO ₂ e)
03 Activities related to fuel or energy that are not under Scopes 1 or 2	Upstream fuel and energy of Taiwan Power Company	2,102.4332
05 Waste generated during operations	Waste declared according to the Department of Environmental Protection via the Industrial Waste Declaration and Management Information System	0.8158
06 Business travel	(does not include general waste)	67.4089
07 Employee commute	Employee travel by air	446.0176
Total		2,616.6755



Participate in the international CDP assessment

Since 2015, under the wishes of our clients, Advantech has been participating in the CDP, which is the world's largest existing database related to climate change. Each year, the CDP issues a questionnaire to survey corporations' responses to climate change and their efforts toward reducing greenhouse gas emissions. This is aimed at evaluating the risks and opportunities that corporations will be exposed to in the face of climate change. Through annually disclosing emissions information through the CDP, we review the risks that climate regulations, climate disasters, and other climate-related topics have on our operations. We then implement effective measures to reduce or eliminate risks in order to meet international clients' demands on greenhouse gas management. In 2020, Advantech was categorized as a B-list company.

Future directions

In 2020, the COVID-19 pandemic affected the world, and corporations have had to adjust their operation models in response. Therefore, determining how to bolster corporate operations under the impact of the pandemic is a critical topic. The transformation to low-carbon emissions is a key factor. As of July 2020, countries that have promised to reduce carbon emissions by 2050 have a combined GNP exceeding 53% of global GDP. We hope that through the science-based target (SBT) method, we can calculate and achieve our carbon emission reduction goals. Also, according to the Task Force on Climate-Related Financial Disclosure (TCFD), we are able to identify climate risks for inclusion in our corporate operation management goals, thereby reducing any potential loss from climate disasters.

*Note:

- 1.The SBT method defines the limit of total carbon emissions required to control the global warming trend within 2°C. Using scientific methods and weight calculation, it calculates the credit for reasonable reductions in carbon emissions for specific industries and companies under a global carbon credit.
- 2.The TCFD is a guideline issued by the international Financial Stability Board. Its content is meant to assist investors and decision-makers to understand the major risks an organization faces, helping them more precisely assess risks and opportunities related to the climate. Specifically, it focuses on the risks and opportunities an organization faces when transforming into low-carbon economy.

4.2 Energy Management Actions



Linkou Park

Smart energy-saving strategies implemented at Linkou can be divided into two major systems: the office system and the manufacturing system. The office system consists of smart parking, human-sensing energy-saving offices, and smart meeting rooms. It is through the smart management of these facilities that we minimize energy waste at the site.

Table 4.2.1 Energy-saving facilities in Linkou office area

Smart parking	This system includes parking space reservation, license plate recognition, eTag, guest welcome message, parking lot control and management, vehicle tracking, and air quality control. The smart parking lot also has automatic lighting to minimize energy waste.
Human-sensing energy-saving offices	The air conditioning system automatically detects and controls the air quality. The office is divided into several areas. The system is integrated with the access control system, and it schedules lighting and air conditioning according to working hours, off hours, and break times. When the system detects that people are absent for a certain time, it will automatically turn off the lighting and air conditioning in that area. The system can be accessed and adjusted via a webpage or the touchscreens at entrances.
Smart meeting rooms	People can use the one-key touch control to switch meeting room settings. The system has automatic air quality control that can introduce fresh air into the room. Once a room has been empty for 15 minutes, the system will automatically shut down all electricity use and air conditioning to save energy.

The manufacturing system is connected to and monitored from the Advantech Situation Room. In recent years, the Advantech Manufacturing Center has been proactively undergoing digital transformation. With sensors installed at our operation sites, we are able to collect real-time information and upload it to the cloud for analysis. All information from factories is presented in the situation room in real time, informing managers on the current situation with our production lines. The situation room allows us to monitor manufacturing, measure equipment yield, conduct preventive maintenance, and keep track of environmental factors such as temperature and humidity. It also includes an energy management system.

▲ Advantech Headquarters (Neihu)

In 2020, Advantech Headquarters replaced the chillers and traditional luminaries with LED luminaries, which reduced energy use from lighting by 65%. These two replacements together have saved 166,960 kWh of electricity. In 2021, we have scheduled to continue replacing inefficient and outdated equipment in order to increase energy use efficiency.

▲ Advantech Kunshan

Tables 4.2.2 outlines Advantech Kunshan's energy-saving facilities.

Table 4.2.2 Energy-saving at Advantech Kunshan

Continue to optimize energy management and system optimization	We have established rules for comparing the energy-saving efficiency of each unit (energy consumption/output value, energy consumption/working hours, and peak-middle-valley ratio), providing real-time energy-consumption data that assists factories with analyzing their energy-saving effectiveness and formulating improvement plans.
Transform air-conditioning into automatic systems	We are in the process of connecting all air-conditioning systems in all rooms to a monitoring system in order to optimize electricity usage. The system monitors the environment (temperature and humidity) to maintain optimal conditions. This project is being implemented incrementally.
Upgrade air compressors	We are connecting the air compressor pipeline system in parallel and upgrading it to a two-stage compression permanent magnet frequency conversion air compressor to save energy.
Install human-sensing systems	We have integrated LED lighting in public areas with human-sensing switches to reduce energy consumption.



Overall energy management strategies and actions

In addition to the aforementioned energy-saving facilities, Advantech's overall energy management strategies consists of the following: daily energy-saving, developing a building energy management system (BEMS), and clean energy strategy.

1. Daily energy-saving

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

2. Develop a BEMS

Advantech is striving to further develop BEMSs in the workplace. From management to operations and maintenance, our energy-saving management strategy is two-fold. It depends first on obtaining energy-consumption information and then uploading the data to the cloud for analysis with AI. In addition to this allowing us to visualize the energy consumption data for real-time monitoring and alert notifications, it also facilitates adjusting scheduling, performing equipment cleaning and maintenance, and replacing high-energy-consumption equipment. We upgraded our BEMS in mid-2020 and transferred the platform to the Advantech WISE-Stack private cloud. It is expected to be officially launched in 2021 Q1 in our Linkou branch. The first couple of functions include energy-saving performance overview for the top decision-makers as well as real-time energy-use monitoring and abnormal energy-use analysis for managers. We plan to launch a cellphone version and will gradually expand this to Kunshan Park and other manufacturing systems.

Moreover, since 2020 Q4, we have been uploading monthly electricity and water use to our internal eManager system for our Linkou, Neihu, Kunshan, Shanghai, Xi'an, and Beijing branches. This allows different business units in each factory to monitor changes in their monthly electricity and water use. Comparing this information against historical data allows us to determine whether we are achieving energy conservation goals. By making energy consumption data internally transparent, we can generate a top-down management effect on energy-saving within the company.

3. Clean energy strategy

- Solar power: Solar panels have been installed at the Linkou Park site since June 2019. Each month in 2020, they generate approximately 46,682 kWh of electricity, which is connected in parallel to the power grid. In addition, the new building in Linkou Phase 3 is planned to be equipped with solar panels, and they are estimated to generate 8,000 kWh of electricity per month.
- Electricity purchase: We are planning to purchase green energy, with plans to incrementally purchase more green electricity starting from 2022.

Looking to the future, we plan to centralize production by integrating operations at the Linkou Phase 2 smart factory. Through energy management and production line optimization, our goal is to reduce energy waste and electricity consumption in order to consolidate energy efficiency. In pursuit of protecting human life and ensuring a green environment long into the future, we are dedicated to reducing the impact of our operations on the environment, from product design and use to waste. In addition to complying with relevant regulations, Advantech achieves environmental protection and sustainable corporate development through the participation and commitment of all employees.

Energy-saving and carbon governance directions

In 5 years, green energy will account for **20%** or more of the total electricity use

Strategy 1

Energy-saving



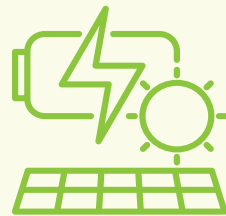
- Introduce a BEMS to Linkou and Kunshan; Implement carbon-reduction plans.
- The energy-saving and technology improvement team is responsible for replacing equipment that is high energy-consuming.

Goals

Reduce electricity use by 30% for lighting, 10% for air-conditioning, and 10% for electricity consumption per capita in 2021.

Strategy 2

Energy generation



- Total electricity generated by solar panels in Taiwan: 560,000 kWh. In Phase 3, we will expand the area of solar panels.
- Total electricity generated by solar panels in Kunshan: 352,000 kWh. A 20-kW solar power generator has been set up on the roof top and there are 13 solar-powered street lamps in our factory.

Goals

- Electricity generated by solar panels in Linkou Plant to account for 4.5% of total electricity use in 2021 and 6.5% of total electricity use in 2025.
- Electricity generated by solar panels in Kunshan Plant to account for 1.7% of total electricity use in 2021 and 3.33% of total electricity use in 2023.

Strategy 3

Energy purchase



- Purchase renewable energy licenses.
- Invest in renewable energy companies.

Goals

Green energy to account for at least 20% of total electricity consumption in 2025.

4.3 Environmental Management

Presentation of project highlights or performance numbers

-37%

Kunshan Plant waste management technology improved, with total waste reduced by 37%.

70%

Kunshan Plant adopted a water recycling and renewal system, achieving a reclaimed water recycle rate of 70%.

4.3.1 Environmental responsibility

As a part of our environmental management strategy, we comply with relevant regulations on environmental protection for waste water and industrial waste management. In addition, we have established the Environmental, Health and Safety Management System Manual as a guideline for our management system, which we regularly inspect and consolidate. Our waste water management meets emission standards and we report to the government in line with relevant regulations. Industrial waste is handled by qualified companies. Advantech's environmental declaration and environmental policies are as follows:

- 1.Reduce environmental impact: We will adopt adequate technology for production or pollution prevention. We will also introduce designs for product energy conservation and waste reduction so as to prevent pollution from product use, to make more efficient use of resources, and to reduce the environmental impact of product use and service delivery.
- 2.Take environmental protection responsibility: We will continue to satisfy consumer demands for green products by abolishing and/or reducing environmentally restricted substances in raw materials, parts, adjuvants, and packaging materials. This is achieved by adopting the principles of prohibition or restriction in order to protect the environment and reduce the impact of our products on natural ecosystems.
- 3.Conduct recycling: We will conduct energy and resource recycling and educate all employees to raise their awareness on energy conservation as well as environmental health and safety.
- 4.Promote waste reduction in the industry: We will seek to introduce environmental protection design concepts to use energy more efficiently and reduce the environmental impact of product use or service delivery so that we can continue to satisfy consumer demands regarding the provision of environmentally friendly products.
- 5.Comply with environmental protection regulations: We will comply with all environmental protection laws, regulations, and other demands from the government. We will also respond to international environmental protection trends by researching and developing green products that continue to satisfy consumer demands with regard to green and environmentally friendly products.
- 6.Consolidate environmental management: We will seek to popularize environmental protection education by having all Advantech employees participate in promoting environmental management systems. We will also conduct continuous auditing activities and environmental management inspections to discover our shortcomings and continue to improve our processes in order to establish a lawful and effective environmental management system.

Environment promotion procedures and actions

Promotion procedure	Management action
Operation guidelines related to environmental protection management, environmental management systems (ISO 14001), greenhouse gas inventory (ISO 14064)	<ul style="list-style-type: none"> • Pollution prevention and control • Environmental education training • Environmental management system maintenance • Greenhouse gas management



To fulfill the promises of green management and sustainable development, since 1996, Advantech has been implementing an environmental management system to consolidate the planning of environmental protection topics and to achieve efficient resource use. Through the Environment, Safety and Health Committee, we have established the framework for environment, health and safety concepts, promoted energy-saving, improved our energy use efficiency, and included energy cost reduction as an annual key auditing item. Moreover, we follow our environmental management system and greenhouse gas inventory to regularly inspect our effectiveness. In 2020, there were no issues with environmental protection that required any amendment. In 2020 per unit revenue for greenhouse gas emissions density was reduced by 2.1% compared to the previous year.

Environmental certification items	HQ Ruiguang/Sunny	ATMU Donghu	ATMU Linkou	AKMC Kunshan
ISO 14001:2015	✓	✓	✓	✓
ISO 14064:2018	✓	✓	✓	✓

Advantech input and output in environmental resources

■ Input
■ Output

Natural gas
294,971.0 m³

Greenhouse gases (Scope1&2)
30,530.6 ton CO₂e

Greenhouse gases (Scope 3)
2,616.7 ton CO₂e

Electricity
41,452,086.4 kWh

Tap water
242,543.0 m³



Sewage
169,780.10 m³

Industrial waste
1,550.6 ton

4.3.2 Energy and resource use and waste management

Water use and management

Each Advantech plant is equipped with water-saving faucets and toilets and implements water-saving measures to reduce water use per capita. All factories and offices are located in developed industrial zones or parks in metropolitan areas with access to tap water. None of them draw water from underground sources or wells.

Figures 4.3.1 and 4.3.2 respectively show the total water use and water use per unit revenue at all plants for the past 3 years. Water consumption per unit revenue for 2020 was reduced by 8% compared to 2018. In Taiwan, we primarily reduce our overall water consumption by recycling rain water for daily use and by adopting a smart watering system, smart air conditioning cooling water system with smart control, and water chiller system with regular control for monitoring and management. At the Kunshan plant in 2019, we launched the energy-saving management and control special project. Water meters were installed in each production unit at each factory building to help manage water use. Water use is divided into Phase 1, Phase 2, Phases 3–4, dormitories, kitchen, and facility use when we evaluate whether our water usage is reasonable. The Kunshan plant implements a water recycling and regeneration system to recycle water resources, achieving a reclaimed water recycle rate of 70%. Each year, this system reduces water use by up to 53%.

Fig. 4.3.1 Advantech Taiwan 2018–2020 annual total water use (cubic meters)

Statistics of Advantech plants water use

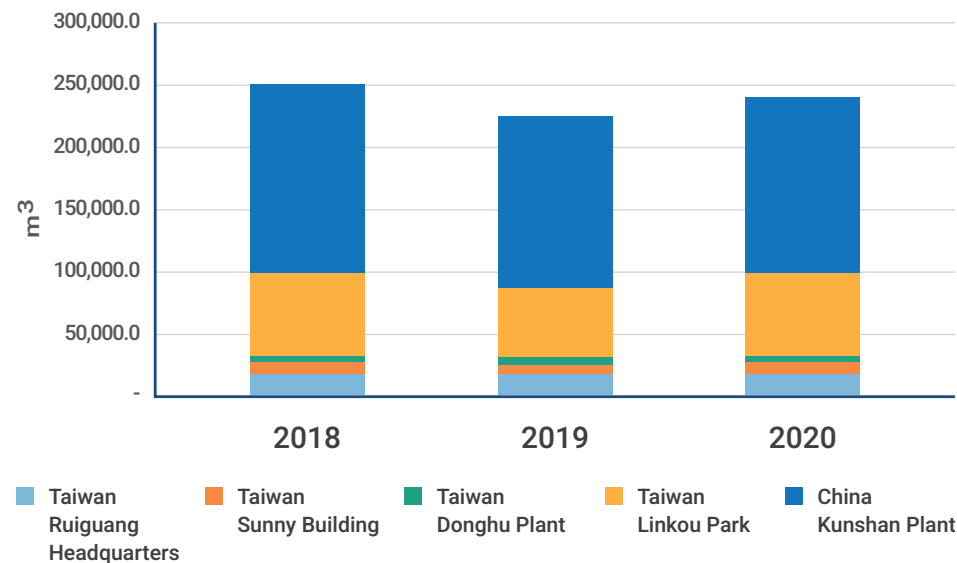
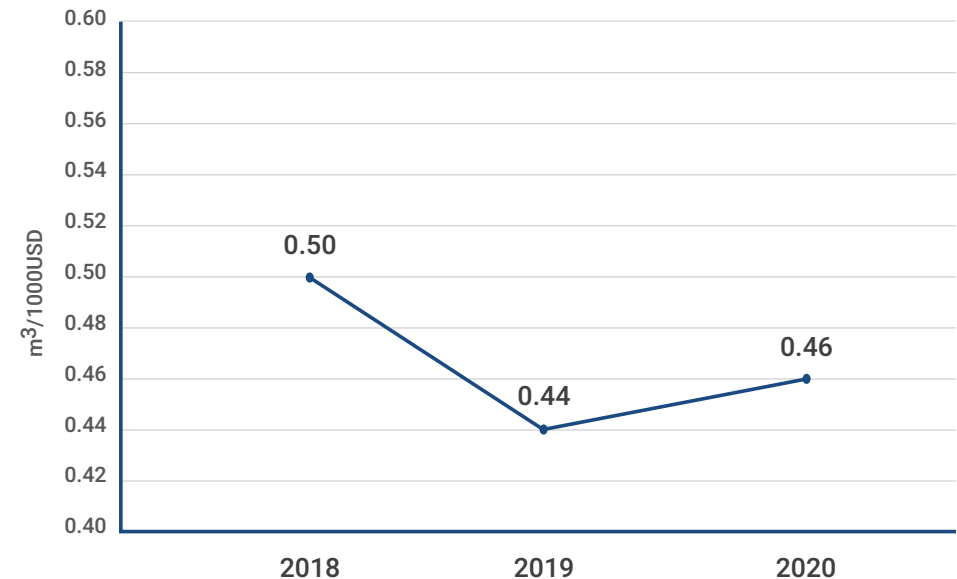


Fig. 4.3.2 Water use trend at Advantech plants per unit revenue in the past 3 years

Advantech's water use per unit revenue in recent years



Waste management and resource recycling management

Advantech's ultimate waste management goal is to achieve zero waste. Therefore, we have adopted strategies for reducing total waste and turning waste into resources. In addition to our resource management strategies (e.g., raw material reduction to minimize waste), we proactively promote turning waste into resources (e.g., reuse of packaging). By adopting recycling and reuse to replace the original end-of-pipe treatment model, we are able to transform waste materials into useful resources. This achieves resource recycling and reduces both energy consumption and handling costs. Each year, Advantech assesses its waste contractors. Should they violate their contract or any government regulation, Advantech will adopt appropriate measures to either provide coaching or cease cooperation. In 2020, there were no major violations or illegal activities by any of our waste contractors. Table 4.6 shows the company's waste management model.

For Advantech Taiwan and Kunshan, we estimate the weight of general waste undergoing final treatment based on our waste collection and disposal contract. As such, weight information under further treatment categories cannot be obtained. Thus, we only disclose treatment information pertaining to industrial waste (Table 4.6).

Table 4.3.1 Advantech Taiwan and Kunshan waste management model

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

Table 4.3.2 Statistics of the weight of Advantech Taiwan and Kunshan industrial waste

Region	No.	Waste type	Waste name	2020 production (metric tons/year)
Taiwan	1	General industrial	Mixed metal waste (PCB scrap)	45.50
	2	General industrial	Electronic component waste, trimmings, and defectives	0.13
	3	General industrial	PCB waste containing metal and dust from the board	12.52
	4	General industrial	Waste wood	8.43
	5	Hazardous industrial	Waste liquid	16.80
	subtotal			83.38
China Kunshan	1	General industrial	General waste	83.66
	2	General industrial	Sludge	12.53
	3	General industrial	Waste water-based cleaning agents, waste cutting fluid	6.13
	4	General industrial	Lubricating oil	5.10
	5	General industrial	Waste tape	29.76
	6	General industrial	Waste organic solvent	2.42
	7	General industrial	Paint residue	128.19
	8	General industrial	Waste material from stamping	1,199.00
	9	Hazardous industrial	Waste fluorescent tubes containing mercury	0.49
	subtotal			1,467.28
Total				1,550.66

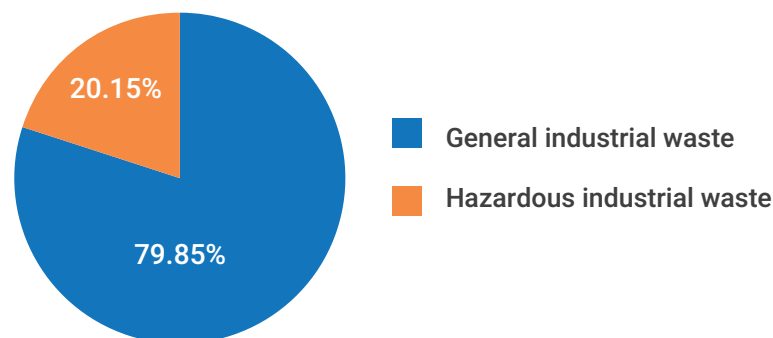


*Note : Weight data for Taiwan and Kunshan Plant are data that each plant has declared to the relevant competent authority.

In 2020, the total amount of industrial waste generated by Advantech Taiwan was approximately 83.38 tons (Fig. 4.6). Because our operations are primarily based around assembly, the total hazardous industrial waste was only approximately 16.80 tons, accounting for 20.15% of all industrial waste, while total general industrial waste was 66.58 tons, accounting for 79.85% of all industrial waste. PCB waste accounted for the largest component of industrial waste produced by Advantech in Taiwan. To minimize our industrial waste, we will continue to improve our production yield to reduce electronic waste or trimmings.

Fig. 4.3.3 Overall waste generated by Advantech Taiwan in 2020

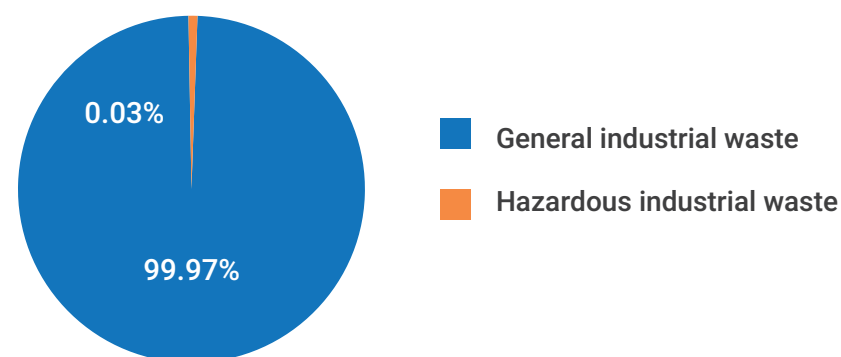
2020 Advantech Taiwan Industrial waste generation amount



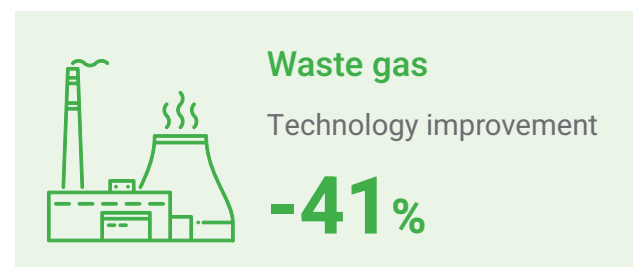
In 2020, the total industrial waste generated by Advantech Kunshan was 1,467.28 tons, including general waste, organic solvents, and waste material from stamping from mechanical factories. Figure 4.7 shows the percentage of each type of industrial waste. Advantech Kunshan's industrial waste reduction plans include establishing a designated storage area for paint-stripped waste, handing dried paint-stripped waste over to a qualified recycling company for treatment, and exchanging tin dross waste for tin wire from the original supplier, who then recycles and reuses the tin dross waste.

Fig. 4.3.4 Overall waste generated by Advantech Kunshan in 2020

2020 Advantech Kunshan industrial waste generation amount



▲ Pollutant emission reduction in the Kunshan plant (the result of 2020 compared to 2019)



Introduction to an emissions reduction special project: treatment technology improvement within the factory

Liquid spray factory

Waste gas

RCO waste gas treatment was adopted together with VOCS online monitoring. The waste gas treatment effectiveness was increased to 92%, and VOCS annual emissions were reduced by 50%.



Waste gas treatment equipment

Waste water

A spray paint water curtain circulation system was adopted. Annual water use was reduced by 73%.



Paint-stripped waste treatment equipment

Waste

The annual amount of paint-stripped waste generated was reduced by 50%.



Spray paint water curtain circulation system

Powder spray factory

Waste gas

Surface treatment technology was improved. Spraying liquid was altered to spraying powder. Because no solvent was involved, VOCS emissions were reduced by 83%.



Environmentally friendly automatic spray paint

Waste water

Dry spray room. No spray water was generated.



Dry powder paint

Waste

Dust collection equipment. The powder can be recycled, and the usage rate was $\geq 85\%$. Suspended particles are 100% purified and will not be emitted into the air.



Dust collection equipment

4.4 Eco Design and Product Liability



Vision and promise

In response to UNDP's SDG 9 (industry, innovation, and infrastructure) and SDG 12 (responsible consumption and production), Advantech has established various eco design goals pertaining to raw materials, product design, manufacturing, and environmental management. We have introduced various standards aimed at improving the environment, minimizing environmental impacts from operations.

4.4.1 Eco design

Setting goals for eco product

In late 2020, Advantech established the Eco Product Innovative Design Special Project, promoting higher-standard eco design guidelines to R&D units and encouraging them to adopt innovative eco design procedures. Product departments were invited to propose projects for internal assessment and selection.

We aim to incorporate eco product innovative design procedures incrementally and have set short-, mid-, and long-term goals accordingly. For example, in 2021, 10% of standard products in new projects must meet the four major aspects outlined in the eco design guidelines. This requirement will be expanded to 50% by 2023 and 80% by 2025.

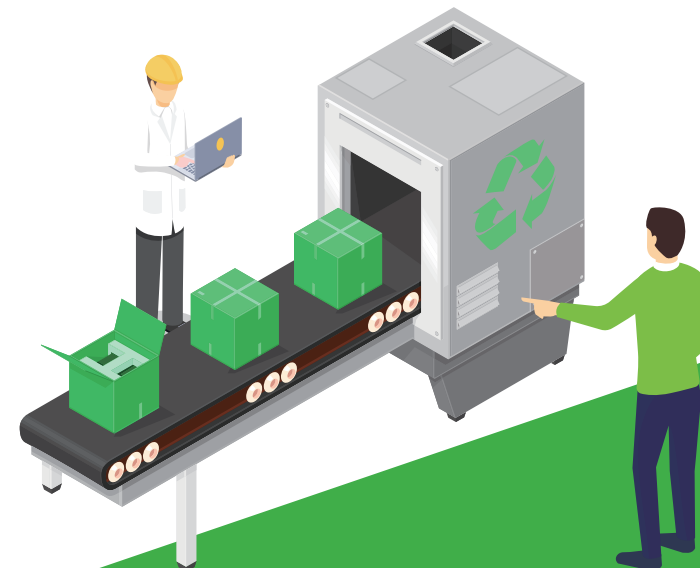


Fig. 4.4.1 Eco Product Innovative Design Special Project



Eco product design management mechanism

Standards have been established based on the following four major aspects: green materials, green package materials, product recycling, and product energy-saving. We assess the environmental impact of products from production, manufacturing, and shipping through to consumer use, recycle and reuse, to waste processing. We meet ensure that we meet international regulations and our clients' needs when designing our innovative eco products.

Fig. 4.4.2 Eco product design management mechanism

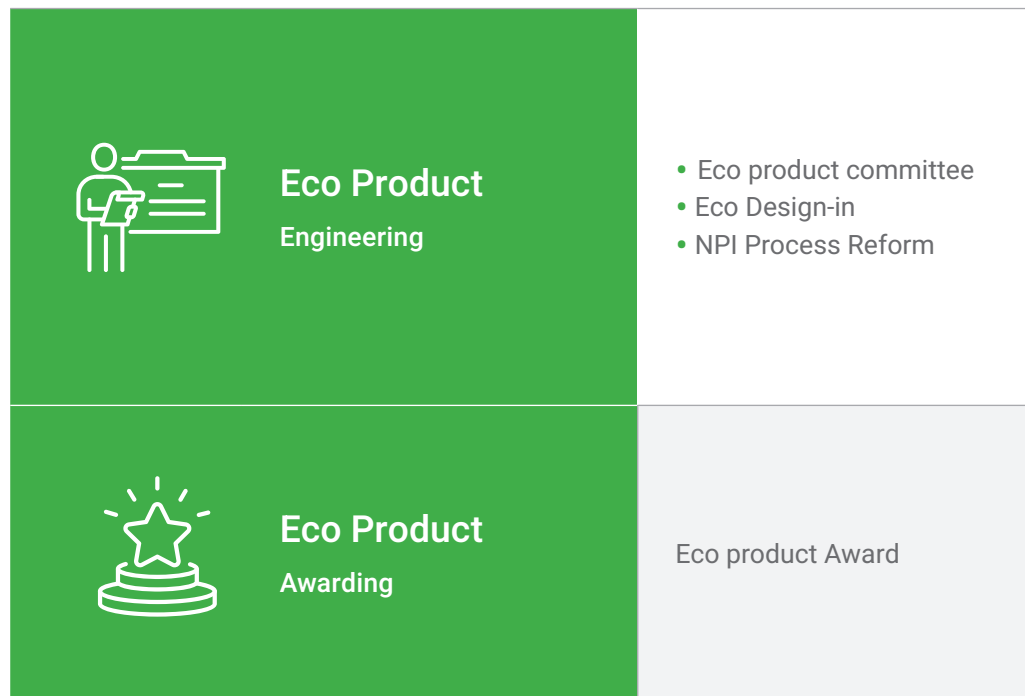


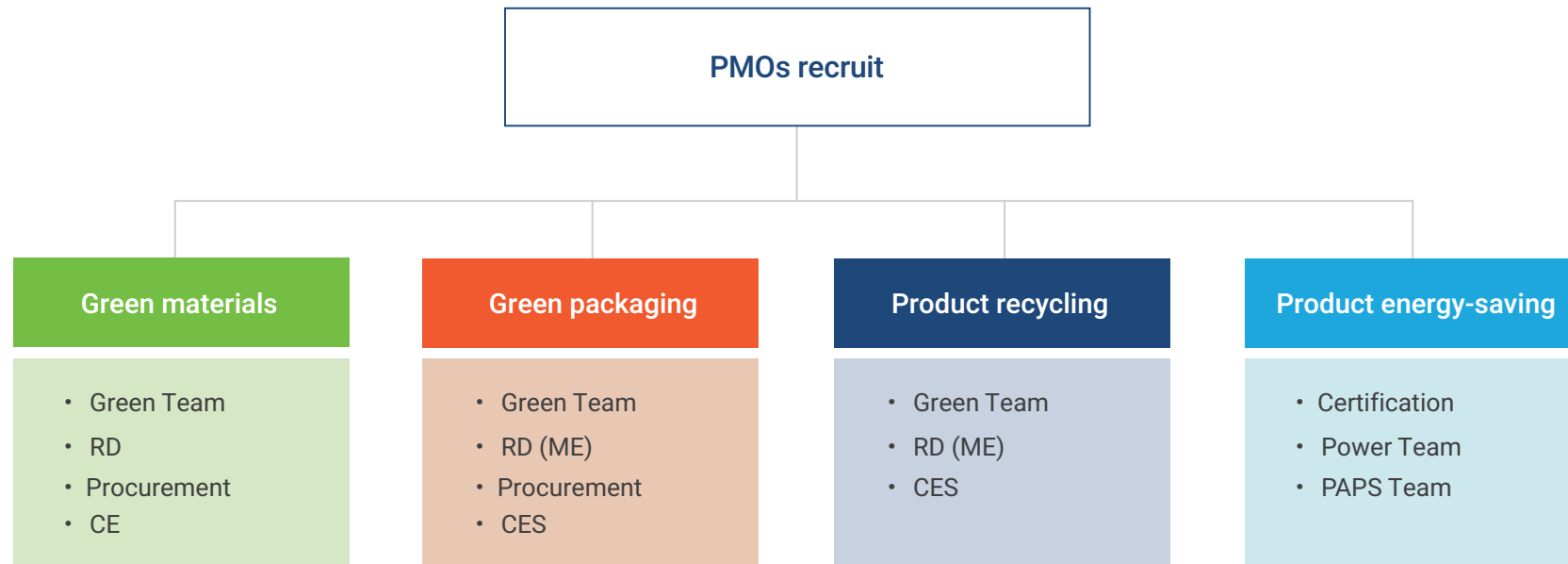
Fig. 4.4.3 The four major aspects of Advantech Eco Design



Cross-department committee

We established an Eco Design Management Committee. Advantech's project management officers (PMOs) recruit relevant departments and work with them to design, implement, manage, and review standards.

Fig. 4.4.4 Eco Product Committee



Establishing standards

Based on international environmental protection regulations, international assessment tools (e.g., EPEAT), and our experience with our customers, we have established Guidelines of Eco Design Standards for improving energy efficiency and reducing environmental hazards in eco design. We also provide tools to review standards. If a product passes the review, then we provide certification for it.

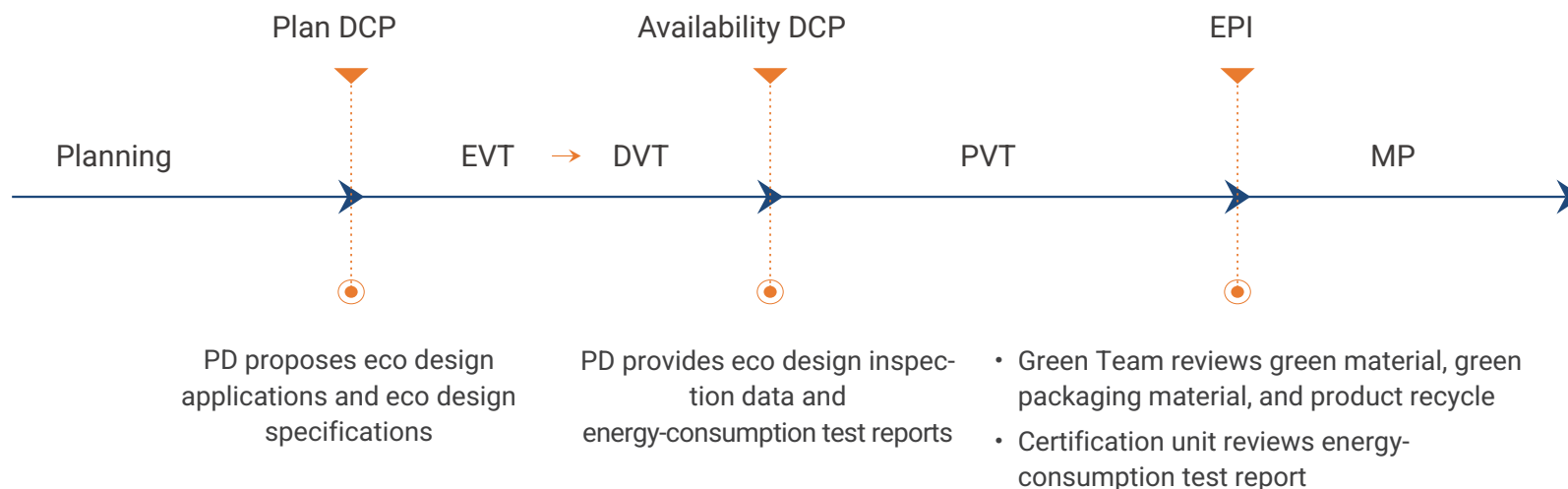
Table 4.4.1 Example of eco product design planning

Product type	Key points in environmental design	Design content	
Industrial panel PCs, servers, IPCs, and motherboards	Improve energy efficiency. Eco design. Reduce hazardous waste.	Conform with the European Union RoHS Directive, China RoHS, Taiwan BSMI RoHS, and IEC62474	Use recycled fiber in corrugated packaging
		Conform with substance restriction requirements of the EU Battery Directive	Design for repair, reuse, and recycle
		Reduce bromine and chlorine content in plastic parts (>25 g)	Design for recycling plastic materials (applies to plastic parts >100 g in weight)
		Conform with the supply chain communication regulations of the EU REACH regulation	Calculate product recyclability a 90% rate (IEC TR62635)
		Eliminate heavy metals in packaging	Prepare messages and reports on reuse and recycle
		Restrict the use of elemental chlorine as a bleaching agent in paper-based packaging	Ensure useability of replacement components
		Enhance the recyclability of packaging	Ensure energy efficiency

Inspection during product development

Eco product management begins at the design stage. At each inspection point, relevant departments are assigned to inspect for quality and ensure that eco design goals are met.


Fig. 4.4.5 Eco Product Innovative Design Special Project



Eco design reward system

We offer awards to inspire employees to design and produce environmentally friendly eco products in line with Advantech's green benchmarks.

Fig. 4.4.6 Eco-Excellence Product Award



**Eco-Excellence
Product Award**

Qualifications Product is used as a unit. Products that meet the Eco Design Guidelines are eligible for this award.

**Golden
Medal**

The overall design meets Advantech's Golden level definition of Eco Design Guidelines and passes the Energy Star standard.

**Silver
Medal**

The overall design meets Advantech's Silver level definition of Eco Design Guidelines.

Review key points

✓ Green material
✓ Green packaging material
✓ Product is recyclable
✓ Product is energy-saving

Current eco design outcomes and future goals

Item	2020 results	2021 goals	2025 goals
International environmental protection regulations (hazardous substances, recycling)	Apply mandatory international regulations and Advantech's standards for substance monitoring	Continue to ensure that raw materials are 100% in alignment with mandatory international regulations and Advantech's standards for monitoring substances	Continue to ensure that raw materials are 100% in alignment with mandatory international regulations and Advantech's standards for monitoring substances
International energy-saving environmental protection labels: Energy Star/ErP	Focus on specific models	Focus on specific models	Focus on specific models
Eco Design Guideline	Incorporate innovate eco design procedures	10% of Advantech's standard items for new development projects meet the four major aspects in the Eco Design Guidelines	80% of Advantech's standard items for new development projects meet the four major aspects in the Eco Design Guidelines



International energy-saving environmental protection labeling

The Energy Star label is a government plan co-promoted by the United States Department of Energy and Environmental Protection Agency, and it has been adopted by numerous countries, including Canada, Japan, Taiwan, Australia, New Zealand, and those in the EU. The Energy Star is an international standard for the energy efficiency of electrical equipment. Qualified computer equipment must meet the regulations of Energy Star, and its power supply must meet the Energy Start EPS 2.0 specification. Since 2009, Advantech has launched various models that meet this standard. For a list of the models that have been introduced in the past 3 years, see 4.5 Appendix

International environmental protection regulations (see 4.5 Appendix)

4.4.2 Product liability

Advantech seeks to reduce impacts on the environment and ecology, fulfill corporate responsibilities for a more sustainable environment, meet stakeholder expectations, and continue to follow international regulations. In accordance with these considerations, we review the management status of hazardous substances each year and regularly update relevant company regulations as necessary. Our goal is to consistently implement our green product management system.

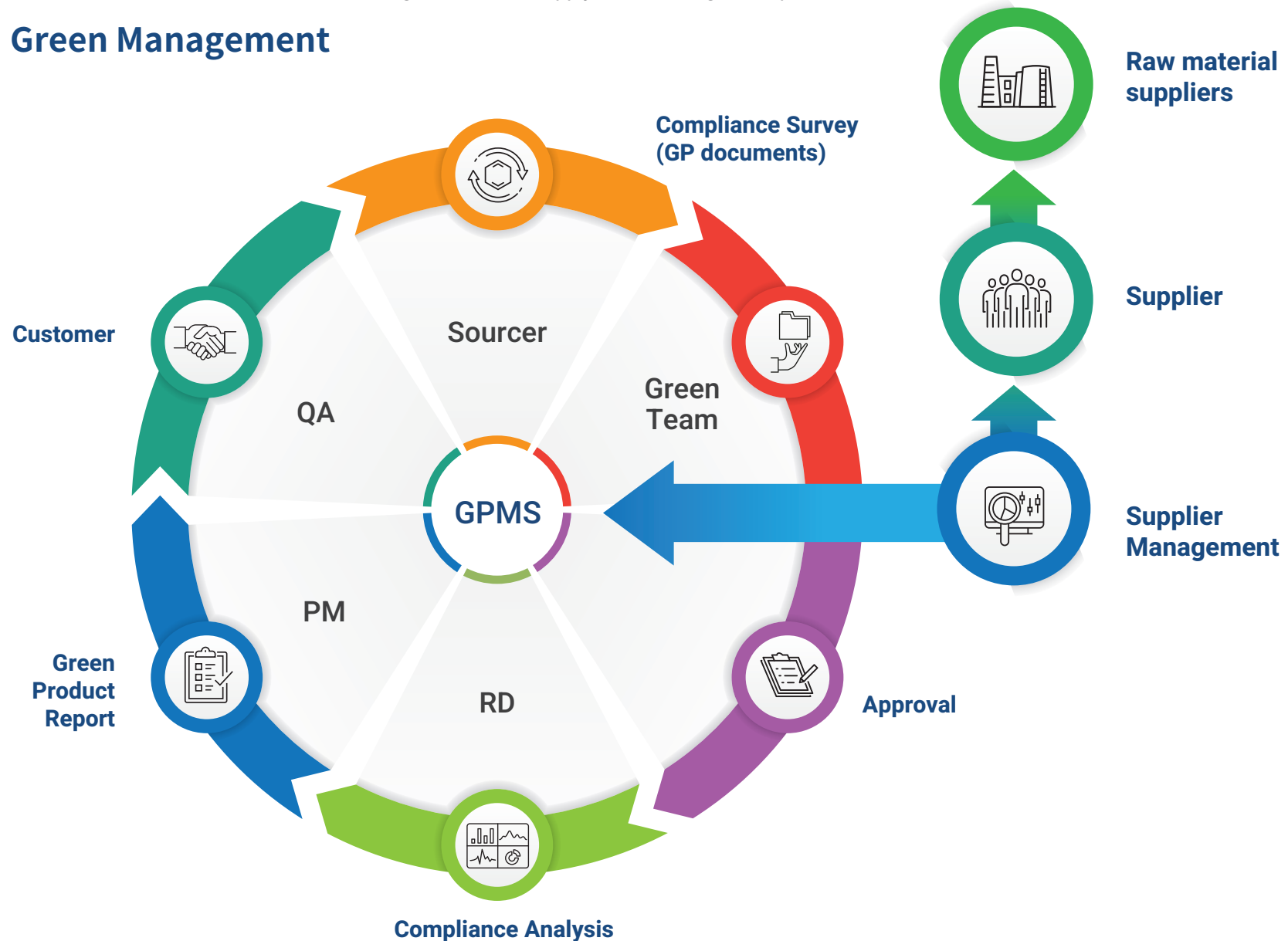
Fig. 4.4.7 Green Product Management System (GPMS)



In 2010, Advantech established its Green Product Management System. This supply chain platform requires suppliers to guarantee that their products do not contain certain hazardous substances and to provide relevant certifications for review. Each year, we optimize this system to ensure an effective green supply chain.

Fig. 4.4.8 Green supply chain management procedure

Green Management

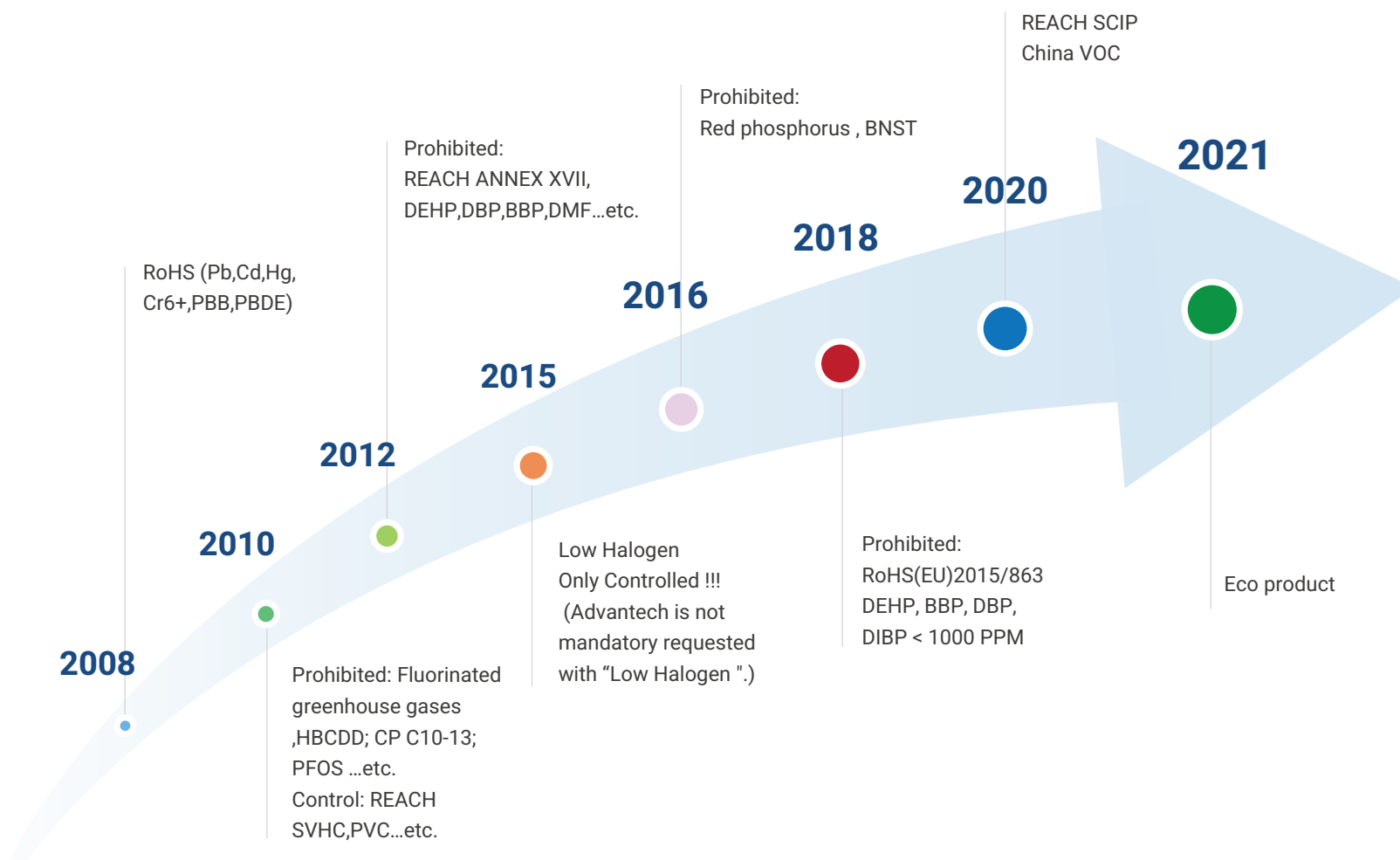




Focused case: Sony Green Partner

Advantech has been a Sony Green Partner since 2012. From components to OEM cooperation, we have overcome many challenges. In recent years, we have only had to pass a document review for our certification to be extended. Becoming a Sony Green Partner demonstrates that our green management outcomes have been affirmed by our clients.

Fig. 4.4.9 Advantech Green Policy - Hazardous Substance Reduction Plan



4.5 Appendix : Conformation Status of Product and Environmental Regulations

Advantech amends its internal management standards in accordance with various environmental protection policies on environment-related substances management, such as EU RoHS (including EU 2015/863), REACH, and POPs. In 2009, we adopted the IECQ HSPM QC080000 hazardous substance management system. We conduct risk assessment based on our supplier management and green supply chain management systems. When selecting materials for products, we ensure that all of our products are 100% in alignment with RoHS green environmental protection regulations in addition to environmental regulations in each country where our products are sold. These regulations are listed below:

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



At the design and development stages, our products are verified in accordance with relevant safety regulations to ensure that they meet CE/FCC/CCC requirements on safety labeling. Advantech adheres to environmental protection and green product regulations in countries worldwide. This includes the effective use of natural resources, banning of hazardous substances, life cycle assessment, and comprehensive waste management practices. We promote products based on safety, energy-conservation, and environmental friendliness. Relevant information is announced on our official website (<http://www.advantech.tw/>) under the product catalog description, as shown below:

Fig. 4.5.1 Environmental protection declaration from the Advantech website

DSD-3055

5" FHD Industrial Digital Signage Monitor & Touch



Main Features

- Superior Resolution FHD 1080p (1920 x 1080)
- Ultra-Wide Viewing Angle (176°)
- True Color Experience (10bit, 1G colors)
- Dynamic Motion Enhancement
- Customized Image Calibration
- Advanced Connectivity
- Image Noise Reduction Technology
- IRFM™
- Energy Saving Control
- Player Mounting Space reserved (8.7 x 8.7 x 2.3 inch)
- Optical Touch with Multi Touch Support

Certification



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

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In 2020, Advantech did not breach any regulations. We are rigorous in conducting quality management, paying attention to every detail.

Table 4.5.1 Advantech products with Energy Star certification in the past 3 years

Product model	Product type
ESY152,ESY15i5,ESY22i2,EY22i5	Industrial panel PCs
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	

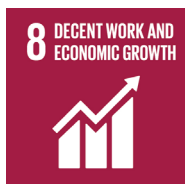
5

Employee Development

- 5.1 Employee Attraction and Retention
- 5.2 Employee Development Plan
- 5.3 ABLE club
- 5.4 Appendix : Employee Composition



5.1 Employee Attraction and Retention



Advantech ensures that salaries are set according to employees' academic and professional experience, job performance, and market conditions. Salaries are not influenced by gender, race, religion, political orientation, or marital status. We have established clear recruitment strategies to strengthen our employee diversity. We have also implemented internal diverse cultivation and talent development channels to gradually reduce the differences due to employees' physical or mental conditions. We regularly track indicators related to salaries and bonuses in each region, each job category, and employment level to ensure that we create and consolidate a diverse and fair working environment. We support employees autonomously forming various types of clubs, and we also support various union activities in different regions (for example, our German branch office has a union), ensuring that our employees have freedom of association and equal rights.

The talent recruitment plan, "Elite," centers on the concept of "Right People on Bus." Rather than taking a task-based approach to realizing new job openings, we first identify outstanding talents and then create a suitable position for them in the company. Through our diverse recruitment channels and special projects for flexible recruitment, we attract professional talents who demonstrate innovative potential. Our Elite programs meet a wide range of abilities, from fresh recruits to industry elites rich in experience. We aim to provide outstanding talents with as much space as they need to reach their potential. In 2020, a total of 38 full-time employees were recruited through the Elite recruitment program, accounting for 11.6% of total new employees. The Elite program includes:

- Elite Champion – Talent recruitment focusing on elites with high potential and at least 3 years of work experience
- Elite 100 – Recruit and cultivate reserve talents with up to 3 years of work experience

Annual HR meetings are held to inspect, review, and adjust relevant performances in order to continue to respond to talent market trends.



Performance reward system

Advantech offers highly competitive salaries, including a basic salary, personal performance bonus, team performance bonus, and outstanding talent stock or cash dividend reward to attract, cultivate, and retain talents. We reward employees who perform well and continue to contribute to the company.

Market conditions

We regularly refer to salary survey reports to assess the status of each operation base and salary standard to plan a suitable salary structure to ensure market competitiveness.

Table 5.1.1 Advantech male and female employee salary ratios

Region	Ratio of men's actual minimum salary vs. legal minimum wage ¹	Ratio of women's actual minimum salary vs. legal minimum wage ¹	Minimum salary ratio for women vs. men	Ratio of men's average salary for the lowest job grade vs. legal minimum wage	Ratio of women's average salary for the lowest job grade vs. legal minimum wage	Average salary ratio for the lowest job grade for women vs. men
Advantech Taiwan	1.08	1.07	0.99	1.28	1.32	1.03
Advantech Kunshan	1.05	1.05	1	1.25	1.21	0.96

*Note1: The minimum salary is defined as the actual payment. In 2020, the minimum wages by law in Taiwan was NT\$23,800, and that in Kunshan was RMB2,020.

Table 5.1.2 Average salary of full-time employees in non-management positions at Advantech Taiwan (Unit: NT\$1000)

Item	2018	2019	2020
Mean salary	1,001	1,002	1,023
Median of the salary	-	855	857



Performance appraisal

Each year, we regularly conduct performance appraisals for all employees. This consists of summarizing work results from the previous year and establishing goals for the new year. Supervisors and their subordinates work together to establish their development plans. Performance appraisal results then form a basis for employee promotion, training development, and salary adjustment. Performance appraisals are not influenced by gender, race, religion, political orientation, or marital status.

Employees who have reported to work for over 3 months must receive a performance appraisal. The table below shows the percentage of employees who received a performance appraisal in 2020. Only the Chairman and three presidents (a total of three men and one woman) did not receive performance appraisals.

Reward system

In Taiwan and China, the personal performance bonus plan is integrated with and given together with the end-of-year bonus (median: approximately 10%–15% of the fixed annual salary). Team performance bonuses are handed out in July (median: approximately 10%–15% of the fixed annual salary). Sales units have bonus plans to encourage representatives to achieve personal sales goals. Some manufacturing units design short-term monthly or seasonal performance bonus systems based on specific job content.

Salary adjustment scope

Every 2 years, Advantech commissions a third-party consultant to conduct a high-tech industry salary survey and comparison, giving us the opportunity to assess the macroeconomic indicators and salary standards for our domestic and foreign operating bases. Salary adjustments are performed in April each year for all employees in Taiwan and overseas, so as to maintain salary competitiveness.

Employee stock ownership

Every 2 years, we offer stock ownership certificates for upper managers and outstanding employees. After receiving stock subscription certificates for 2 years, employees may subscribe to stocks (which may be accumulated) according to terms and conditions. For more details, please refer to the 2020 Annual Report.

Table 5.1.3 Ratio of employees in four major categories receiving performance appraisal in 2020

Region	Four major categories	Ratio of men receiving performance appraisal	Ratio of women receiving performance appraisal
Advantech Taiwan	R&D	98.8%	95.7%
	Sales	94.6%	94%
	Administration	93.9%	90%
	Manufacturing	98.7%	96%
	Total ratio	98.2%	95.2%
Advantech Kunshan	Administration	100%	99%
	Manufacturing	93%	95%
	Total ratio	94%	96%

Table 5.1.4 Employee performance assessment percentages by job level

Region	Job Level	Man	Women
Advantech Taiwan	High-level managers	98.5%	96%
	General employees	98%	95.2%
Advantech Kunshan	High-level managers	100%	100%
	General employees	93%	96%

Employee welfare system

We realize that life shouldn't be all about work. We sincerely hope that all of our employees can maintain physical and mental health and a sense of personal happiness, and for this we offer a range of welfare projects. For example, we provide 5 days paid sick leave, allow staff to have daily tea breaks with all-you-can-drink beverages, host seasonal birthday parties, and provide department-based dining subsidies to build positive relations among colleagues and create a more positive team atmosphere. We also organize art and cultural activities such as exhibitions and performances to cultivate diverse interests and help employees maintain a balanced and relaxed life.

Insurance

We comply with relevant laws and provide various insurances and benefits, including superannuation, group insurance, and overseas travel insurance for business trips to ensure that employees are safe and healthy at work and in their personal lives.

1. Taiwan: Provide group insurance consisting of term life insurance, health insurance, and accident insurance.
 - Term life insurance: The coverage for each employee is 24 times their monthly salary, up to NT\$10 million.
 - Health insurance: Includes accident insurance, hospital room and board insurance, and cancer hospital room and board insurance.
 - Accident insurance: Coverage for each employee is 24 times their monthly salary, up to NT\$10 million. This includes insurance for severe burns and scalds, transportation incidents, and death from fire or drowning.
2. Kunshan: Provide employer liability insurance, consisting of death from illness, death from incidents at work, and medical fee reimbursement.
 - Death from illness: RMB150,000/year.
 - Death from incidents at work: RMB150,000/year (for people with social insurance) and RMB500,000/year (for people without social insurance).
 - Medical fee reimbursement: Outpatient clinic: RMB1000/year. Inpatient: RMB10,000/year.

Health benefits

Advantech offers annual employee health checks, which goes above and beyond requirements set out in the Labor Standards Act. We also promote good health through activities such as running clubs, implementing a no-smoking policy at the workplace, and regularly conducting environmental inspections to ensure employee health. We also offer private spaces for breastfeeding, facilities for sports and recreation, and safe and sanitary dining environments.

Retirement system

- 1.Taiwan: For employees under the old system, we contribute 2% of their total monthly salary to a special account for retirement funds at the Bank of Taiwan. For those under the new system, we contribute 6% of their monthly salary to a special account at the Bureau of Labor Insurance. In 2020, the total annual contribution amounts were NT\$8,618,664 under the old system and NT\$138,581,005 under the new system. For more details, please refer to the 2020 Annual Report.
- 2.Kunshan: Advantech adheres to China's regulations on retirement. Employees who have paid for statutory social insurance for 15 years are eligible for a monthly pension when they retire. The Law of the People's Republic of China on Employment Contracts states that the age of retirement is 60 years for men and 50 years for women.

5.2 Employee Development Plan



Advantech offers interdisciplinary, cross-national, and diverse job opportunities as a stage for employees to develop their careers. We encourage our employees to be proactive in discovering their potential. Through job rotation, our employees can gain a more global perspective and broader range of experiences, making them more competitive in the job market. In addition to focusing on improving their career competency, we also offer them comprehensive learning courses, ranging from basic training to the sharing and inheritance of operational philosophy and cultivation of talent for mid- and high-level management positions. Through internal training mechanisms, our mission is to cultivate outstanding talent for the company to carry on our corporate culture and philosophy, thus establishing a sustainable foundation for the company's future.

▲ Highlights on new annual special projects

Talent Meet Board

Over 10 higher-level managers from our offices around the world were arranged to meet with board members in order to establish relations with the board and strengthen their understanding of our corporate strategy.

Elite Mentoring Program

Our mentor system matches top-level managers with prospective middle- and higher-level talent. Over a period of 6 months in 2020, the system helped 21 middle- to higher-level talents improve their management and leadership abilities and accelerate their career development. In particular, this cross-domain and cross-department mentor-mentee exchange broadened the participants' perspective on innovation.

Talent Radar Screen Review

Annual development plans have been established for managers who demonstrate high potential for future development. The Human Resource department regularly tracks the implementation status of these plans as well as how well prospects perform. In 2020, a total of 49 high-potential talents were selected. The development project achievement rate was 93.75%, and the retention rate was 98%. In future, we plan to expand the scope of talent analysis and development. In 2021, we expect to increase the number of participants to between 100 and 200.

Elite LEAP WorkOut

The term "LEAP" is derived from four words: Learn, Experience, Alignment, and Partnership. The term also reflects the achievement of someone exhibiting a sudden and decisive increase in ability and understanding. For a range of different topics, we select talents to form special project teams. Through adopting an action learning approach and providing coaching from higher-level managers, we are able to develop and promote employees at a faster rate. In 2020, a total of 27 employees participated, 6 of whom were promoted 1 year of participation. The promotion rate was 22%.

Employee training

Advantech values the individual characteristics and potential of each employee. We endeavor to create an environment in which employees can realize their potential and advance their career. The Advantech Institute was established based on this concept. The institute offers a series of elite cultivation education training programs, including the e-Learning platform (Learning@Advantech), ten core programs, an annual strategy workshop, technology workshops, study groups, and the Executive Talks event. In addition, in response to the Electronic Industry Code of Conduct management principles that we have incorporated, we use our company internal website and manual for new employees to communicate management regulations on anti-bribery policies and labor equality. All new employees are required to comply.

In 2020, total training expenses for Advantech's Greater China operations (Taiwan Headquarters and China) were NT\$ 5,050,834 for a total of 891,017 training hours. The training hours per capita was 144 hours. The average satisfaction with the online courses was 4.88 (out of 5).

Table 5.2.1 E-Learning hours by employee gender and job function

Job function	No. of participants	Total hours of e-Learning training	Average e-Learning hours logged by men	Average e-Learning hours logged by women
R&D	1,746	221,996	129.6	120.5
Marketing and sales	622	50,801	67.4	106.9
Administration	424	41,884	122.5	87.5
Manufacturing	3,398	241,606	66.8	75.6
Total	6,190	556,287	91.7	87.4

Data scope: Taiwan Headquarters and China

Table 5.2.2 List of courses offered to Advantech employees

Item	Course content summary	Participants
Ten core programs	To pass down Advantech's systems and norms, our higher-level managers have researched and identified the most basic key knowledge and skills in the company, including five major categories: quality assurance, sales and marketing, talent cultivation research and development management, and financial value creation.	General employees
Case studies	Our operations management decision-makers identify topics that are critical to the company's overall future development, and we invite experts and scholars to hold discussions on these topics. Improvement plans are proposed and written up as corporate case studies and then used as a reference for future strategy integration.	Related operations managers
E-Learning platform	Employees worldwide may use our online learning platform to understand Advantech's management philosophy and corporate culture. This gives employees the opportunity to acquire the latest learning in topics specific to their needs. Our aim is to help employees learn to overcome spatial and temporal restrictions by giving them a platform to exchange knowledge with coworkers around the world. This lets them learn from global sources while expanding their global vision and improving their relations with coworkers.	General employees
LEAP Camp	For the LEAP Camp, employees from around the world are invited to Advantech Headquarters for courses and training aimed at improving their knowledge and skills in special projects. In particular, the camp gives them first-hand experience regarding the company's culture and core values. This connection and interaction is fundamental to our ability to successfully cooperate with global partners. LEAP Camp courses are specifically designed according to the job responsibilities of the participants, with major focuses on sales, marketing, and AE tracks.	New employees with 6 years' experience or less
Elite LEAP WorkOut	Senior (with more than six years of experience) managers under the Executive Coach above AVP, directly participate in highly relevant work critical issues, becoming an important program for Advantech's talents and topic innovation and implementation. Through the customized Individual Development Plan, we will accelerate the cultivation and promotion of talents, practice promote within to help Advantech grow in the future, and hope to promote high-potential managers to the next management position.	Senior (with more than six years of experience) managers
Study groups	We believe that having all team members read the same texts is conducive to consolidating team consensus. Therefore, we ask employees to regularly read selected texts and then convene for group study sessions. Experts, scholars, or middle to higher-level management from affiliated enterprises are also invited to introduce and develop innovative management concepts to help form key management operation strategies. For example, Advantech's guiding principle on talent, "get the right people on the bus," was adopted from Good to Great by Jim Collins.	Suitable employees and supervisors are selected based on topics.
TCAP	To expand the global vision and experience of Advantech elites with regard to major or emerging markets and opportunities, we offer short-term global special projects for employees to work abroad for 3 to 6 months. This gives them a chance to grow by facing new challenges. We believe that rotating the work environment and posts of our talents will expand their worldview and give them an invaluable experience with relatively short-term tasks.	Advantech employees worldwide/employees who need to be sent abroad for 3–6 months

Advantech Executive Talks

To help realize more effective and transparent communication, Advantech Executive Talks was introduced in 2016 as an internal online platform aimed at ensuring that corporate policies are delivered clearly and in a timely manner to employees worldwide. Through broadcasting concise video messages, we are able to reduce the information asymmetry that is common in companies with offices located around the world. Messages are usually higher-level managers presenting essential information in Chinese or English are typically 5–10 minutes in length. Topics range from annual strategy development, financial direction, and changes from mergers to industry trends, innovation mechanisms, new market strategies, and new marketing tools or platforms. In the future, we hope to develop more customized videos contain precise, real-time information that is relevant at the regional, unit, or employee level. From 2016 to the end of 2020, a total of 222 videos were broadcasted (134 in Chinese and 88 in English). As of December 31, 2020, these videos have received 45,871 views.

Assessing the effectiveness of management policies

We propose measures for modifying and improving management policies based on the effectiveness of employee cultivation items and use satisfaction surveys to review employee feedback. Survey content covers such topics as training courses for employees and feedback from mentees in the Elite Mentoring Program.

Improvement plan

Compared to other international corporations, Advantech has a relatively low total budget for employee training. This flows onto our training budget per capita. We hope that in the future, we will be able to optimize the Advantech Institute platform, further enrich our courses, and incorporate external training mechanisms to increase the number of courses that are available and improve the level of equality in access to employee training.



5.3 ABL Club

Advantech Beautiful Life: Co-creating a happy enterprise with the Lita spirit

To achieve comprehensive employee care and service and to realize the spirit of work, learning, and love, Advantech integrates organizations such as employee relationship management, foundations, and the Employees' Welfare Committee. Through the ABL Club, which takes its not from "Advantech Beautiful Life," we invite employees, their families, and the public to participate in various innovative activities and special projects. It is our mission to build a beautiful life for everyone, together. Advantech ABL Club framework

Advantech Beautiful Life: ABL Club Overview

	Employee Services & Relations			Welfare / Employees' Welfare Committee				Foundation (Common good for the employee and community)	
Theme	Event	Wellbeing	Clubs	Socilaizing	Arts and culture	Travel	Growth	Sustainability and community education	Arts and culture
Focused activities	Sports Day Family Day Year-end Party Others	Health promotion Holiday bonuses and gifts Work environment Others	Regular club activities Baseball Day Cycling Day NTC Day Sports promotions Special projects	Birthday parties Single's parties Team building Internal socializing activities	Arts and culture appreciation Movie viewing Festival activities	Themed day trips (parent-children/youth/factory) Family trips	Book club Various talks Growth experiences	ABLE Scholarship ACT Dreamer Education platform ACT Story Drama Volunteer Group	Art salon Public Service Art Gallery Promoting traditional arts Cultivating local arts and culture
									Lita Tree Public Welfare Platform
Community connection	ABLE Club Website / Advantech Weely / Facebook Fanpage /LINE community								
	Neihu Science Park Development Association	National Taiwan College of Performance Arts/ Guo Guang Opera Company		iLab	Taiwan Social Enterprise Innovation and Entrepreneurship Society		Taishin Charity Foundation		
	Varius arts and cultural team	External public welfare organizations		Sports and Lohas alliances	Social enterprise organizations		Enterprise socializing interactions		Others ...

Results

Many planned activities (such as Sports Day and Family Day) could not be held in 2020 due to the COVID-19 pandemic. There were some activities, however, that were held on a reduced scale (e.g., Baseball Day and the year-end party). Although fewer large-scale group activities were held, club activities continued to be operated autonomously by our employees. Advantech has a total of 20 clubs, ranging from sports, lifestyles of health and Sustainability, arts and culture, to small-scale start-up. In 2020, a total of 1,000 people participated in clubs, with over NT\$6.5 million invested.

To encourage employees to participate in charity events, in September 2020, we cooperated for the first time with the donation website GIVE543. At the Neihsu Headquarters and Sunny building and Linkou branch, we held a second-hand object donation event. In 5 days, 166 employees donated 101 boxes of more than 1,000 items. Over 17 units and teams received 894 second-hand objects as of January 2021. (Items are still open for claiming.)



In 5 days, 101 huge boxes of 1,000 items were donated.



A music teacher from Chiayi Zhuwei Elementary School is grateful for being gifted boomwhackers by the Music Club.



The principal of Chiayi Dayou Elementary School combined people's gifts with reading education to encourage children to form the good reading habits.

To make communication with employees smoother and timelier, in addition to the existing ABLE Weekly Newsletter and fan page, starting mid-October 2020, we established an ABLE CLUB Beautiful Life LINE community, inviting employees and their family members to join. (As of the end of February, 2021, the group has over 1,300 people.) In this group, the Employee Relations Department Team serves as the ABLE Editor and is responsible for the timely promotion of activity information, sharing critical information about the company, and providing reminders. When employees have questions, they can also use LINE messenger to get a timely response. This group makes communication more convenient. A ransomware attack in late 2020 (see Chapter 2.4) disabled Advantech's internal communication network. Employee Relations implemented an emergency response mechanism. They cooperated with the IT team to remain up to date with any information, and critical information was broadcast via LINE groups. These updates helped employees adjust their work despite the momentary breakdown in network communication.



The Road Runner Club 2020 Road-running Experience Day



Badminton Club Badminton Parent-Children Camp



NTC Club NTC Aerobic Day



Volunteer Club Ocean Music Day Beach-cleaning Activity



Music Club Performing at the Ocean Music Day Beach-cleaning Activity

Award Highlights

2020 Outstanding Public Relations Award:
Employee Relations Communication Award
Outstanding Award
2020 Buying Power First Prize



 109年 BUYING POWER
社會創新產品及服務採購
獎勵機制頒獎典禮

5.4 Appendix : Employee Composition

Employee structure

As of the end of December 2020, Advantech employs more than 8,000 people worldwide, which is similar in size to what we reported in 2018. A total of 3,148 of them work at our branches in Advantech Taiwan (Neihu, Donghu, Linkou, Taichung, Kaohsiung, and Hsinchu). All upper management are Taiwanese. Table 5.4.1 details the employees' work region, job function, age, and gender.

Table 5.4.1 Advantech Taiwan human resources¹

	Item	Men		Women		Total
Hired employees	Total	1,838	58.4%	1,310	41.6%	3,148
Upper managers	Mangers, deputy managers, or above	396	79.8%	100	20.2%	496
Age	≤30 years	211	49.2%	218	50.8%	429
	31–49 years	1,430	61.4%	900	38.6%	2,330
	≥50 years	197	50.6%	192	49.4%	389
Employment type ²	Full-time	1,817	58.3%	1,299	41.7%	3,116
	Contractor	12	52.2%	11	47.8%	23
	Intern	9	100.0%	0	0.0%	9
Job function	R&D	1,071	78.1%	301	21.9%	1,372
	Marketing and sales	110	44.2%	139	55.8%	249
	Administration	114	37.7%	188	62.3%	302
	Manufacturing	543	44.3%	682	55.7%	1,225

Note 1: Percentages are relative to the total number of employees.

Note 2: Full-time: workers on a non-fixed term contract; contractors: workers on a fixed term contract.

A total of 2,173 employees work at Advantech Kunshan. High-end managers there are all of Taiwanese nationality. Table 5.4.2 details their work region, job function, age, and gender. Note that China does not have regulations on parental leave.

Table 5.4.2 Advantech Kunshan human resources³

	Item	Men		Women		Total
Hired employees	Total	1183	54%	990	46%	2173
Upper managers	Mangers, deputy managers, or above	37	2%	21	1%	58
Age	≤30 years	309	14%	235	11%	544
	31–49 years	845	39%	750	35%	1595
	≥50 years	29	1%	5	0%	34
Employment type	Full-time	1183	54%	990	46%	2173
	Contractor	0	0%	0	0%	0
Job function	R&D	0	0%	0	0%	0
	Marketing and sales	0	0%	0	0%	0
	Administration	121	6%	159	7%	280
	Manufacturing	1062	49%	831	38%	1893

Note 3: Percentages are relative to the total number of employees.

New and discontinuing employees

In 2020, we had 1,027 new employees join Advantech in Taiwan and Kunshan. Among them, 383 were in Taiwan (12.1% of all Taiwan employees), and 644 were in Kunshan (29.6% of all Kunshan employees). In 2020, a total of 1,040 employees discontinued working for us in our Taiwan and Kunshan branches. This breaks down to 356 employees in Taiwan (11.3% of all Taiwan employees) and 684 in Kunshan (31.5% of all Kunshan employees). Note that the percentages in this paragraph do not include people who left before the end of the probation period.

Table 5.4.3 Advantech Taiwan new employee status⁴

	Item	Men	Women	Total		
Ratio of new employees (excluding those who leave during probation): 12.0%						
New employees	≤30 years	70	57.9%	51	42.1%	121
	31–49 years	141	54.9%	116	45.1%	257
	≥50 years	2	40.0%	3	60.0%	5
Ratio of discontinuing employees (excluding those who leave during probation): 11.3%						
Discontinuing employees	≤30 years	65	69.1%	29	30.9%	94
	31–49 years old	136	58.9%	95	41.1%	231
	≥50 years	14	45.2%	17	54.8%	31

Note 4: Percentages are relative to the total number of new employees and total number of discontinuing employees, respectively.

Note 5: Ratio of new employees Taiwan= number of new employees of the year/ total employee;
Ratio of discontinuing employees Taiwan=Discontinuing employees of the year/ total employee.

Table 5.4.4 Advantech Kunshan new human resources status⁵

	Item	Men		Women		Total
Ratio of new employees (excluding those who leave during probation): 12.0%						
New employees	≤30 years	197	65%	107	35%	304
	31–49 years	182	54%	154	46%	336
	≥50 years	3	75%	1	25%	4
Ratio of discontinuing employees (excluding those who leave during probation): 11.3%						
Discontinuing employees	≤30 years	210	62%	128	38%	338
	31–49 years old	186	54%	156	46%	342
	≥50 years	1	25%	3	75%	4

Critical operating bases

Advantech's manufacturing plants enable the company to promote building a smarter planet. Our major operating bases are concentrated in Taiwan and in Kunshan, China. In Taiwan, we incorporate smart equipment into all buildings to connect people, architecture, and intelligence, leading the optimization and the increase of work performance of the entire region. Taiwan's main production sites are at Linkou and Donghu, with plants for motherboards and GPUs, system integration, configure-to-order services (CTOS), and a logistics center. These plants allow us to offer our clients a single location for low-volume/high-diversity production with a fast turnaround. As of December 31, 2020, the Advantech Linkou and Donghu employ 1,225 people (426 indirect employees and 799 direct employees).

Our plant in Kunshan was established in the Kunshan Hi-tech Zone in 2002. Covering an area of 245 acres, it is a critical R&D and manufacturing base in our global organization. The plant is divided into four areas: smart motherboards and GPUs, mainframe, system assembly, and CTOS. We provide our clients with a one-stop service, from collaborative innovation design and smart manufacturing to convenient post-sale service. Advantech Kunshan operate as an iFactory demonstration park, demonstrating our ideals of realizing corporate sustainability on the path of intelligentization for the Industry 4.0 era, which we believe we can achieve together with our partners. As of December 31, 2020, Advantech Kunshan employs 2,173 people (1,571 direct employees and 602 indirect employees).

Unpaid Parental Leave

According to Article 16 in Taiwan's Act of Gender Equality in Employment, after being in service for 6 months, employees may apply for parental leave without pay before any of their children reach the age of 3 years. The period of this leave is until their children reach the age of 3 years but may not exceed a period of 2 years. All employees at Advantech Taiwan are eligible to receive parental leave under Taiwan law. However, China does not have relevant laws for parental leave. In 2020, the parental leave application rate in Advantech was 3.81%, and the percentage of people returning to work after having been on parental leave was 51.5%. In 2019, the retention rate for people who had worked for Advantech for over 1 year since resuming work after parental leave was 68.8%.



6

Lita and Coenriching Society

- 6.1 Community Care
- 6.2 WISE-PaaS IoT Education



6.1 Community Care



Regarding community and community care, the Advantech Foundation is divided into two major parts: 1) arts and culture and 2) sustainable education. With the Lita spirit we invite employees and their family to actively participate in coenriching the community. All community care projects handled by Advantech Foundation are submitted to the foundation's Board of Directors, which holds meetings biannually. Board members provide opinions and feedback to assess the actual performance and to flexibly adjust the implementation of strategies.

ACT Dreamer

In 2020, the Advantech Foundation learned that each year, Chingshin Academy holds the "In Search of Chingshin through Five Dreams." Seeing that the original intention of the activity was full of educational meaning and that it triggered educational innovation, we decided to invest resources to replicate and expand this activity, naming it "ACT Dreamer."

ACT Dreamer takes its name from action, creativity, and teamwork. The theme of the activity is to encourage students to experience and observe social problems in their life or around them with heart, to propose creative action plans, and to concretely implement them. The process involves writing and presenting a review. The process proposal process teaches students about teamwork and growth.

In 2020, a team from Chingshin Academy served as counselors to share their experiences, and Pu Tai Elementary and Junior High School was invited to participate in the trial implementation. The next presentation is estimated to be held in April 2021. As of January 2021, the projects selected by each school for implementation have included animal conservation, healthy diet, food waste, eliminating poverty through education, reduction of plastic use, waste in the ocean, stray animals, and ethical eating. They demonstrate junior high school and elementary school students' concerns for social topics. Through this activity, they turn their concerns into actual action plans, even conducting small-scale experiments and initiatives.



In 2021, we expect to expand the scale of this initiative and invite at least 8 schools to participate. We hope to sow the seeds of innovative action and provide students with an opportunity to demonstrate care about society and cultivate problem-solving abilities.

▲ ACT Active and Creative Teaching Story Drama Volunteer Group

This group was founded with long-term support from the Advantech Foundation. Its public welfare activities range from preschool to older-adult learning. A group of school volunteers use illustrated story books to encourage students to read and improve their reading ability. In addition, the group promotes the concept of life-long learning. With the spirit of live and learn, we promote co-learning between the old and the young in the community to help create a wonderful life.

In 2020, the volunteer group served 9 schools, 57 classes, and one community, and it trained 60 volunteers. The volunteers served over 414 people, benefiting people 3159 times.



Projects	Participated Organizations
Volunteer cultivation Story volunteer elementary level workshop Older-adult lifelong learning workshop activity (two batches)	Elementary school division of Chingshin Academy Sanduo Elementary School in New Taipei City Huachiang Community in Taipei City
Volunteer growth Local tour activities to increase volunteer capacities and consensus Volunteer group professional growth courses Volunteer webpage and website construction practice	Shuanglian Elementary School in Taipei City
Activities Diverse reading: offshore island (Kinmen) parent-children reading activity Diverse reading: Wisdom Kids parent-children co-learning and experience camp (Neihu)	Jinning Elementary and Junior High School in Kinmen County Sanmin Junior High School in Taipei City
Campus tour Storytelling in classes. Viewing a small drama theater.	Xizhou Elementary School in New Taipei City Wanfu Elementary School in New Taipei City Ruiting Elementary School in Keelung City Yuying Elementary School in Changhua County Huatan Elementary School in Changhua County
After-school special project on campus Little Sun after-school club	Shuanglian Elementary School in Taipei City



In 2020, the volunteer group served 9 schools, 57 classes

it trained 60 volunteers. The volunteers served over 414 people, benefiting people **3,159** times

Sustainable Education Platform

The Advantech Foundation focuses on developing children and adolescents' education. To focus our resources, in 2020, we consolidated the sponsored items and integrated the Lita Tree Public Welfare Platform and other social public welfare special projects. The Sustainable Education Platform was used as the center for conducting public welfare cooperation. In 2020, we sponsored 23 teams with over NT\$10 million. To utilize the foundation's resources more efficiently, in 2020, we amended our previous sponsorship strategy. We canceled the model of publicly calling for submissions through the Lita Tree Public Welfare Platform. Instead, we sent foundation members to enter the management network of the education field and actively discover suitable teams to cooperate with. We then invited them to submit their proposals, which were evaluated by a professional team. We sponsored the selected teams for 3 years so that they could implement their proposal without worry. This project will be on trial in 2021, and its implementation results will determine future implementation projects.



Cooperated with **23 teams**

Sponsored over **NT\$10 million**

Team	Proposal
Azure Ocean Alliance	"Fight for an Azure Ocean"
The Carpenter Association	"Project to Improve the Corporate Power of the Public Welfare Second Hand Shops of the Carpenter Association"
Impact Hub	"Action for Sustainable Taiwan—Songshan Airport SDGs Hall"
Adolescents' Performing Arts Alliance	"The Kite Project"
The Play School	The Play School Co-learning Camp in 319 Township"
Agood	"Agood City Light Project"
Fruit and Dining in Happiness	"Kavalan Driftwood Art School"
Chiu Yeh Mang Cultural and Creativity Association	"Remote Area Theater Education Tour"
Dragon Millennium Youth Foundation	"Embracing Light—Lost Youth Career Development Project"
If Kids Theater Group	"Up the Mountains Down the Sea to Tell Stories: Bringing Arts to Children"
Skindschool	"Parent-child interactive art therapy concert"
DFC	"DFC Seeds Teacher Running Water Project in Taiwan"
Chung Yuan Christian University Love Your Neighbor Club	Flip Poverty. Lead Children to Find Dreams!
Kainan University Love Your Neighbor Club	Evening Study Companion to Cultivate Leaders
Penghu Place-Making Development Association	Penghu Ocean-Floating Cultural and Creativity Happy Salmon Leaping over the Dragon Gate and Returning Home Project
Wonderful Hakka Dancing Folklore Troupe	Experience the wonderful Hakka culture
Stella Maris Ursuline High School Basketball Team in Hualien County	Stella Maris Ursuline High School Basketball Team
Tainan City Drum Music Association	2020 Drum Music Public Welfare Charity Performance with Schools
New Taipei City Education Development Association for Multiple Intelligences in Older Adults, Infants, and Children	"Grandpa Grandma I love You" Co-learning Happy Camp for Older Adults and Children
From Follower to Fellow	"Equipping Indigenous Children and Adolescents in Remote Areas with Wings" Education Plan
Chiu Yeh Mang Cultural and Creativity Association	Chiu Yeh Mang Remote Area Theater Tour—2020 Summer Tour
Dragon Millennium Youth Foundation	Learn with Love—Children's Summer Science Camp
Junyi Academy	Technology Integration into Learning Support Promotion Plan
Education Support for Taiwan	Assistive Plans for Schools with Insufficient Resources
PagamO	Literacy and Conduct Academy: Cultivating Reading Literacy

Scholarships and Grants for Remote Areas in Hsinchu and Miaoli

To care for disadvantaged children in remote areas, the Advantech Foundation has officially organized the “Scholarship and Grants for Remote Areas in Hsinchu and Miaoli” special project for 2021. The foundation cooperates with schools in remote, mountainous areas and in disadvantaged areas in Hsinchu and Miaoli. Guidelines have been established for scholarships and grants, and the schools put together selection committees to choose outstanding and diligent students to receive this aid, which is put toward student tuition and fees as well as after-class coaching. We hope that these scholarships and grants will help students to study hard and create a cycle of giving back to the community, carrying forward the power of love. In addition to offering scholarship and grants, the foundation has also been proactive in introducing various educational resources. Through the biennial results presentation, outstanding educational teams are invited to share with the schools in remote Hsinchu and Miaoli area about new trends. For example, in 2020, we invited the Play School and PagamO Literacy and Conduct Academy to offer short talks, hoping to provide new inspiration to remote schools.



In 2020, a total of **1,596** people from

37 schools benefitted. From 2012 to present, a total of

8,848 students have benefitted.

In 2020, the total donation amount was NT\$3 million.

Inheriting and Expanding

Advantech firmly believes that innovation must be based on tradition, and the inheritance and expansion of traditional arts and culture is our mission. For many years, the Advantech Foundation has been sponsoring National Taiwan College of Performance Arts. It also cooperated with the Guo Guang Opera Company and launched the Successor of Taiwan Peking Opera—Youth Talent Cultivation Project. In 2020, we sponsored over NT\$2.05 million on traditional culture and art, cultivating young talents to become superstars on the stage of traditional arts in the future.



Arts and Culture Salon and other arts and culture events

To encourage employees to appreciate performance arts and to provide substantial support to arts and culture groups, starting from 2011, the Advantech Foundation has organized Arts and Culture Salon special projects. For this, arts and culture groups are invited to submit their proposals for funding, and these are awarded based on a voting system. Stakeholders are invited to watch their performances. In 2020, over NT\$3.6 million was spent on sponsorships, with nearly 50 performances held and over 1,900 employees and partners attending.

*Note: Due to COVID-19, some performances were canceled or postponed to 2021.



Sponsored over NT\$3.6 million

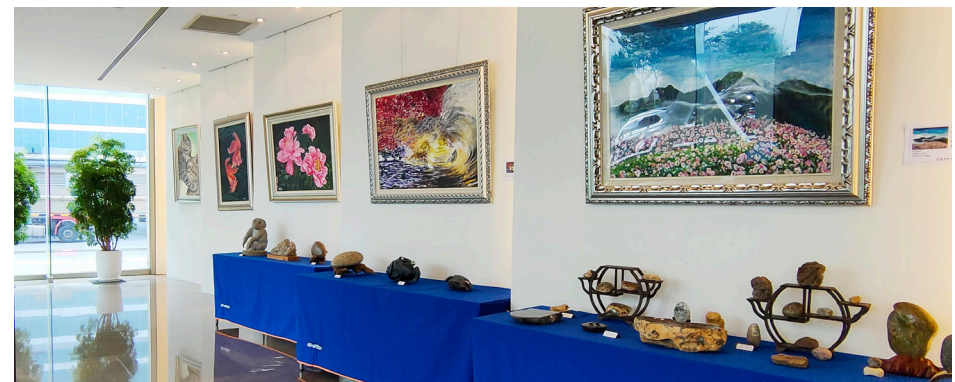
Conducted nearly 50 performances

Over **1,900** employees and partners participated



Public Service Art Gallery

The Advantech Public Service Art Gallery is located in public spaces in our Headquarters and Sunny Building in Neihu, where various artists are invited to hold exhibitions. Exhibits are rotated every 2 months, with at least six artists with different styles having their works on show each year. This provides a stage for artists to demonstrate their craft. This gives the community, Advantech guests, corporate partners, and employees an opportunity to enjoy their art during working hours.



Awards

In late 2020, The Fighter TV series, which is sponsored by the Advantech Foundation and produced by Chaojih International Cultural Corpvoration, received eight awards from five countries, including the United States, Italy, and India.



1. Italy: Oniros Film Awards—Best Documentary Feature
2. Slovakia: Kosice International Monthly Film Festival—Best Editing Award
3. India: Kolkata International Film Festival—Best Documentary
4. India: Tagore International Film Festival—Best Producer Award
5. India: Tagore International Film Festival—Best Documentary Award
6. Singapore: World Film Carnival Jury Prize—Best Producer Award
7. Singapore: World Film Carnival—Best Documentary Award
8. United States: New York International Film Awards: Best Soundtrack “Moment of Glory”



From left to right: Tai Chou, producer of The Fighter; KC Liu, CEO of Advantech; Zong Chiang, awardee of Best Music for The Fighter

Advantech US A4C special project

In the second half of 2020, Advantech responded to the US's 2025 ESGs vision, and its US branch launched the “Advantecher for the Community” project. A total of US\$100,000 was budgeted, and employees in US branches were invited to submit proposals to support their communities. Those that passed review received US\$10,000. Employees were also encouraged to donate to their projects or to serve as volunteers. As of the end of 2020, two cases have been sponsored. One is a volunteer project supporting a children's hospital of Orange County. The other one is proposed by an employee of Taiwanese nationality to support the “Fight for an Azure Ocean” project of the Azure Ocean Alliance in Taiwan. The project also received zealous responses from US employees. Both proposals received over US\$10,000.

In the future, we will continue to encourage branch offices to demonstrate care in their local communities. We will collect ESG special projects launched by each branch office for internal sharing, hoping to encourage more branch offices to participate in caring for their communities.

6.2 WISE-PaaS IoT Education



As an internationally leading corporation in industrial computers and IoT technology, Advantech considers the cultivation of IoT talent a critical development point in maintaining corporate competitiveness and sustainability. It is therefore our vision to popularize and deepen IoT education in the wider community. We proactively promote various special projects in industry-academia cooperation, hoping to leverage our core technology in industrial IoT (IIoT) to lead our employees, supply chain partners, and academic units to co-create Industry 4.0 solution plans. Our mission is to create new value in achieving sustainability for society, the environment, and the Earth. It is our hope that we can leverage our core abilities to realize our corporate social responsibilities and to develop a sustainable corporation. We have set a goal for 2025 to support AIoT education in 50 universities worldwide. As a part of this, we launched the WISE-PaaS@Education industry-academia cooperation project. By providing our IIoT technology and resources, we support universities around the world with cultivating innovative talents, thereby reducing the gap between learning and application. Through this cooperation, we are also able to explore the innovative capacities of emerging talent, further enabling us to help the IoT industry thrive.

The WISE-PaaS@Education project is planned by the Corporate Sustainability Development Office and implemented by each regional office. Two main axes of the AIoT Developer InnoWorks and Elite100 Internship projects (see below) are utilized to plant the seeds of industry-academia cooperation. Through long-term cooperation with the National Chiao Tung University IoT and Intelligent Systems Research Center, we are also able to focus on key industry topics, driving the overall industry transformation in Taiwan.

In 2020, we exceeded our goal of supporting 10 universities, having cooperated with a total of 14 schools in Taiwan, China, South Korea, and Malaysia. For this cooperation, approximately NT\$19,759,634 was invested in a total of 28 special projects. We also had 17 students participate in summer internships, yielding five major research proposals.

AIoT Developer InnoWorks

This project offers free industry-level IoT platforms and online training resources to encourage students to sharpen their programming skills to help make the world cleaner, safer, more environmentally friendly, and more convenient.

Elite100 Internship

This project based internship program incorporates the design thinking methodology from the Hasso Plattner Institute of Design at Stanford University. Students are given access to resources such as Advantech's product managers, marketing team, Advantech executives, and external mentors so they can experience the entire innovation design process.

National Chiao Tung University IoT and Intelligent Systems Research Center

This center is a long-term industry-academia cooperation platform. It integrates the core capacities of both industry and academia, effectively leading Taiwan's industry transformation. It adopts a model based on industry presenting problems and academia providing the solutions, thus connecting academia and industry experts so they can solve key topics and cultivate innovative talent.

Advantech assesses the effectiveness of the overall industry-academia cooperation platform based on the number of schools that participate, the number of teams that sign up for InnoWorks, and the number of research projects each year. We also collect feedback from teachers, students, and our employees to help guide us in optimizing and promoting IoT education in the future.



Overview of the 2020 AIoT Developer InnoWorks project results

Region	Participated schools	No. of participants	Special project topic
Taiwan	National Taiwan University of Science and Technology National Chiayi University National Chiao Tung University National Pingtung University of Science and Technology	85	Public health Solar power management Wind power management UAV positioning Smart agriculture
China	Yanshan University Jiangsu University of Science and Technology Henan University of Technology Nanjing University of Science And Technology Xi'an University of Science and Technology	52	Industrial automation Public health Logistics management Smart agriculture
South Korea	Myongji University Sungkyunkwan University Hanyang University Yonsei University	35	Smart factories Public health
Malaysia	Tunku Abdul Rahman University College	10	Smart agriculture Smart campuses

Example of success cases



Experience sharing from the 2020 InnoWorks Malaysia winning team

Team members: NG Kheng Hui, CHOO Yun Bei, and YONG Yu Hong

Field and topic: Smart agriculture—Agriculture and Environmental Monitoring

Problem: Food shortage crisis due to population growth

Solution plan: Using IoT systems to remotely monitor the growth rate of plants and environmental parameters on farms in real time, thereby improving crop quality and yield. Data can be used to drive agricultural management.

A message from the team:

“This project gave us a chance to come in touch with real industry, and we learned more about how the real world operates.” –Yong Hui

“Advantech provided a platform that we had never used before. This was a great opportunity. We were able to experience in person the technology professionals in the industry are currently using.” –Yun Bei



2020 Elite100 Internship – Sharing from the Smart Medicine Team

We conducted field surveys in various hospitals and investigated typical scenarios for different medical fields, including dermatology, home care, long-term care, and institutional care. We were able to optimize a service procedure used in telemedicine and we also innovated the software interface they used. Smart IoT has broadened our vision, making us feel like pioneers in a new world.

Interns: Jim, Sebastian, Holly, News, Wilson, and Leon

Appendix1: List of Advantech Foundation's Achievements in 2020

In 2020, Advantech Foundation spent NT\$ 28,958,965 on cultivating IoT talents and NT\$ 44,456,274 on co-enriching the community. Focus items are listed in the table below:

Theme focus	Project name	Results in 2020	Goals for 2021
IoT innovative talent cultivation	AIoT InnoWorks	Over NT\$7.21 million in sponsorship Participants were 182 students from 14 universities worldwide, yielding 28 special topics.	Estimated to input NT\$22.11 million. <ul style="list-style-type: none"> • InnoWorks Participate with 20 schools worldwide. Produce 2 A+ projects in Taiwan area. • Internship Invite 20–30 students to participate in internship project. • IoT Lab Promote 3 large-scale industry–academia projects • AIoT Academy Complete 10 A+ projects. Assist at least 500 students with obtaining WISE-PaaS certification.
	Elite100 Internship	Over NT\$1.81 million in sponsorship Participants were 17 students in the summer internship, yielding five innovative proposals.	
	IoT Lab	Over NT\$10.72 million in sponsorship Cooperated in six research projects Sponsored 5 IoT industry elite PhD students and four industry–academia master's students.	
IoT industry application entrepreneur cultivation	IoT innovative entrepreneurship accelerator incubation platform	Input a budget of over NT\$498 million. <ul style="list-style-type: none"> • Connected 9 start-up teams from Canada, the Netherlands, and Taiwan with our internal marketing and product consultant teams. • Assisted 2 Taiwan cases and 1 Dutch case in their product incubation and business expansion. • Sponsored 4 incubators and accelerators to Taiwan. 	Estimated to input NT\$6.4 million. IoT innovative entrepreneurship accelerator incubation platform Connect 5 start-ups with our corporate professional teams to further assist them in business expansion and product incubation.
Business and management case teacher talent cultivation	EACC Case Study	Input over NT\$1.54 million Generated and published in the traditional Chinese version of Harvard Business Review <ul style="list-style-type: none"> • Five short case articles • One feature article 	Estimated to input NT\$1.02 million <ul style="list-style-type: none"> • Develop two workshops on case teaching • Complete the cooperation project on short cases for the traditional Chinese version of Harvard Business Review

Focused theme	Project	Results in 2020	Goals for 2021
Public welfare and care for education	Lita Tree Public Welfare Platform (which was integrated into the Sustainable Education Platform in 2020)	Invested over NT\$10 million. Sponsored 23 teams.	Estimated to input NT\$10 million. Discover at least 2 new teams to sponsor.
	Scholarship and Grants for Remote Areas in Hsinchu and Miaoli	Donated NT\$3 million.	Continue to input NT\$3 million to support the 37 schools. Estimated to input NT\$1 million.
	Benefited 1,596 people from 37 schools	Continue to input NT\$3 million to support the 37 schools.	Estimated to input NT\$1 million.
	ACT Dreamer	Invested over NT\$1.57 million.	Estimated to input NT\$2 million. Expand the scope to at least invite 8 schools to participate and to implement over 40 innovative proposals that benefit society.
Social enterprise innovation and incubation	iLab Incubation Project	Sponsored NT\$1 million. Held 2 iLab lectures at Advantech, which included 198 employees as participants. Provided tickets to 5 activities aimed at cultivating social enterprise skills. Invited 2 social enterprises to participate in Advantech's public welfare marketplace. The sponsorship was also used to support the operation of iLab and for consulting and coaching activities.	Estimated to input NT\$1 million. Continue to hold talks, participate in cultivation activities, invite social enterprises to participate in public welfare fair, and support activities related to iLab. Deepen the strategic cooperation between iLab and Advantech ESG.
	TiC100 Social Entrepreneurship Competition	Sponsored NT\$1 million. A total of 116 teams signed up for the competition, and 6 teams were awarded. Supported 1 workshop and 1 enterprise match-making event. A total of 449 people participated.	Estimated to input NT\$1 million.
	Social Innovation School (School28)	A new project in 2021.	Estimated to input NT\$2 million. Jointly support the cultivation of social innovation talents. Provide relevant information to Advantech employees so that young employees with 2–5 years of work experience and a passion for social enterprises have the opportunity for selection.
Arts and humanities development	Inheriting and Expanding Traditional Arts <ul style="list-style-type: none"> National Taiwan College of Performance Arts Talents Cultivation Project Guo Guang Opera Company “Successor of Taiwan Peking Opera—Youth Talent Cultivation Project” 	Sponsored over NT\$2.05 million.	Estimated to input NT\$2.7 million.
	Arts and Culture Salon and other arts and culture events	Sponsored over NT\$3.6 million, Performed nearly 50 times. Over 1,900 employees and guests participated.	Estimated to input NT\$4 million.
	Public Service Art Gallery	Sponsored over NT\$370,000.	Estimated to input NT\$350,000.

Appendix2 : Advantech's ISO Certifications in Relation to SDGs

ISO Certification		Scope of certification			Corresponded SDGs
Category	Name of ISO	HQ	ATMU	AKMC	
Quality management	ISO 9001 Quality management systems	✓	✓	✓	   
	ISO 13485 Medical devices – Quality management systems	✓	✓	✓	 
	ISO 17025 General requirements for the competence of testing and calibration laboratories	✓	✓	✓	-
Environmental management	ISO14001 Environmental management systems	✓	✓	✓	           
	ISO 14064 Greenhouse gas management and related activities	✓	✓	✓	 
Safety management	ISO 45001 Occupational health and safety management systems	✓	✓	✓	      
Information technology	ISO 27001 Information security management systems	✓	✓	✓	-

Appendix3 : GRI Standards (2016 Version)Table

* Voluntary disclosure

Universal Standards		Chapter	Page
General Disclosures			
102-1	Name of the organization	0.0 About Advantech's 2020 sustainability report	1
102-2	Activities, brands, products, and services	2.1 Operation performance and corporate governance framework	25
102-3	Location of headquarters	2.1 Operation performance and corporate governance framework	25
102-4	Location of operations	0.0 About Advantech's 2020 sustainability report 2.1 Operation performance and corporate governance framework 5.4 (Appendix) Employee composition	1, 25, 111
102-5	Ownership and legal form	0.0 About Advantech's 2020 sustainability report 2.1 Operation performance and corporate governance framework	1, 25
102-6	Markets served	2.1 Operation performance and corporate governance framework	25
102-7	Scale of the organization	2.1 Operation performance and corporate governance framework 5.4 (Appendix) Employee composition	25, 108
102-8	Information on employees and other workers	5.4 (Appendix) Employee composition	108
102-9	Supply chain	2.2 Supply chain sustainable management	31
102-10	Significant changes to the organization and its supply chain	None	31
102-11	Precautionary Principle or approach	2.3 Risk management mechanisms	42
102-12	External initiatives	None	-
102-13	Membership of associations	2.5 (Appendix) Guilds and associations	51, 52
102-14	Statement from senior decision-maker	1.1 Message from top management	5, 6

Universal Standards		Chapter	Page
General Disclosures			
102-16	Values, principles, standards, and norms of behavior	2.1 Operation performance and corporate governance framework 5.2 Employee development plan	27, 102
102-18	Governance structure	2.1 Operation performance and corporate governance framework	26, 27
102-33	Communicating critical concerns	1.2 Advantech ESG Governance	8
102-40	List of stakeholder groups	1.3 Stakeholder engagement	10
102-41	Collective bargaining agreements	No union	-
102-42	Identifying and selecting stakeholders	1.3 Stakeholder engagement	10
102-43	Approach to stakeholder engagement	1.3 Stakeholder engagement	10
102-44	Key topics and concerns raised	1.3 Stakeholder engagement 1.4 Sustainability objectives and topics	12, 14
102-45	Entities included in the consolidated financial statements	2.1 Operation performance and corporate governance framework	25, 26
102-46	Defining report content and topic boundaries	1.4 Sustainability objectives and topics	13, 21
102-47	List of material topics	1.4 Sustainability objectives and topics	21
102-48	Restatements of information	None	1
102-49	Changes in reporting	1.4 Sustainability objectives and topics	1, 9, 20
102-50	Reporting period	0.0 About Advantech's 2020 sustainability report	1
102-51	Date of most recent report	0.1 Table of contents	3
102-52	Reporting cycle	0.1 Table of contents	3
102-53	Contact point for questions regarding the report	0.1 Table of contents	3
102-54	Claims of reporting in accordance with the GRI Standards	0.0 About Advantech's 2020 sustainability report	1
102-55	GRI content index	Appendix 3. GRI Standards (2016 version) Table	125, 126, 127, 128, 129
102-56	External assurance	0.0 About Advantech's 2020 sustainability report	1

Topic-specific Standards			Chapter	Page
Economic/Governance				
Management Approach (Customer service and partner cocreation)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 3.3 Customer service and partner cocreation	22
	103-2	The management approach and its components		22, 63
	103-3	Evaluation of the management approach		63
Management Approach (Innovative products and technologies)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 3.1 Innovative products and technologies	22, 55
	103-2	The management approach and its components		22, 56
	103-3	Evaluation of the management approach		58
Management Approach (Information security management)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 2.4 Information security management	22
	103-2	The management approach and its components		45
	103-3	Evaluation of the management approach		46
Management Approach (Supply chain sustainable management)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 2.2 Supply chain sustainable management 2.3 Risk management mechanisms	22
	103-2	The management approach and its components		43
	103-3	Evaluation of the management approach		30
Economic Performance	201-2	Financial implications and other risks and opportunities due to climate change	4.1 Climate change strategies	68
Procurement Practices	204-1	Proportion of spending on local suppliers	2.2 Supply chain sustainable management	33
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	3.3 Customer service and partner cocreation	65
Environmental				
Management Approach (Sustainable intelligent solutions)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 3.2 Sustainable intelligent solutions	22
	103-2	The management approach and its components		22
	103-3	Evaluation of the management approach		62

Topic-specific Standards			Chapter	Page
Environmental				
Management Approach (Eco design and product liability)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 4.4 Eco design and product liability	23
	103-2	The management approach and its components		87
	103-3	Evaluation of the management approach		88, 89
Management Approach (Climate change strategies and energy management actions)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 4.1 Climate change strategies 4.2 Energy management actions	23
	103-2	The management approach and its components		23, 68
	103-3	Evaluation of the management approach		67, 75
Energy	302-1	Energy consumption within the organization	4.1 Climate change strategies	71
	302-3	Energy intensity	4.1 Climate change strategies	71
Emissions	305-1	Direct (Scope 1) GHG emissions	4.1 Climate change strategies	69, 70
	305-2	Energy indirect (Scope 2) GHG emissions	4.1 Climate change strategies	70
	305-3	Other indirect (Scope 3) GHG emissions	4.1 Climate change strategies	71, 72
	305-4	GHG emissions intensity	4.1 Climate change strategies	69
	305-5	Reduction of GHG emissions	4.1 Climate change strategies	72
Effluents and Waste	306-2	Waste by type and disposal method*	4.3 Environmental management	81, 82
	306-3	Significant spills*	None. (4.3 Environmental management)	81
Environmental Compliance	307-1	Non-compliance with environmental laws and regulations*	None. (4.3 Environmental management)	78
Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	2.2 Supply chain sustainable management	37

Topic-specific Standards			Chapter	Page
Social				
Management Approach (Employee development)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 5.1 Employee attraction and retention 5.2 Employee development plan	23
	103-2	The management approach and its components		23, 97
	103-3	Evaluation of the management approach		97, 104
Management Approach (IoT education)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 6.2 WISE-PaaS IoT education	23
	103-2	The management approach and its components		23
	103-3	Evaluation of the management approach		120
Management Approach (Community care)	103-1	Explanation of the material topic and its Boundary	1.4 Sustainability objectives and topics 6.1 Community care	23
	103-2	The management approach and its components		23
	103-3	Evaluation of the management approach		113
Employment	401-1	New employee hires and employee turnover	5.4 (Appendix) Employee composition	110
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	5.1 Employee attraction and retention 5.4 (Appendix) Employee composition	100, 111
	401-3	Parental leave	5.4 (Appendix) Employee composition	111
Training and Education	404-1	Average hours of training per year per employee	5.2 Employee development plan	102
	404-3	Percentage of employees receiving regular performance and career development reviews	5.1 Employee attraction and retention	99
Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	2.2 Supply chain sustainable management	37
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	3.3 Customer service and partner cocreation	65

Appendix4 : Assurance Statement



ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE ADVANTECH CO., LTD.'S CORPORATE SOCIAL RESPONSIBILITY REPORT FOR 2020

NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by ADVANTECH CO., LTD. (hereinafter referred to as ADVANTECH) to conduct an independent assurance of the Corporate Social Responsibility Report for 2020 (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 on-site verification in the period of 5 February 2021 to 5 March 2021. 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 ADVANTECH's CSR Report of 2020 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		Level of Assurance
A	SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)	n/a
B	AA1000ASv3 Type 2 (AA1000AP Evaluation plus evaluation of Specified Performance Information)	High

Assurance has been conducted at a high level of scrutiny.

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 (Core) (2016)
2	AA1000 Accountability Principles Standard (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, 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) at a high level of scrutiny; 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, CSR committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant.

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 10211, ISO 50001, SA8000, 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.

AA1000 ACCOUNTABILITY PRINCIPLES (2008) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS

Inclusivity

ADVANTECH has demonstrated a good commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers,

media, community, 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, ADVANTECH's CSR Report of 2020, is adequately in line with the GRI Standards in accordance with Core Option. The material topics and their boundaries within and outside of the organization are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. Disclosures of identified material topics and boundaries, and stakeholder engagement, GRI 102-40 to GRI 102-47, are correctly located in content index and report. For future reporting, it is recommended to have more descriptions of ADVANTECH's involvement with the impacts for each material topic (103-1), and how efforts were given to mitigate the impacts. More disclosures on the specific actions taken to achieve goals and targets of GRI 302-3 and 302-4 is recommended. More descriptions of the mechanisms for evaluating the effectiveness of the management approach. It is recommended to have more disclosures how Advantech integrate SDGs into Advantech's business strategies and how to identify potential opportunities related to SDGs which may have positive influence in enhancing the creating shared value of Advantech.

Signed:

For and on behalf of SGS Taiwan Ltd.



David Huang
Senior Director
Taipei, Taiwan
21 April, 2021
WWW.SGS.COM



AA1000
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