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Company Management and Governance

- 2.1 Operational Performance and Corporate Governance Structure
- 2.2 Information security management
- 2.3 Sustainable management of the supply chain
- 2.4 Risk Foresight and Crisis Management

2.1

Operational Performance and Corporate Governance Structure

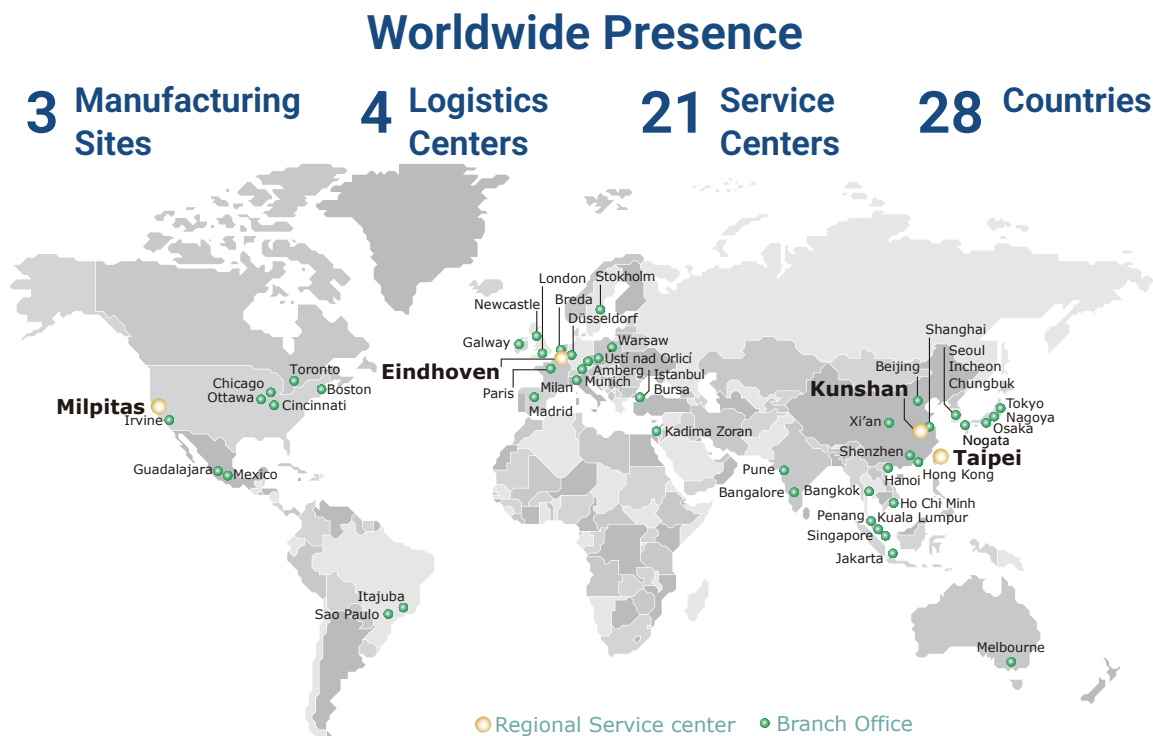
2.1.1 Company Profile

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

Advantech was listed in Taiwan in 1999 and our operating headquarters is located in the Neihu Technology Park in Taipei, Taiwan. Our business base spans 28 countries in Europe, the Americas, Asia, and other regions.* Our three major manufacturing centers are located in Linkou (Taiwan), Kunshan (China), and Fukuoka (Japan). Furthermore, we have built four logistics management centers and 21 local service centers to provide global customers with real-time and comprehensive integrated services via a complete service system.

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

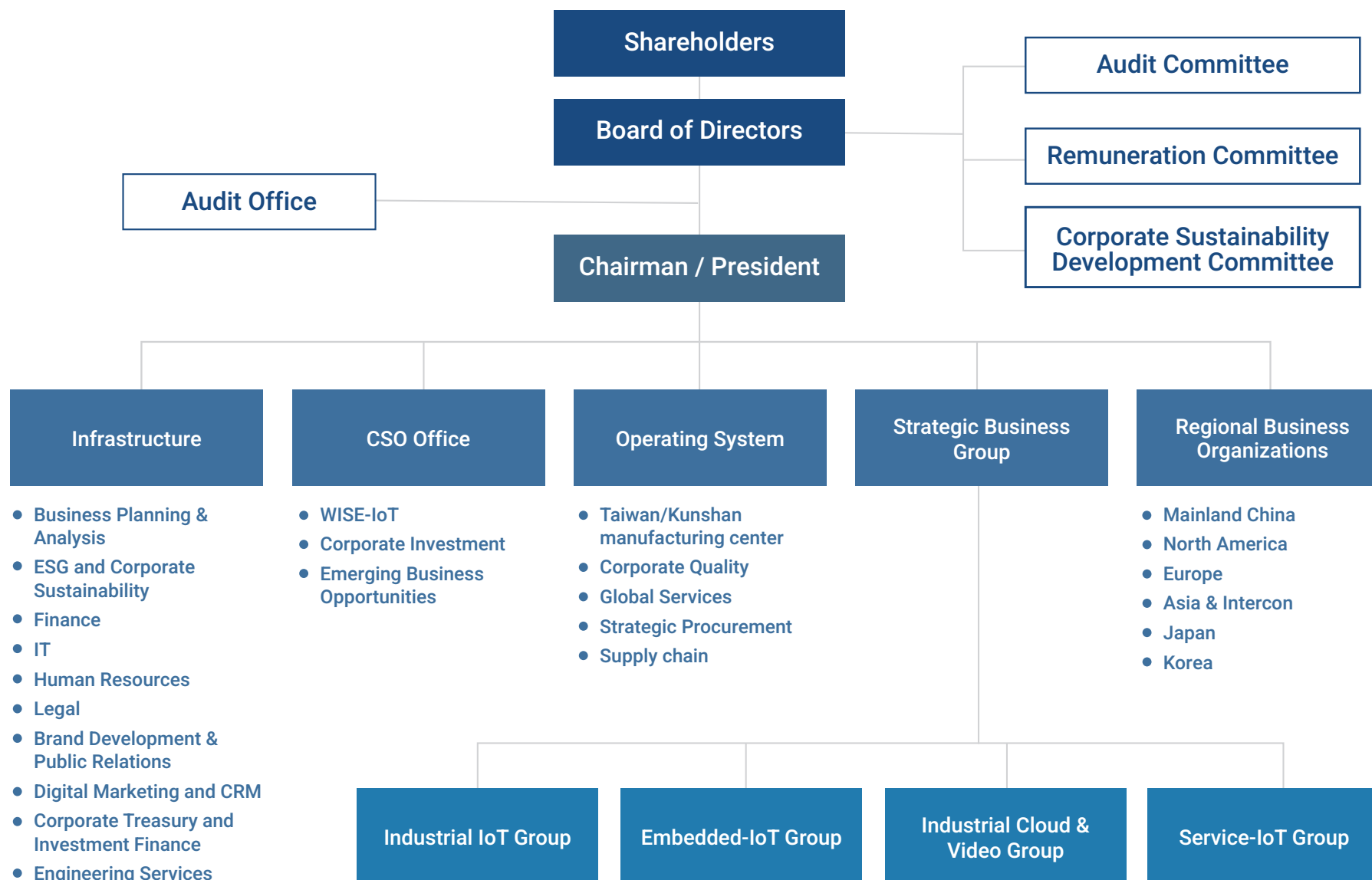
Figure 2.1.1 Distribution of Advantech's Operating Locations



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

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

Figure 2.1.2 Organization Chart of Advantech



For Advantech's corporate profile, culture, products and solutions, please refer to the [video: Company Profile of Advantech](#).

Economy Performance and Brand Value

In 2022, Advantech continued to create excellent report cards despite the challenges of global high inflation and economic downturn. The annual revenue in 2022 hit a record high again with a year-to-year growth of more than 17%. In terms of profit performance, the Company's gross margin, operating margin, and return on shareholders' equity have grown steadily in 2022. The annual EPS reached NT\$13.85, and the Earnings Per Share (EPS) increased by 30%. Please refer to P64 and P84 of the annual report for the Company's product proportion and production volume information in 2022.

Table 2.1.1 Advantech's Products, Revenue
Distributions and Product Output in 2021

Major Products	2022		
	Sales unit (NT\$ thousand)	%	Product output (set/piece)
Embedded boards and chassis	34387678	50	3375728
Industrial computers and industrial controls	26699417	39	3305673
After-sales service and others	7657606	11	628162
Total	68744701	100	7309563

Advantech focuses on its business and financial stability, so our operations continue to achieve good results. Meanwhile, a high allotment policy is maintained to share operating results with shareholders. The total profit distribution in 2022 was NT\$11 per share (including: NT\$10 in cash dividends and NT\$1 in stock dividends), a record high in the past years. The total distribution rate was nearly 80%, which also creates higher corporate value for shareholders. Please refer to the [overall financial performance](#) on the official website for detailed operating performance, including operating revenue performance, gross profit margin and operating profit ratio, return on shareholders' equity, and return on assets. Since our establishment, Advantech has continually focused on the management of our own brand and our brand value has been ranked among the top five international brands* in Taiwan for four consecutive years. The growth rate of brand value is as high as 23%, and we are one of the few companies that has achieved double-digit growth.

***Note:** An evaluation was conducted by Interbrand, an internationally renowned brand evaluation agency commissioned by the Industrial Development Bureau of the Ministry of Economic Affairs. Please refer to [the website](#).

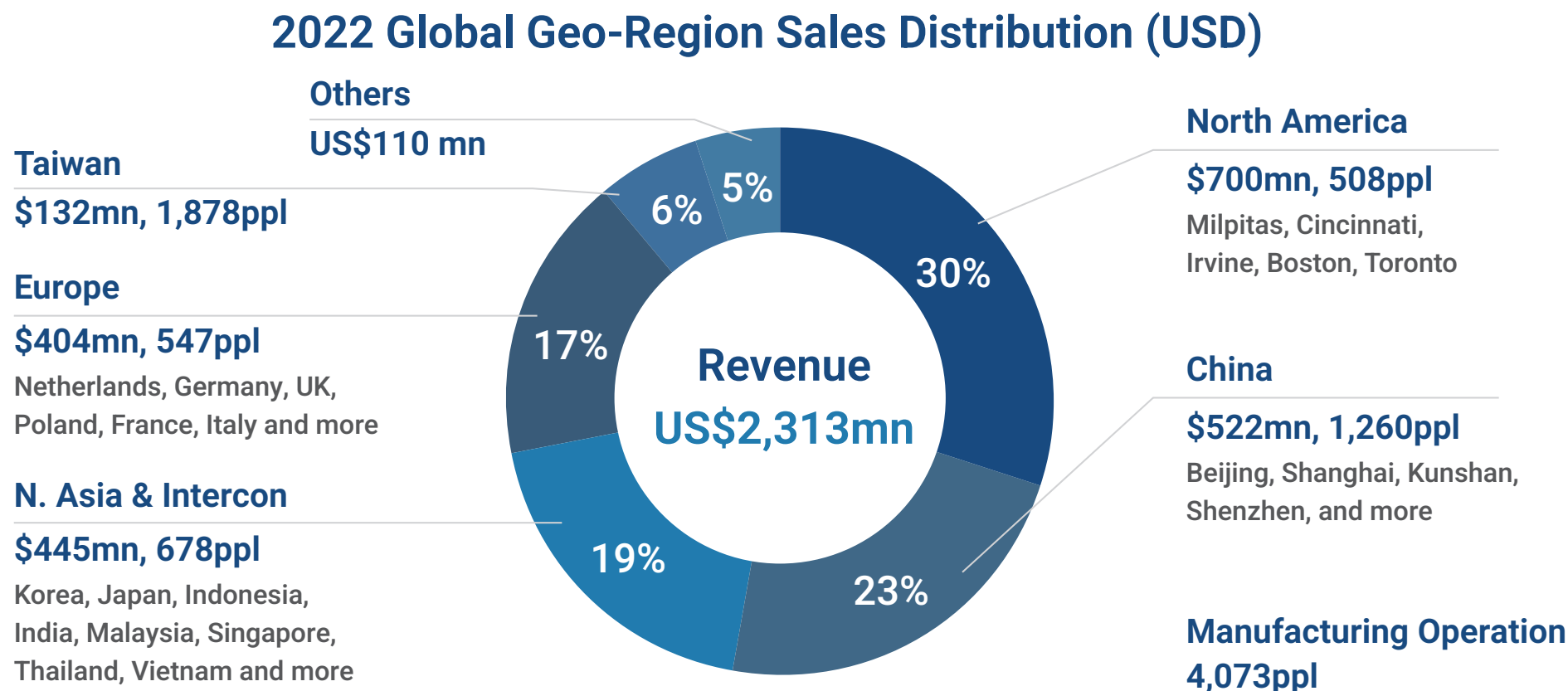
Advantech's Value Chain

Advantech belongs to the industry of industrial computers, which were first applied in the manufacturing process of factories, including the control, monitoring and testing of instruments and machinery and equipment. In a narrow sense, it is limited to industrial automation board systems, mainly automated equipment. In recent years, industrial computers have been gradually applied to all aspects of life, more application-oriented because of the integration of communication, network, software and optoelectronic applications. It covers applications from MRT card readers, automatic ticket vending machines, ATMs, POS machines, digital electronic signage, intelligent building monitoring and management systems, etc. It makes the IPC industry flourish, and it goes far beyond the industrial field. In recent years, industrial computers has been officially renamed as smart industry by the Ministry of Economic Affairs. The future of IoT technology is promising because it benefits from the rise of intelligence and IoT systems. It may also further change human society. Meanwhile, the ecology and needs of each vertical market are different, so it can promote the development of the entire industry in an ecosystem mode.

In terms of the relationship between the upper, middle and lower reaches of the industry, the supply chain of industrial computers and embedded boards is as follows. In terms of upstream, there are chipsets, CPUs, PCBs, DRAMs, logic ICs, connectors, passive components, and other components. In terms of the midstream, it includes input and output devices, single-board computers, barebones products, industrial computer products, and industrial computer peripheral products. In terms of the downstream, it includes system integrators, distributors, and end consumers. The upstream, midstream and downstream of the Internet of Things are completed by the cooperation of manufacturers of different forms. As a result, customers are provided with effective services, and a close relationship of cooperation with each other is formed.

Advantech uses the concept of co-creation to promote the three-stage development of the AIoT Internet of Things to realize the business model development of the AIoT industry. Advantech regards artificial intelligence and the Internet of Things as the growth engines of future industries. Moreover, internal changes have been made, such as from a product-oriented business model to a business group-based business model with ecosystem development. For more details about Advantech's supply chain, please refer to [2.3 Sustainable Management of the Supply Chain](#). The market provided by Advantech's products and services is oriented around the world. In terms of regions, it includes: North America, Europe, China, Northeast Asia (Japan and Korea), Taiwan and emerging countries, etc. The market size and importance of the market are shown in the figure below.

Figure 2.1.3 2022 Global Geo-Region Sales Distribution (USD)



Regarding downstream entities and their activities, we take the iEMS smart energy-saving management solution as an example. Downstream applications include: smart factory energy management. Customers cover areas such as various industrial factories, such as: electronics manufacturing plants, semiconductor manufacturing plants, chemical manufacturing plants, welding consumables manufacturing plants, food manufacturing plants, automobile manufacturing plants and other fields. Also, it includes the total energy management of smart parks, such as: technology parks, data centers, office buildings, public buildings, technology parks and hospitals.

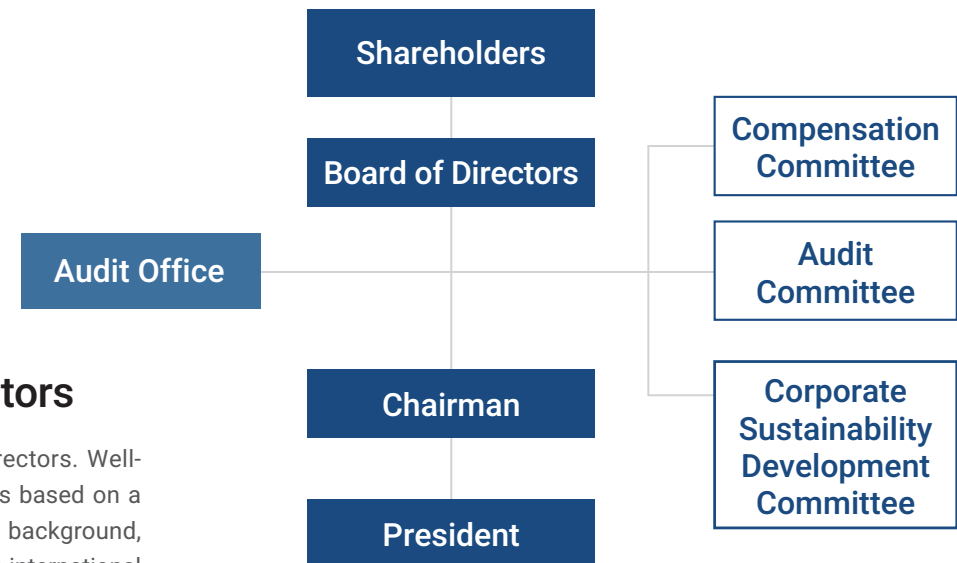
2.1.2. Corporate Governance

Advantech attaches great importance to corporate governance and a spirit of altruism, and strengthens the negotiation and interaction with stakeholders. In terms of the structure of the board of directors and functional committees, self-expectations are set at a higher standard than the regulations, and goals are set every year for continuous optimization.



Please refer to official website: [Internal Audit](#), [Advantech Code of Ethics and Business Conduct](#), [Guideline for Insider Trading Prevention Management](#)

Figure 2.1.4 Advantech' Company Governance Structure



Composition and Operation of the Board of Directors

Advantech pays attention to corporate governance and the functions of the board of directors. Well-rounded directors [selection system](#) are established, and the selection of board members is based on a [policy of diversity](#). The comprehensive assessment is based on aspects such as industry background, professional field, age, gender balance, and so on in order to promote diverse perspectives. Its international market outlook, professional academic cultivation, risk management and other majors are considered. Besides, Advantech also incorporates expertise in the field of sustainability into the evaluation indicators for members of the board of directors. Directors are expected to have strategic contributions and practical experience in areas such as environment, information security, governance, and talent. They should also be constructively helpful to Advantech's ability to cope with the impact of sustainable operations. Director candidates follow a candidate nomination system as stipulated in the "Article 192-1 of the Company Act" with election by the shareholders' meeting from the slate of director candidates. Independent directors are recruited in accordance with the "Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies", and the term of the board of directors is three years. The average tenure of the 14th board of directors as of the end of December 2022 was 10.14 years.

The Company's 14th board of directors was elected at the general meeting of shareholders on May 28, 2020. It is composed of a total of seven directors, including three independent directors, accounting for 43% of all directors. Also, the number of companies with three independent directors concurrently serving as directors is less than four. In addition, the Company stipulates in the "Code of Governance Practice" that the minimum proportion of female directors is based on the principle of gender balance. Also, one female director (accounting for 14%) was recruited to the 14th Board of Directors, and this will be continued to be strengthened and promoted in the future. In terms of sustainability expertise, Director, Chaney Ho, was a member of the Sustainability Committee of Tatung Company (TWSE:2371). Independent director, Benson Liu, used to be the chairman of the Taiwan Corporate Governance Association and is also the current standing director of the association. Independent director, Chan-Jane Lin, is currently the supervisor of Taiwan Corporate Governance Association. The composition of the current board of directors is sustainable, and the sustainable function of the board of directors will continue to be strengthened in the future. The founder and chairman, KC Liu, is also the senior management of the Company. The Company complies with the ["Rules of Procedure for Board of Directors Meetings"](#) for avoiding interests, and meanwhile strengthens the perfect mechanism for balancing and decentralizing powers and mitigating conflicts of interest through joint management.



For the structure and diversity of the board of directors, please refer to the official website of [the Board of Directors](#)

For the regulations on the minimum number of independent directors and female directors, please refer to the official website [Corporate Governance Best Practice Principles](#)

Mechanism of an Expanded Board of Directors

Advantech continues to enhance the functions of the board of directors. Except that the board of directors is convened four times a year according to the law, the enlarged board of directors has been convened every six months since 2015. All directors, external expert consultants, and senior executives were invited to discuss key issues such as Advantech's industrial and organizational transformation, business model innovation, business inheritance, and mid-to-long-term vision.

The discussion proposals for the enlarged board of directors in 2022 include: the concept of core competence driven by the new stage of operation, the evolution of human resources organization, the cultivation of talents and the system of inheritance and rotation, and the overall evolution of corporate development functions which are strategic issues include human resources, procurement and supply chain management, optimization of accounting functions, etc. The opinions of external consultants and experts are broadly absorbed through the expanded board of directors, internal consensus is condensed, and reforms are promoted, showing group knowledge and execution.

Functional Committees of the Board of Directors

The setting of functional committees is superior to regulations and regulations. Statutory functional committees include: an Audit Committee and a Remuneration Committee to implement each supervisory and internal audit functions as well as compensation incentives and training of high-level talent. In response to the development needs with long-term strategies, Advantech officially established a sustainable development committee at the board level in July 2022. It consists of three directors: Chairman, K.C. Liu, Independent Director, Jeff Chen, and Director, Donald Chang. Industry expert consultants are invited to discuss long-term strategies in depth. Major issues such as ESG sustainable strategy, succession training plan, and the nomination of board of directors and senior managers have been accelerated, making corporate governance more sound and complete.



Please refer to Advantech's official website: [Functional Committee](#)

Operational Status, Training and Evaluation of the Board of Directors

Operations Status

The 2022 operation of the board of directors was well. A total of four board meetings and two enlarged board meetings were held, and 100% of all directors attended.

Training Status

The average training hours for each director in 2022 was 9.43 hours, which was 6 hours higher than the hours recommended by regulations. Advantech also encourages directors to continue in their educations, providing monthly information on governance courses for directors to refer to as electives, organized by professional organizations such as the Taiwan Corporate Governance Association, the Securities & Futures Institute, Taiwan Institute of Directors, and so on. We also took the initiative to organize two 6-hour refresher courses for directors in July and October 2022. The topics are all in line with international trends and corporate coping strategies: "Best Practices of Corporate Mergers and Acquisitions" (value creation, organizational integration and regulatory framework are discussed), and "The re-evolution of corporate ESG sustainability strategies and risk management to respond to new global trends" (international sustainable trends, corporate responses to climate change, and possible geopolitical risk management are discussed).

Operation Strategy

Advantech attaches great importance to the high connection between risk management and operation strategy. The selection and confirmation of the training topics for the Company's own board of directors is the result of referring to the management of pan-operational risks. For the planning of the lecturer candidates, external experts and consultants from the industry and academia are specially invited according to the theme. The teaching content takes into account both theory and business practice in order to maximize the strategic effect of business operations.

Evaluation Mechanism

Advantech has established a strict evaluation mechanism of the board of directors and functional committees. Self-assessment is conducted annually. Evaluation results are reported to the board of directors once a year and gaps are addressed for improvement. In 2022, overall satisfaction of Board members with Board operations reached 95%. In addition, a third-party professional organization conducts an overall board performance external evaluation every three years; and in 2020, the Taiwan Corporate Governance Association was entrusted for this evaluation. In addition, Advantech won the highest evaluation of the 8th Corporate Governance Evaluation - Top 5% of Listed Companies. Internally, the Company regularly reviews and improves indicators for gaps. The management team coordinates resources and promotes cross-departmental cooperation from top to bottom to strive for annual improvement.



Please refer to official website [Operational status](#) and [evaluation](#) of the board of directors

New Business Pattern of Co-Creation and Co-Governance

Advantech takes sustainable development as its concept and has laid a century-old foundation. Inheritance and succession planning for the next stage has become an important topic. Therefore, the best interests of the Company and shareholders are the premise. A "professional manager system" is the keynote. The growth mindset of "Equal Emphasis on Internal and External" has been implemented, and Advantech's phased deployment planning has transformed from the "founder's era" to the "co-governance era" in which ownership and management rights are separated. In 2017, Advantech officially appointed three vice-presidents, Eric Chen, Miller Chang and Linda Tsai, as "co-governance general managers". They are expected to uphold the spirit of "co-creation" and "co-governance" to lead the team to fully embrace the new business opportunities of the Internet of Things. The new co-governance formation also implements a more rigorous division of labor: the three co-governance general managers focus on market and business development, manufacturing and supply chain management, daily operation management, and capital expenditure planning. The Founder and Chairman, K.C. Liu, leads key strategic decisions, including corporate vision, new business layout, major investment strategies, etc. The succession issue of corporate inheritance has been listed as an important proposal of the SDC Sustainable Development Committee in 2023. Through in-depth discussions among the board of directors, senior management, and external consultants, the most suitable inheritance model for Advantech will be discussed in the future. Steady executive succession is expected to create higher corporate value for employees, shareholders, and customers.



Please refer to the official website: [Press Release for Corporate Governance](#), [Press Release for the Launch of Executive succession planning](#)

Compensation and Performance of Senior Managers

Policy Purpose

Senior managers are motivated to achieve and exceed corporate goals, create profits, and improve operating performance. Also, the manager's remuneration is regularly evaluated to consider the reasonable correlation with future risks.

Review Process

Advantech has a functional "Salary and Compensation Committee" at the board level. Currently, two independent directors and one external expert serve as committee members. The policy, system, standard and structure of the manager's remuneration are considered by the remuneration committee, based on factors such as the payment level of the industry, individual performance, the Company's operating performance, and the rationality of the relationship between future risks. The Company's directors and managers' performance evaluation and salary compensation system and standards are regularly reviewed and submitted to the board of directors for review. In addition, Advantech pays attention to the participation and feedback of stakeholders (including shareholders). The Company's annual report fully discloses the individual remuneration information of directors. Besides, the proposal of "employee remuneration and distribution of director remuneration" was reported at the annual general meeting of shareholders to inform shareholders and solicit feedback. The 2022 Advantech shareholders' regular meeting was held on May 26. The shareholder attendance rate was 95.75%. The report on "Employee Remuneration and Distribution of Directors' Remuneration" has been brought to the attention of shareholders and there was no objection during the meeting. Please refer to: official website [Compensation Committee](#), 2022 [Shareholders Meeting Minutes](#), 2022 [Annual Report](#) Directors' Remuneration. (Please refer to P22 of the annual report)

Salary Structure

- Fixed salary: It includes basic salary, various allowances or additions. Their professional qualifications and market salary levels are determined by reference.
- Variable salary: It includes bonuses and remuneration. It is evaluated based on the Company's overall operating results, unit performance, and individual relative performance contributions. The core value of the enterprise is practiced, based on the demonstration of leadership and management capabilities. In addition, factors such as the correlation of future risks are considered to be reasonably formulated. The highly linked mechanism of salary and performance is used to stimulate continuous internal evolution. On average, the variable compensation of CEO, President, and senior managers accounts for about 50~70% of the salary structure.

Link of Risks

Material risk events are enough to affect the Company's goodwill, or risk events such as improper internal management and personnel malpractice may occur. If so, it will affect the issuance of the manager's bonus, such as reducing or not issuing it, or recovering the granted bonus and phantom equity (including events occurring during the deferred year) as appropriate. In this way, the effect of risk control is achieved.

Evaluation of the Performance and Salary of the CEO and General Manager

Measured indicators	ESG KPI Mechanism
<p>It covers financial indicators (operating revenue growth rate, gross profit performance, after-tax net profit, ROE), talent and new product development (innovation contribution, talent cultivation), sustainable strategy (ESG KPI, risk control), and relative metrics (TSR*, operating revenue growth). The proportion of financial indicators is 70%, and the proportion of non-financial indicators is 30%.</p> <p>*Note: The relative index TSR and CEO performance are thereof linked together. The benchmarking reference is the annual average of the top 50 electronics companies listed in Taiwan by market capitalization. Relative performance has a linkage relationship with CEO compensation.</p> <p>*TSR: Total Share-holder Return</p>	<p>Advantech continues to move towards the vision of "Enabling an Intelligent Planet in a sustainable manner". The ESG KPI mechanism for senior managers has been established and implemented in 2022. Environmental, social and governance-oriented ESG sustainability indicators are listed as 2023 and 2024 important performance evaluation items for the chairman, general manager and senior executives, relevant responsible officers, and members of the ESG Office. Incentive rewards are mainly based on Employee Stock Option Plans (ESOP), supplemented by performance bonuses. The settlement schedule is in November each year and issued in April of the following year. Meanwhile, the goal is set, and the plan is promoted and regularly evaluated in conjunction with the annual sustainable material issues. Issuance is based on sustainable goals and quantitative indicators including: "Long-term design and implementation of green and energy-efficient products", "Labeling and declaration of product design and energy efficiency classification", "Sustainable intelligent solutions", "Electricity, water, waste objects and VOC reduction targets", "Information Security", "Power Generation by Solar Panels", "Cultivation and Development of Talents", and domestic and foreign sustainability evaluation results, Advantech's internal ESG process (such as internal carbon pricing projects, biodiversity projects, etc.). Case description: Jamie Lin is currently the chief operating officer, who is responsible for improving the overall environmental operation indicators of the Chinese and Taiwan factories. ESG KPI includes: energy reduction, greenhouse gas reduction, waste reduction and other work. Also, clear annual reduction targets are set to be achieved, and annual performance reviews on climate-related issues are conducted.</p>

Long Term Incentive Plan

The latest version of Advantech's "Manager's Remuneration Management Policy" was implemented after October 28, 2022, after deliberation and approval by the Remuneration Committee. Also, the deferral and recovery mechanism is taken into consideration according to risks. The structure of remuneration for senior management is divided into cash and employee stock option certificates. Performance evaluation indicators refer to individual performance, which are also based on the achievement of financial and other financial-related performance in the Company's operations. The performance of the bonus is linked to the Company's long-term stock price, and it is designed to be deferred for 5 years to be paid to senior managers. In addition to reflecting the future stock value, the managers' salary and the Company's operating performance are also more closely linked. Meanwhile, the recovery clause was also stipulated. Advantech has the right to withdraw the incentive bonus that the manager has not fulfilled if there is a person who violates the labor contract, work rules and other major faults or the work performance is obviously low.

Shareholding Requirements for Senior Managers

Advantech believes that the long-term holding of the Company's stock by the high-level management team can strengthen the concept of linking long-term interests with shareholders. According to Advantech's Remuneration Committee's "Manager's Remuneration Management Policy" revised on October 28, 2022, It clearly stipulates that the number of shares held by the Company's CEO and general manager shall not be less than 10,000 shares in order to implement the promise of sound corporate governance. The shareholding of the Company's founder and chairman, K.C. Liu, in 2022 was approximately 1,264 times his fixed salary. Senior managers are mainly three co-governance presidents. The average shareholding ratio of the three co-governance residents was 7.32 times. (The shareholding multiples of the general manager of co-governance were revealed separately: 11.96 times of President Eric Chen, 7.23 times of President Linda Tsai, 2.77 times of President Miller Chang)

Integrity Management: Compliance with Laws and Regulations, Anti-Corruption and Anti-Competition

Integrity management is an important part of the internal control mechanism of corporate governance. Advantech shall identify various laws and regulations in advance. Furthermore, we communicate with relevant internal units and measure the formulation and implementation of the Company's relevant rules in order to comply with regulations and practice smoothly. The concepts of compliance with laws and regulations, anti-corruption and anti-competition in honest management are closely related to social responsibility and the Company's reputation, which are also one of the key points of Advantech's sustainable management. In accordance with the anti-corruption provisions of the Advantech Code of Ethics and Business Conduct, establishment of "Advantech Global Entertainment & Gift Policy" aims to further clarify the boundaries of business communication.

The total number of trainees for the online ethics and business conduct test is 5,536 according to the 2022 report on Ethics And Business Conduct Management. The data of completion rate are as follows: 95.8% in China, 98.3% in Taiwan, 96.1% in Asia, 93.6% in Europe, 95.0% in the United States, and 99.2% in others. The annual completion rate target is 96.8%, and 95% of the original target has been achieved.

Advantech is committed to ensuring that all business activities are legal, ethical and transparent. Advantech believes that the anti-corruption policy is an extremely important measure. It aims to protect the Company's reputation, the interests of customers and the interests of employees to ensure the Company's long-term and stable development.

Advantech has established "Advantech Business Conduct", and the clauses are formulated to implement the relevant requirements of Company's policies included anti-corruption. Also, Advantech has formed a risk management committee. Relevant risks are regularly assessed to avoid possible disadvantages to the Company. Furthermore, Advantech may also take relevant measures to terminate, prevent or mitigate corruption. It thereof includes the education and training of the annual mandatory "Advantech Business Conduct" for the employees, and the establishment of an internal control system to track corruption and so on. In addition, in order to ensure the legality and morality of business activities, Advantech requires suppliers and partners to comply with relevant anti-corruption measures.

Major violations of laws and regulations in 2022 (including fines and non-monetary sanctions)

* Definition of major violations of regulations: According to the material information of TWSE listed companies listed by the Taiwan Financial Supervisory Commission, violations of regulations.

Incidents of corruption and bribery	0 case
Incidents of discrimination and harassment	0 case
Leakage incidents of customer privacy data	0 case
Incidents of conflict of interest	0 case
Incidents of fraud, money laundering and insider trading	0 case
Incidents of anti-competitive behavior, antitrust and monopoly behavior, market manipulation	0 case
Other incidents related to codes of conduct or any material violations of regulations	0 case

- **The overall number of incidents for "Incidents of anti-competitive behavior, antitrust and monopoly behavior, and market manipulation" in 2022 is 0. Therefore, no monetary loss due to litigation: \$0.**
(including monetary losses during this report and previous report periods)

- **Direct or indirect political contributions in 2022: NT\$0**



For information about legal compliance and anti-corruption, please refer to Advantech's official website: [Major Internal Policies and Actions](#)

1. [Advantech Code of Ethics and Business Conduct](#)

2. [Guideline for Insider Trading Prevention Management](#)



For information about the internal audit system, please refer to Advantech's official website: [Audit policy](#)

Tax Policy

Advantech holds the Lita spirit, a concept of altruism within the company, and expects to give back to society while growing the business. Therefore, we take it as our responsibility to contribute reasonable taxes to societies and economies where we conduct our business. We seek to comply with relevant tax laws and regulations but do not seek to conduct aggressive tax planning. According to Advantech Tax Policy, headquarters and its subsidiaries should abide by the following principles:

1. Act at all times in compliance with the spirit and the letter of the relevant tax laws and regulations in the countries in which we operate.
2. Advantech complies with Organization for Economic Cooperation and Development (OECD) Transfer Pricing Guidelines to prepare three-tier transfer pricing documentation.
3. Transfer pricing is set based on the “arm’s length principle.” Profits from each operating entity are reasonably remunerated for the risk and complexity of each entity’s activities.
4. Advantech’s major decisions are made mainly based on business purposes, and then supplemented by tax analysis to search for optimal solutions.
5. Do not engage in any arrangement that transfers value created to low tax jurisdictions or tax havens simply for reducing tax burden. Do not use tax havens or tax structures whose sole purpose is for tax avoidance.
6. Assess tax risk periodically and reduce it by negotiating Advance Pricing Agreement (APA) with local tax authorities in the countries Advantech generates high income.
7. Build mutually respectful relations with tax authorities based on mutual trust and communication, information transparency, and tax payment with integrity.

Taxation Governance

Advantech is subject to tax laws and regulations in the various jurisdictions in which it operates or conducts business. Changes in tax laws and regulations will increase tax liabilities and compliance burdens, which will have an adverse impact on business operation. In order to effectively manage tax risks, Advantech complies with the tax laws and regulations; understands the tax liability and compliance status; identifies potential tax risks; prioritizes the issues and handles them on case-by-case basis. Technology tools are also been used for effective tax management. Aforementioned tasks and results are regularly reviewed by the management.

The strategy development of global finance and tax is led by the management, who delegates day-to-day responsibility to headquarters finance manager. Local accounting teams execute the tax filings complying with tax laws and regulations. In addition, Advantech also engaged external tax consultants and CPA firms for tax reporting and compliance services. Advantech’s Audit and Risks Committee is delegated by the Board to oversee the quality and integrity of the accounting, auditing, and financial control practices of Advantech through periodic review of certain major matters, including accounting policies and procedures, internal controls systems, legal compliance, and corporate risk management, etc. Advantech’s Tax Policy is reviewed in the Audit and Risks Committee and approved by the Board.



Tax Payment Status

Table 2.1.2

Revenue, Net profit before tax, tax information and number of employees in 2022 (Unit: NT\$ thousand)

Country	Revenue	Net profit before tax	Income tax paid	Income tax accrued (current year)	Number of employees
Taiwan	51,806,906	12,951,914	556,579	1,966,386	3,488
China	31,993,329	1,084,079	155,313	45,244	3,718
Japan	3,604,033	282,522	51,296	97,888	231
Korea	2,552,792	161,403	57,386	37,100	128
Europe	12,754,951	611,113	78,955	163,182	490
USA	21,094,389	1,437,182	299,659	291,908	512
Other	3,249,322	702,719	56,181	98,593	360
Total	127,055,721	17,230,932	1,255,369	2,700,301	8,927

Effective Tax Rate

The Group's effective tax rate and cash tax rate for 2021 and 2022 are as follows:

Table 2.1.3 Effective Tax Rate (Unit: NT\$ thousand; %)

Item	Effective tax rate		Cash tax rate	
	2021	2022	2021	2022
Net profit before tax	10,255,342	13,442,860	10,255,342	13,442,860
Income tax expense / income tax paid	1,947,979	2,700,301	2,027,449	1,255,369
Add: R&D tax incentives	453,194	556,935	453,194	556,935
Add: COVID-19 tax relief	–	–	707,231	1,099,948
Income tax expense / income tax paid (with adjustments)	2,401,173	3,257,236	3,187,874	2,912,252
Effective tax rate	18.99%	20.09%	19.77%	9.34%
Effective tax rate (with adjustments)	23.41%	24.23%	31.09%	21.66%

***Note:**

1. Revenue, net profit before tax and tax information in this table are aggregated amounts from local entity statutory financial statements. Related-party transactions are not excluded.
2. Net profit before tax for Taiwan includes the income (loss) from the equity method investments.
3. For names of all the resident entities, please refer to the appendix on page 50.

Source: FY2022 Advantech Co., Ltd. Consolidated Financial Statements (page 11-12); for income tax paid, please refer to Consolidated Statements of Cash Flows (page 14).

***Note:**

1. Effective tax rate = income tax expense ÷ net profit before tax
2. Cash tax rate = income tax paid ÷ net profit before tax
3. The discrepancy in effective tax rate is explained as follows:
 - The effective tax rate in 2021 and 2022 were lower than the industry group average. This was primarily due to tax incentives for research and development expenditures according to regulations under the R.O.C. Statute for the Upgrading Industries and Statute for Industrial Innovation. Also, the pre-tax super deduction of R&D expenses and the preferential CIT rate for the high and new technology enterprise in China. Excluding these factors and the influence, adjusted effective tax rate were close to the industry group average.
 - Apart from the factors mentioned above, Cash tax rate were also affected by timing differences, such as advance payments and tax policies in different countries (e.g. COVID-19 payment deferral that up to 36-month installments in Taiwan) Excluding these factors and the influence, adjusted cash tax rate were close to the industry group average.
 - FY2022 R&D tax incentives amount was estimated.

Appendix: Basic Information of Affiliated Companies

Country/ Region	Name of enterprise	Main operation activities
Taiwan	Advantech Co., Ltd.	Manufacturing, processing, and trading of embedded boards, industrial control products, application computers, industrial computers, and hardware and software equipment for the Internet of Things
	Advantech Intelligent Healthcare Co., Ltd. (AIH)	Service of software
	Advantech Corporation Investment. (ACI)	Investment in markable securities
	Cermate Technologies Inc. (Cermate Taiwan)	Electronic Components manufacturing Industry
	Advantech Intelligent City Services Co., Ltd. (AiCs)	Marketing and trade of industrial computers
	LNC Technology Co., Ltd. (LNC)	Manufacturing and sale of controllers
	NANOMAC Co., Ltd.	System integration and application, intelligent design, production and sales of system furniture
	Advanixs Corporation (Advanixs)	Manufacturing, marketing and trading of industrial computers
	Huan Yan Water Solution Co., Ltd.	Combination of water treatment related technologies and Internet of Things of applications
	Yan Xu Green Electricity Co., Ltd.	Green energy power plant development
China	Beijing Yan Hua Xing Ye Electronic Science & Technology Co., Ltd. (ACN)	Marketing and trade of industrial computers
	Shanghai Advantech Intelligent Services Co., Ltd. (ACI CN)	Manufacturing, marketing and trade of industrial computers
	Shanghai Yanle Co., Ltd. (AYL)	Application and retail of intelligent technology
	Xi'an Advantech Software Ltd. (AXA)	Development and manufacturing of software products
	Advantech Service-IoT (Shanghai) Co., Ltd.	Technology development, consulting and services in the field of intelligent technology
	Advantech Technology (China) Co., Ltd. (AKMC)	Manufacturing and trade of interface cards and PC cases, plastic cases and accessories
	Cermate Technologies (Shanghai) Inc. (Cermate Shanghai)	Networking electronic equipments for industrial use
	Shenzhen Cermate Technologies Inc.	Production of LCD touch screens, USB data cables and industrial computers
	LNC Dong Guan Co., Ltd.	Manufacturing and trade of controllers
Japan	Advantech Japan Co., Ltd. (AJP)	Marketing and trade of industrial computers
Korea	Advantech KR Co., Ltd. (AKR)	Marketing and trade of industrial computers
Europe	Advantech Czech s.r.o. (ACZ)	Manufacturing of automation control
	Advantech Technology Limited (AIE)	Trading of industrial network communication systems
	Advantech Europe Holding B.V. (AEUH)	Overseas investment in manufacturing and services industries

Country/ Region	Name of enterprise	Main operation activities
Europe	Advantech Europe B.V. (AEU)	Assembly, marketing and trade of industrial computers
	Advantech Poland Sp z o.o. (APL)	Assembly, marketing and trade of industrial computers
USA	Advantech Corp. (ANA)	Marketing, trade and assembly of industrial computers
Other	Advantech Co., Singapore Pte, Ltd. (ASG)	Marketing and trade of industrial computers
	Advantech Corporation (Thailand) Co., Ltd. (ATH)	Marketing and trade of industrial computers
	Advantech International, PT. (AID)	Marketing and trade of industrial computers
	Advantech Co., Malaysia Sdn. Bhd (AMY)	Marketing and trade of industrial computers
	Advantech Industrial Computing India Private Limited (AIN)	Marketing and trade of industrial computers
	Advantech Raiser India Private Limited (ARI)	Marketing and trade of industrial computers
	Advantech Australia Pty Ltd. (AAU)	Marketing and trade of industrial computers
	Advantech Vietnam Technology Company Limited (AVN)	Marketing and trade of industrial computers
	Advantech Automation Corp. (HK) [AAC (HK)]	Overseas investment in manufacturing and services industries
	HK Advantech Technology Co., Ltd. (ATC HK)	Overseas investment in manufacturing and services industries
	Cermate Software Inc. (CSI)	Software development
	Advantech Brazil Ltd (ABR)	Marketing and trade of industrial computers
	Advantech Electronics, S.A.P.I. de C.V. (AMX)	Marketing and trade of industrial computers
	Advantech Technology DMCC (ADB)	Trading of industrial network communication systems
	Advantech Turkey Teknoloji A.S. (ATR)	Wholesale of computers and peripheral devices
	ADVANTECH IOT ISRAEL LTD. (AIL)	Trading of industrial network communication systems
	Advantech Technology Limited Liability Company (ARU)	Marketing and trade of industrial computers
	Advantech Automation Corp. (BVI) [AAC (BVI)]	Overseas investment in manufacturing and services industries
	Advantech Technology Co., Ltd. (ATC)	Overseas investment in manufacturing and services industries
	Better Auto Holdings Limited (Better Auto)	holding company
	Famous Now Limited (Famous Now)	holding company
	Landmark Co., Ltd. (Landmark)	Investment company
	BEST PLC LTD. (BEST PLC)	holding company
	BEST SERVO LTD. (BEST SERVO)	holding company
	Advantech Corporate Investment Ltd. (ACI KY)	Design, research, development and trade of system services for the intelligent Internet of Things
	BEST MACHINE LTD. (BEST MACHINE)	holding company
	BEST AUTOMATION LTD. (BEST AUTOMATION)	holding company

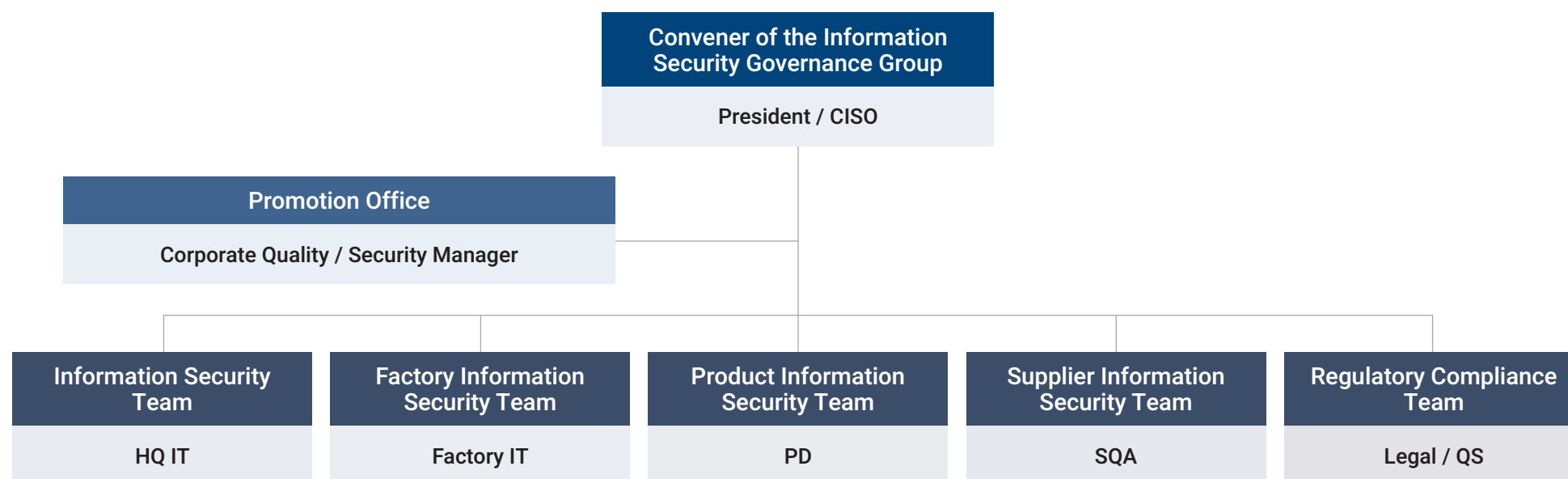
2.2 Information Security Management

Information Security Policy and Organization

Information security forms an integral part of business operations and risk management. The implementation of information security requires management's awareness and adequate support. Advantech's President approves the information security policy and sets information security goals. Also, the confidentiality, integrity and availability of key systems and important equipment are considered. Moreover, each indicator item is regularly measured and reviewed at least once a year to ensure the effectiveness of the implementation of performance indicators.

Advantech's President Eric Chen, concurrently served as Chief Information Security Officer in order to demonstrate the Company's commitment to information security. Also, a cross-departmental information security governance group was established. The Quality Control and Information Security Team is responsible for promoting and coordinating information security-oriented issues, including computer information, physical environment, product information security, supply chain and regulatory compliance, etc. Also, the implementation status is reported regularly to the Risk Management Committee. Information security is integrated into the organization's operation management.

Figure 2.2.1 Organization Structure of Information Security Team



Information Security Management Policy

Advantech has obtained the certification of "Information Security Management System (ISMS) ISO/IEC 27001:2013". External verification units conduct an annual audit. The three-year re-examination is completed in July 2022, and the certificate continues to be valid. It is originally applicable to manufacturing-related information security management activities provided by MTD Engineering Department and IT Information Department, including embedded computer products, industrial-grade flat computer products, industrial-grade computer products, network computer products, medical computer platform products and industrial control products. Besides, it expanded the scope of application in 2022 to the management of the computer room of the information department of the head office and the backbone network. In the same year, Advantech's information operations in Europe and the United States also passed the ISO/IEC 27001:2013 certification.

Advantech continues to improve and expand the scope of application of the information security management system. The standardization of the system is established in four aspects: strategy, management, technology and cognition. The depth and breadth of information security governance have been continuously improved. The rapid changes in the business are effectively responded through the refinement of the system. The verification results of ISO/IEC 27001 in the past three years are as follows.

Table 2.2.1 Statistical chart of ISO/IEC 27001 audit results in the past three years

Year	Minor non-conformity	Observation	Subtotal	Note
2020	4	12	16	
2021	1	8	9	
2022	3	16	19	Implementation scope is extended this year.

Countries and industries widely adopt the concepts, methods and models in IEC 62443 when formulating policies. In order to ensure the safety of industrial automation and control systems (Industrial Automation and Control System, IACS). IEC 62443-4-1 and IEC 62443-4-2 thereof represent that the components of the system meet the safety requirements. Products are guaranteed to comply with safety regulations from the development stage to the mass production stage, whether it is process or product verification. In 2022, the company invites information security vendors to review the operation of the RMA product maintenance department with IEC 62443-4-2. Also, the found results are reviewed and improved in order to reduce possible information security risks.



Information Security Protection Mechanism and Detection

In terms of security protection measures, Advantech adopts a multi-level defense-in-depth architecture. Protection mechanisms such as firewalls, antivirus, endpoint protection, privileged account management, and two-factor authentication have been deployed. In addition, high-quality information security vendors were commissioned to conduct multiple inspections and evaluations, including system vulnerability scanning, penetration testing, and website security. The effectiveness of the current information security defense mechanism is examined. Security loopholes and weaknesses are discovered and patched. In this way, potential information security risks are reduced.

This year, Advantech also held red team drill for cyber attack. On the premise of not affecting the operation, information security vendors were commissioned to verify the effectiveness of the plant's information security protection mechanism to simulate hacker attacks. Meanwhile, the information security awareness of IT personnel is improved. In addition, relevant knowledge and skills are enhanced through drills to understand hacker attack methods and coping methods. Moreover, the confidence of customers and cooperative manufacturers in the company is strengthened, and the Company's emphasis on information security is demonstrated through practical drills.

Information Security Intelligence and Event Monitoring

To strengthen internal endpoint and network security monitoring, Advantech has introduced the MDR threat detection and response service. The weaknesses and abnormal conditions of more than 8,700 computers and mainframes in the Company are continuously monitored 24/7. Professional information security vendors combine global threat intelligence with AI technology. Information security event alarm monitoring, threat tracking, incident investigation, repair plan, regular report, and 24/7 monitoring are provided. It assists the Company to accurately and quickly determine the infection path of malicious behaviors when facing information security incidents. Correct actions are then taken to enhance and speed up the detection and response mechanisms.

Enhancement of Information Security Awareness of Personnel

Personnel security awareness is an extremely important part of information security protection. The Company has incorporated information security publicity courses into annual compulsory courses. It is conducted for general employees through online courses or face-to-face. The main content of the course is case sharing of information security, basic principles of information security, information security regulations that employees should abide by, etc. In 2022, the Company, including overseas RBUs, completed information security publicity courses for 6,825 employees.

Item	Direct Labor	Indirect Labor
Completion rate of employee information security publicity in 2022	100%	91%

*Note: This is the global statistics of Advantech.

In addition, social engineering drills that simulate hackers' phishing emails can test our employees' awareness of information security risks. Our colleagues' awareness and vigilance of information security are enhanced. In 2022, the rate of employees passing the test has increased significantly compared to the test results in 2021.

Item	2021	2022
Percentage of Employees Passing Social Engineering Tests	61.5%	79%

*Note: It only includes the statistics of Advantech Taiwan.

System Redundancy and Disaster Recovery

Critical information systems need to be protected from service interruptions due to major catastrophic events. The continuity of company operations and essential business needs to be ensured. Therefore, Advantech has established a system remote backup mechanism at the Linkou factory in 2022. Neihu computer room and Linkou are mutually backed up in different places and data backup in different places is established through the Nutanix virtual mechanism. The Company's key information systems are guaranteed to quickly return to normal or acceptable operating levels after a disaster. In this way, the Company's operations are guaranteed to be uninterrupted. For the maintenance of data availability, Advantech promoted a 3-2-1 data backup mechanism at its headquarters and overseas RBUs in 2022. Important system data is taken for backup as follows:

- At least 3 data backups: when the original file is damaged or lost, the file can be restored.
- Stored in 2 different storage media: Different types of hazards are prevented using complementary advantages and disadvantages of the different storage media.
- At least 1 off-site backup: The risk of all stored devices being destroyed or stolen at the same time is reduced in case of any natural disaster, fire, theft, etc.

In addition, the Information Office conducts disaster recovery drills targeting critical Information systems at least once a year. Taking the PLM system as an example, the data in 2022 was drilled and backed up with snapshots. Before and after restoring the backup, all the current data in the DB are first exported to confirm that the data of the drill result is not damaged. After Linkou's off-site backup mechanism which is going to be completed in 2023, a rehearsal for the complete transfer of control over Neihu-Linkou PLM DR will be conducted.

Information Security Investment

Advantech continues to invest in resources related to information security. In 2021 and 2022, more than NT\$30 million was invested in information security software and hardware. In addition to human resources, investment in information security includes strengthening defense equipment for information security, intelligence monitoring and analysis, system backup, education and training, etc. Therefore, the information security capability has been comprehensively improved and the information security protection has been improved.



Project Highlights 1

It has been three years since the international information security management standard ISO/IEC 27001 was introduced into Advantech. Minor non-conformity/Observation show a decreasing trend each year. It means that the PDCA of ISO/IEC 27001 has been continuously implemented. The Company's overall information security framework is also becoming more and more stable.

In 2022, the head office expanded the implementation scope of ISO/IEC 27001 to the computer room management and backbone network of the IT department of the head office. Together with the Kunshan factory in mainland China that was first introduced, The information security management system has been implemented for the IT operations of North America and Europe. Since then, Taiwan and major overseas regions have obtained ISO/IEC 27001 certification.



Project Highlights 2

"If you don't know how to attack, how can you know the way to defense." Under the premise of not affecting the operation of the enterprise and within a limited time, the red team drills are conducted to simulate cyber attacks to find out the weaknesses of the enterprise's information security. In 2022, Advantech focused on the IT and OT environment of the Linkou factory area. A professional information security vendor, Onward Security, was commissioned to conduct the red team drill. It simulates the authority of a hacker to sneak into the internal network and try to control the operation of the system.

Benefits of this exercise include: The effectiveness of existing information security defenses has been verified to be close to actual combat. It allows insiders to understand hackers' attack methods and learn how to respond. Potential security weaknesses are discovered and patched. In this way, it can avoid being used by hackers, and the results of the drill can also be used as a reference for subsequent improvement of the information security structure.

Improvement Plans

In 2022, the Company did not cause losses to the Company and customers due to information security incidents. During the period, the Company had a total of 1 information security incident *. It affects the Company's information of a small number of employees, such as names, departments, and email accounts, which are exposed in search engines. The main reason is that after the personnel analyzed the cause of the incident. All improvements have been completed in addition to the emergency response handling in the gap verification mechanism in the development program.

Table 2.2.2 List of Information Security Events

Types of Informational Security Incidents	Number of incidents	Improvement method	Improvement results
Human error	1	The website program was immediately modified to add an authentication mechanism. After testing, this security hole was confirmed to be improved.	In response to this incident, program development safety procedures have been strengthened to publicize and check. Therefore, similar incidents have not occurred again

***Note:**

Information security incidents refer to the definition of CSA 2023 - DJSI Eligible P.92.

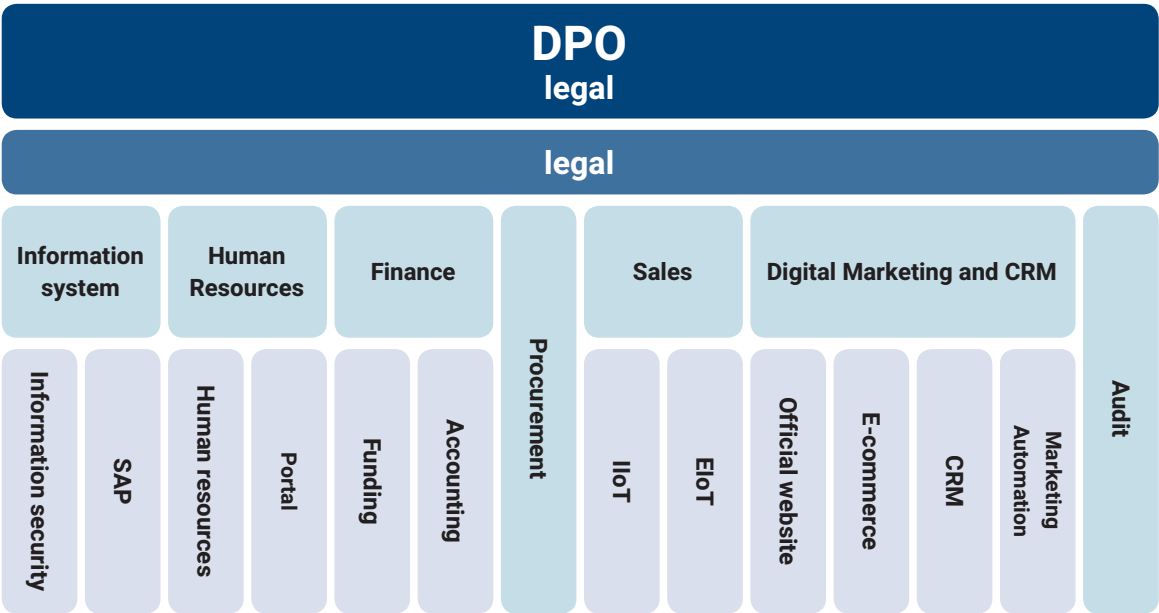
Information security breaches: These are defined as unauthorized access to computer data, applications, networks, devices, protected systems and data. Cybercriminals or malicious applications bypass security mechanisms to reach restricted areas.



Figure 2.2.2 Structure of Personal Data Protection Team

Protection of Customer's Privacy Right

In order to allow everyone to use Advantech's various services with peace of mind, Advantech has formulated a privacy protection policy. It complies with Personal Data Protection Act and the General Data Protection Regulation (GDPR). It has explained how to collect and use personal data, and further protects related rights and interests. In 2022, PwC Taiwan was entrusted to conduct a compliance assessment of personal data protection. After that, the personal data protection team was formally established, which is expected to further establish more detailed internal procedural rules for personal data protection.



Advantech's privacy policy covers the following: Advantech's privacy policy covers, but is not limited to, employees, customers, suppliers, and any third parties who use other services on the website. Please click on the link to view the related policy:

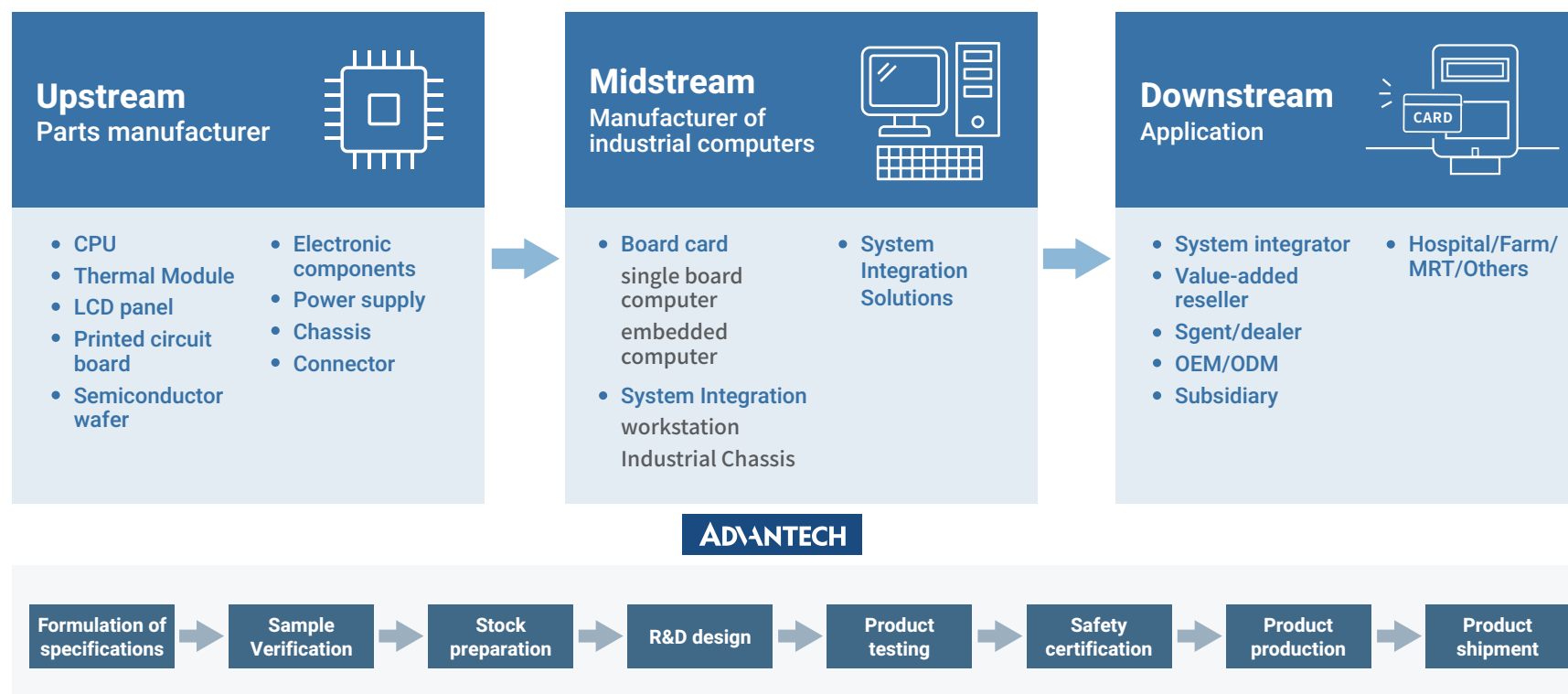
1 Personal Data Collection	5 Lawful Basis For Processing Personal Data	9 Rights of the Parties
2 Use of Personal Data	6 Storage Period of Personal Data	10 Contact Method
3 Personal Data Sharing	7 Personal Data and other Countries	
4 Personal Data Access and Control	8 Privacy Protection	

About Advantech's privacy policy, please visit the website to learn more:
Website in Chinese: <https://www.advantech.com/zh-tw/legal/privacy>
Website in English: <https://www.advantech.com/en/legal/privacy>

2.3 Sustainable Management of the Supply Chain

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

Figure 2.3.1 Advantech's Industrial Value Chain



Goal of Sustainable Supplier Relationship Management

Optimization of Core Competitiveness of Supply Chain

Suppliers are required to act according to Advantech's Supplier Code of Conduct. It improves labor rights, safety and health, environmental protection, business ethics and management system performance. Suppliers' refined core competencies are actively coached to reduce the risk of operational disruption.

Strengthening the Sustainability Resilience of the Supply Chain

Supplier risk assessment is carried out through the Supplier ESG Sustainability Risk Assessment Form. All stakeholders in the supply chain are ensured to have visibility into the processes and product lifecycle in the supply chain. Monitoring and evaluation of supply chain performance is continued to identify potential risks and opportunities.

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

Item	2022 Results	2023 Goals	2025 Goals
	100% achieve the target set in 2022		
Requirement to sign Advantech's Supplier Code of Conduct	100% of significant suppliers comply with Advantech's Supplier Code of Conduct	First-tier suppliers (including significant suppliers) are 100% in compliance with Advantech's Supplier Code of Conduct	First-tier suppliers (including significant suppliers) are 100% in compliance with Advantech's Supplier Code of Conduct
The execution of due diligence on conflict minerals complies with OECD's third-party mechanism	Significant suppliers 100% do not use conflict minerals	Significant suppliers 100% do not use conflict minerals	Significant suppliers 100% do not use conflict minerals
Audit and counseling for non-conforming improvement work	100% complete the improvement of deficiencies of significant suppliers*	100% complete the improvement of deficiencies of significant suppliers	100% complete the improvement of deficiencies of significant suppliers

*Note: Significant suppliers are defined as the following two types of suppliers. One is a key supplier with high annual purchase amount, key raw materials and irreplaceable. The second is the supplier group with high sustainability risk identified through ESG assessment.

Project Highlights/Performance

100%

100% of significant suppliers have completed signing the "Consent Form for Supplier Code of Conduct"

100%

New suppliers are 100% compliant with environmental guidelines

100%

100% of significant suppliers signed the Declaration of Non-Use of Conflict Minerals

100%

100% of significant suppliers complete the counseling and improvement of deficiencies

2.3.1 Supplier Management

Supplier Composition

Advantech's product portfolio is diverse and flexible. Such products are widely used in IoT embedded computing, industrial computers and their peripherals, cloud computing and industrial automation, communication systems and other fields. Therefore, the supply chain is also flexible, diverse and closely related. The raw materials in the supply chain include ICs, printed circuit boards, electronic components, wires, plastic parts, metal parts, packaging materials, etc. Advantech's main suppliers are divided into raw material and packaging material suppliers, as well as contractors for maintenance, cleaning, engineering, and so on. Raw material suppliers thereof have a clear impact on operations and production. Therefore, Advantech further divides raw material suppliers into two categories according to their attributes, encompassing suppliers of direct materials (materials directly related to production) and packaging materials (materials or packaging materials not directly related to production).

In order to effectively manage raw material suppliers and resource allocation, Advantech screens suppliers with high annual purchase amounts, key raw materials, and irreplaceable suppliers to make up the Preferred Vendor List. Also, we also identify supplier groups with high sustainability risks through ESG assessment. These two types of suppliers are significant suppliers defined by Advantech. Advantech currently identifies 271 significant suppliers. Its purchase amount accounted for 71.4%.



Definition of Tier 1 suppliers

Suppliers who directly supply the Company with direct or indirect materials



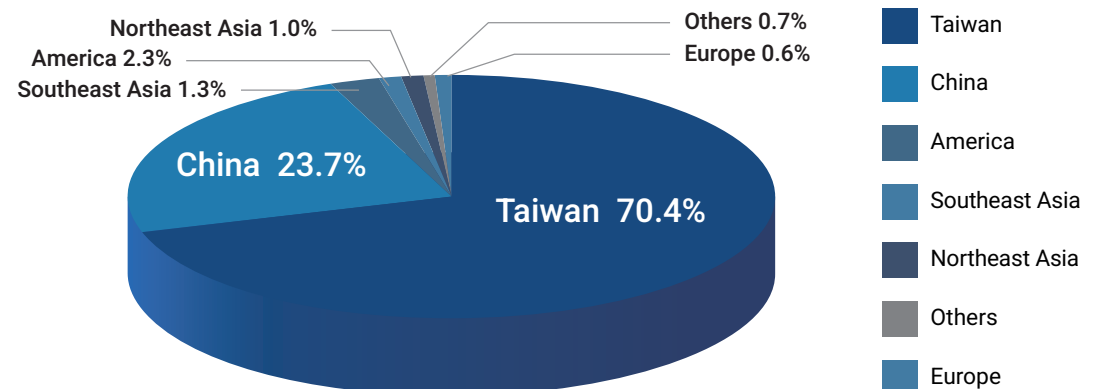
Definition of Significant Suppliers

There are two types of suppliers. One is a key supplier with high include annual purchase amount, key raw materials and the second is the supplier group with high sustainability risk identified through ESG assessment.

Supplier Procurement Distribution in 2022

Category		Number of companies		Proportion of purchase amount	
Tier 1 suppliers		1,156		54.6%	
Significant suppliers	Significant tier 1 suppliers	271	212	71.4%	26%
	Significant non-tier 1 suppliers		59		45.4%

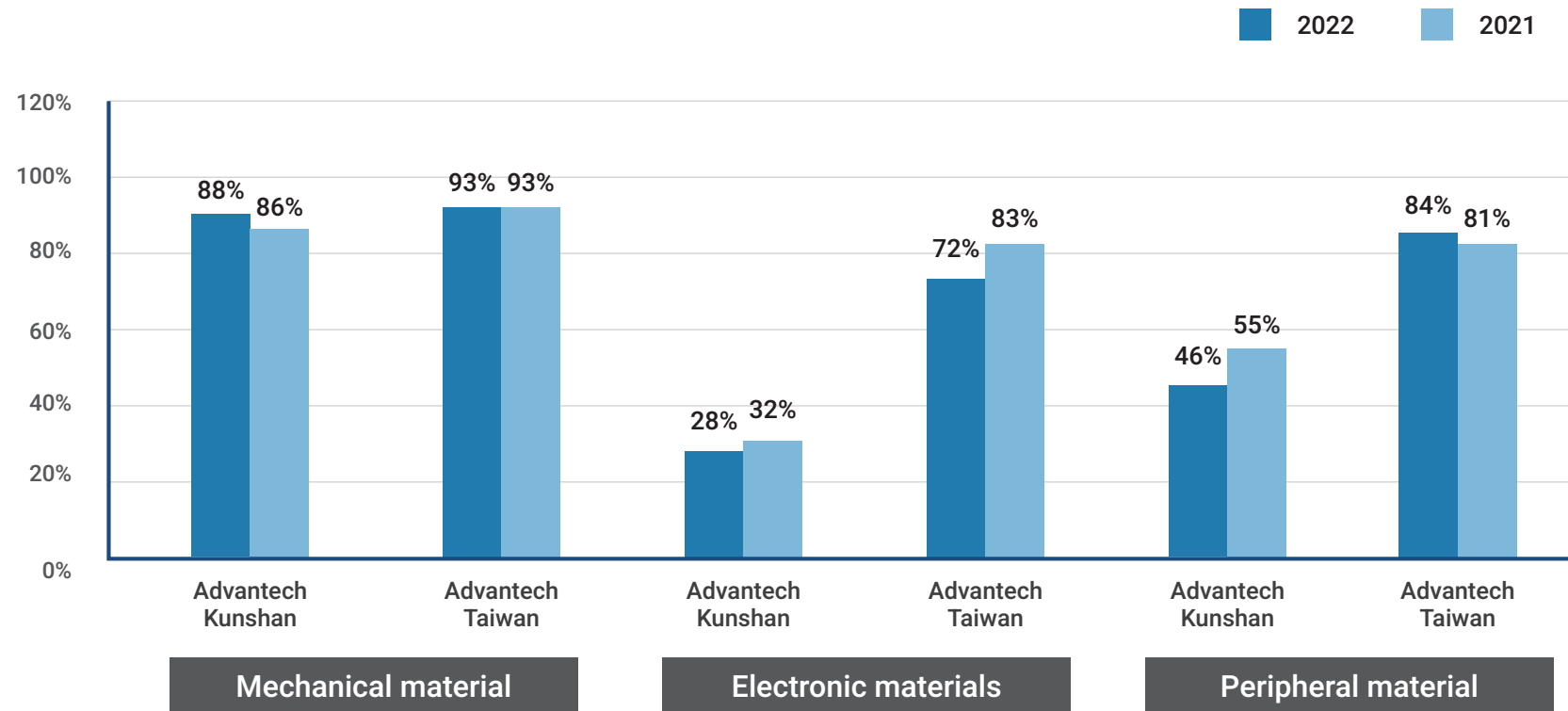
Distribution regions of raw material suppliers in 2022



Support for Local Suppliers

Advantech continues to use localized procurement strategies in order to establish close relationships with local partners and create local employment opportunities while also reducing carbon dioxide emissions to the environment during manufacturing and transportation. Over the years, our procurement has always been based on local suppliers and products comply with RoHS/HSF specifications. Overall, Advantech Taiwan's local procurement amounted to NT\$16.38 billion with a ratio of about 81% in 2022. Local procurement at Advantech Kunshan Manufacturing Center reflected the fact that some electronic and peripheral raw materials were purchased by Advantech Taiwan. The local procurement ratio only accounted for about 46% of the total amount*, and the overall local procurement ratio was 69%. Figure 2.3.2 shows the proportions of the Company's local purchase amounts in recent years.

Figure 2.3.2 Proportions of Local Procurement for Advantech Taiwan and AKMC in 2021-2022



*Note:

1. Local procurement definitions: Advantech Taiwan – transaction counterparty is a manufacturer having a uniform invoice number for a for-profit enterprise in Taiwan; AKMC – transaction counterparty is a domestic manufacturer in mainland China.
2. The decrease in the proportion of local procurement of electronic materials in Kunshan is mainly due to the switch to a self-purchasing strategy in 2020. However, most of the self-purchasing suppliers are agents registered in Taiwan.

Supply Chain Risk Strategies and Countermeasures

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

Figure 2.3.3 Advantech's Supply Chain Risk Response Plan



Supplier Management Strategy

Advantech starts from the new supplier recognition stage; that is, we require suppliers to sign a purchase contract to ensure their delivery, quality, and warranty specifications. suppliers are thereof required to make immediate notifications on the delivery delays caused by natural and man-made disasters.

The Company's procurement strategy adopts an approach of sourcing supplies from over two suppliers, in order that they can be replaced and compete with one another so as to diversify procurement risks and reduce costs. For electronic parts with high commonality, Advantech has established a second source management mechanism. Safety stocks are also established for primary materials to avoid risks caused by material shortages or quality problems.

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

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

In addition, from 2021, Advantech stipulated that materials suppliers should complete an ESG sustainability risk assessment survey that covered legal compliance, sustainability management, supplier management, conflict mineral management, environmental protection, health and safety, labor rights, human rights, and so on. In order to grasp the sustainability risks of suppliers, on-site audits shall be conducted when necessary to ensure that the sustainability of suppliers meets our standards. Therefore, the key suppliers selected by Advantech as the main procurement targets must be manufacturers with a score of 80 or more (accounting for 26.67%) through ESG in addition to basic cost, quality, delivery time, and continuous supply. Meanwhile, Advantech expects suppliers to continuously improve their sustainable performances. Therefore, we requires and encourage existing suppliers and new suppliers to obtain relevant international certification standards such as ISO 9001, ISO 14001, ISO 45001, ISO 14064-1, QC 080000, IATF 16949, and ISO13485.



Sustainable Supplier Relationship Management Platform

Through the platform of Supplier Relationship Management (SRM), Advantech manages the life cycle of suppliers. Also, the integration of the supplier's communication channel is carried out. Platform functions include contract establishment, price/quality management, new supplier audit, existing supplier audit management, information release, etc. Online data is controlled to drive offline improvement, so sustainable supply chains are practiced.

Supplier Relationship Management

Source search | Classification and Grading | Contract management | Price management | Evaluation and Assessment



Supplier Management

In addition to the strict incorporation of environmental protection principles into the supplier management mechanism, since 2010 we have introduced the management system of the Responsible Business Alliance (RBA) (previously known as the Electronic Industry Citizenship Coalition, EICC). This expands our call for suppliers to pay attention to and promote corporate social responsibility (such as the regulations of conflict minerals). Currently, the Company's management of all supplier selection indicators includes important indicators such as RoHS (HSF) QC 080000, ISO 14001, ISO 45001 and even the localization of suppliers within RBA as well as other important corporate social responsibility indicators. Advantech requires suppliers to safeguard basic human rights and abide by labor standards. The aforementioned indicators are also included among new supplier audit items in our Supplier Audit Form.

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

For new suppliers screening, the products produced by the manufacturers have been widely used in the industry in the market. Moreover, its quality system must be verified by international standards. In addition, after the evaluation team approves the certification documents and passes them, they are listed as qualified manufacturers. The rest are subject to on-site inspection. The audit focuses on areas such as quality, procurement, and ESG sustainability management. According to statistics, a total of 220 new suppliers were implemented and 194 new suppliers were approved in 2022.

Table 2.3.2 Overview of Supplier and Contractor Management

Type	Management Principles	Implementation Ratio	Future Management Priorities
All significant suppliers A total of 271 companies, 271 companies have completed the execution of the signing	Conduct supplier profile review by signing the Supplier Code of Conduct Acceptance Form	100%	Include the Supplier Code of Conduct in the contract
	Key suppliers that adopt ESG sustainability risk assessment (including labor, environment, safety and health, ethics, etc.)	100%	Maintain assessment ratio
New Suppliers of 2022 Out of a total of 200, 194 have undergone audits	Conduct supplier profile review by signing the Supplier Code of Conduct Acceptance Form	100%	Include the clauses of the Supplier Code of Conduct in contract
	New suppliers that adopt ESG sustainability risk assessment (including labor, environment, safety and health, ethics, etc.)	100%	Maintain assessment ratio
	Through the Supplier Audit Form evaluation (assessment requirements for quality system, design control, procurement services, etc.)	97.0%	Maintain assessment ratio
Audits of existing suppliers in 2022 The total number of planned implementations is 88, of which 77 are audited.	Conduct supplier profile review by signing the Supplier Code of Conduct Acceptance Form	100%	Include the clauses of the Supplier Code of Conduct in contract
	Through the Supplier Audit Form evaluation (assessment requirements for quality system, design control, procurement services, etc.)	87.5%	Increase the proportion of on-site evaluations
Maintenance, Cleaning and Engineering Contractors	Sign the Contractor Environmental Safety and Health and Supplier Code of Conduct Acceptance Form	100% (Does not include data for the Kunshan factory)	Include human rights clauses in contract

*Note: The audit of existing suppliers in 2022 did not reach 100% of the plan. This is mainly due to the COVID-19 pandemic in China, and it is impossible to go to some suppliers for on-site audits.

Substance Management Related to Product Environment

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

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

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

2.3.2 Sustainable Supplier Relationship Management

Advantech expects to deepen the relationship with global customers and partners through a consistent global brand, and we are committed to creating sustainable corporate value. In addition to the own compliance with the RBA Code of Conduct to assess the labor, environmental, and ethical management of our operations, we also actively require sustainable management of the supply chain and promotion of the sustainable development of the supply chain. For example, suppliers are not allowed to use forced labor or child labor. If circumstances are serious, the relationship will be terminated. In 2022, no supplier terminated a partnership due to forced labor or child labor.



Sustainable Risk Evaluations

Advantech also incorporates supplier ESG performance into the evaluation, and conducts ESG sustainable risk evaluations of annual key suppliers from three aspects: economic, environmental, and social. Evaluation risk factors accounted for 26.67% which includes:

Governance

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

Environment aspect

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

Social aspect

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

Auditing of suppliers' ESG sustainability risks

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



In addition, we need to understand the sustainable development of the supply chain and grasp the sustainability risks of the supply chain. In addition to the original supplier evaluation, Advantech has improved its sustainable supplier relationship management in 2021. A new supplier ESG sustainability risk assessment form was planned and developed. This audit form is designed as Advantech's supplier ESG sustainability risk assessment form. It refers to the latest RBA7.0, plus the requirements of other customers for sustainable supply chain, and the items that Advantech should investigate to improve the core spirit of sustainable supply chain management. Also, it is planned to be evaluated every two years. In 2021, Advantech conducted a comprehensive written sustainability risk survey on 271 significant suppliers. Suppliers with potentially high risks are identified in terms of governance, environmental and social aspects. In addition, in 2022, significant suppliers with high sustainability risks were actually audited and counseled. Its risks are ensured to be effectively controlled and reduced to meet Advantech's sustainability standards.

Sustainability Risk Audit Results

After summarization, a total of 271 significant suppliers were audited in this ESG sustainability risk assessment survey, with a total response rate of 100%. Advantech sets that the supplier shall be required to put forward countermeasures for deficiencies, if the audit result score is lower than 80 points or there is a high sustainable risk of critical items. Also, missing improvements were completed and responded within three months. If it is still not resolved, its supplier qualification shall be cancelled. In the results of this audit and investigation, it was found that those with high sustainable risk accounted for 4.0%. There are 11 companies with less than 80 points (out of 100 points) or critical projects. Therefore, Advantech listed it as a supplier with high sustainability risk in 2022, giving priority to on-site audit and counseling to be completed. Meanwhile, deficiencies are ensured to complete improvements and their risk levels are reduced through formulation of improvement measures and continuous tracking. Finally, in 2022, no suppliers were listed as unqualified suppliers in the ESG sustainability risk assessment audit due to violation of major sustainability project specifications.

The performance of each sustainability dimension risk management is analyzed as follows. The average missing ratio of the moral aspect is higher, accounting for 62%. The topics covered are mainly procedures or requirements that have not established ethical related issues. The average missing ratio for health and safety is low at 5%. However, there are still some high-sustainability-risk issues on the labor side, and 19% of the manufacturers lose points in this aspect. The issue is primarily the lack of labor-related requirements prohibiting mandatory indentured bondage. To follow-up, audits, counseling will be conducted, and remedial plans will be required. A total of 21 deficiencies were audited, and the completion rate of the average deficiencies improvement was 100%.

Audit items and proportion	Actual/Goal (Number of companies)	Actual/Goal (Proportion)
Percentage of suppliers performing ESG audits	271 / 271	100%/100%
Percentage of significant suppliers performing ESG audits	271 / 271	100.0% / 100%
Percentage of significant suppliers with a total score of less than 80 points (or with critical items) among significant suppliers	11 / <15	4.0% / < 10%
Implementation of improvement plans for high-risk significant suppliers	11 / <15	100.0% / 100%
Termination of Cooperation for Serious Violations by Suppliers	0 / 0	0.0% / 0.0%
Assistant in high-risk important suppliers to complete ESG coaching and improvement	11 / all	100.0% / 100%

Priority non-conformities and other non-conforming items have all been

100% proposed corrective actions.

Table 2.3.3: Supplier Audit Deficiencies and Improvement Actions in 2022

Classification	Primary Deficiency Uncovered	Improvement Action	Resource provided
Labor	There are no provisions prohibiting the use of coercion, bondage (including debt bondage), or binding labor with compulsory indenture, and prohibiting the use of involuntary or exploitative prison labor, slavery, or human trafficking requirements.	Suppliers are required to formulate relevant policies or measures, and to strengthen their implementation.	Suppliers are provided with relevant labor policies or methods and suggestions for reference and implementation
Health and safety	There was no compliance and implemented on the Article 15-5 of the "Enforcement Rules of Fire Services Act" stating that drill of fire fighting, communication and evacuation leading: shall be carried out at least once half a year, with each session not less than four (4) hours and a prior notice of the drill shall be served to the local fire department.	Suppliers are required to strengthen the publicity of the Environmental Safety and Health Management Measures and related regulatory requirements, and strengthen their implementation.	Suppliers are provided with fire protection work project advocacy and management suggestions for reference and implementation
Environment	Standards for the management of hazardous substances and management measures have not been formulated (need to comply with RoHS, REACH and other environmental regulations).	Suppliers are required to set standards for the management of hazardous substances and conduct regular inspections to ensure the classification and storage of hazardous substances.	Suppliers are provided with recommendations on Standards for Hazardous Substance Management for reference and implementation
Ethics	There are no relevant procedures or requirements not to promise, offer, authorize, give or accept bribes, illegal or improper benefits and other forms of benefits.	Suppliers are required to formulate relevant policies or measures, and to strengthen their implementation.	Suppliers are provided with relevant policy or method recommendations for reference and implementation
	There was no related procedures or requirements that whether the information required to be disclosed by laws and regulations is properly managed and disclosed to ensure that there is no false or wrong content.	Suppliers are required to formulate relevant policies or measures, and to strengthen their implementation.	
	There was no program or requirement to prevent infringement of intellectual property rights or illegal copying, including information from customers.	Suppliers are required to formulate relevant policies or measures, and to strengthen their implementation.	
	No procedures or requirements have been established to ensure that the company's information complies with regulatory requirements and that its public statements are not false or misleading.	Suppliers are required to formulate relevant policies or measures, and to strengthen their implementation.	

Supplier Improvement Program

In terms of improvement plans for suppliers, Advantech plans supplier coaching and training as well as innovative cooperation with suppliers. Preliminary results have been achieved in 2022, including on-site visits to some suppliers with higher carbon emissions (6 suppliers including PCB, Power Supply, and Panel / accounting for 2.2% of material suppliers). Advantech's carbon management experience sharing is illustrated. Also, its industry benchmark carbon management cases are provided for reference as educational training. Also, it is required to formulate the company's future carbon management plan. Moreover, sustainable carbon management trends and education training courses for all first-tier suppliers are provided. In addition, Advantech and power supply suppliers evaluate the use of new power supplies to improve energy efficiency. Also, the internal product department is coordinated to introduce higher-efficiency power supplies and replace lower-level power supplies according to project requirements and international standards, so as to comprehensively improve product power efficiency.

After 2023, we will continue to cultivate and train suppliers. Suppliers are provided with resources and work together to incubate new technologies and apply new materials. The following is the planning of the projected project plan:

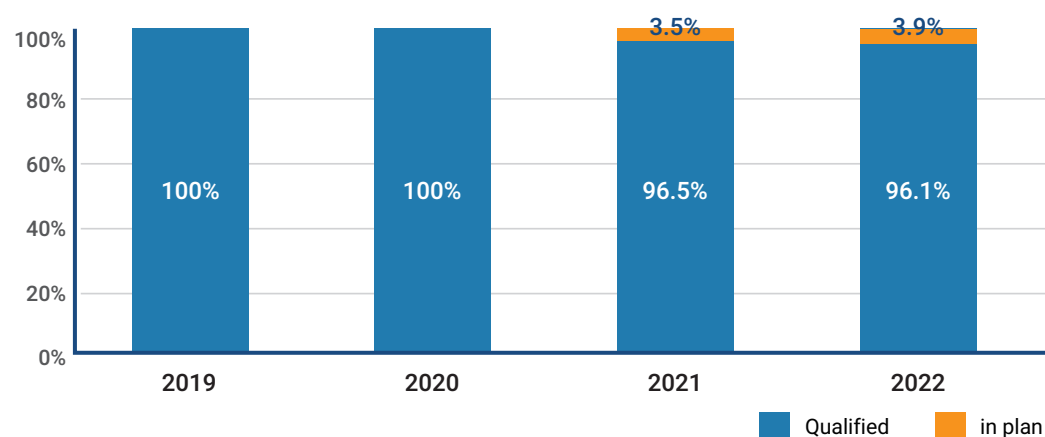
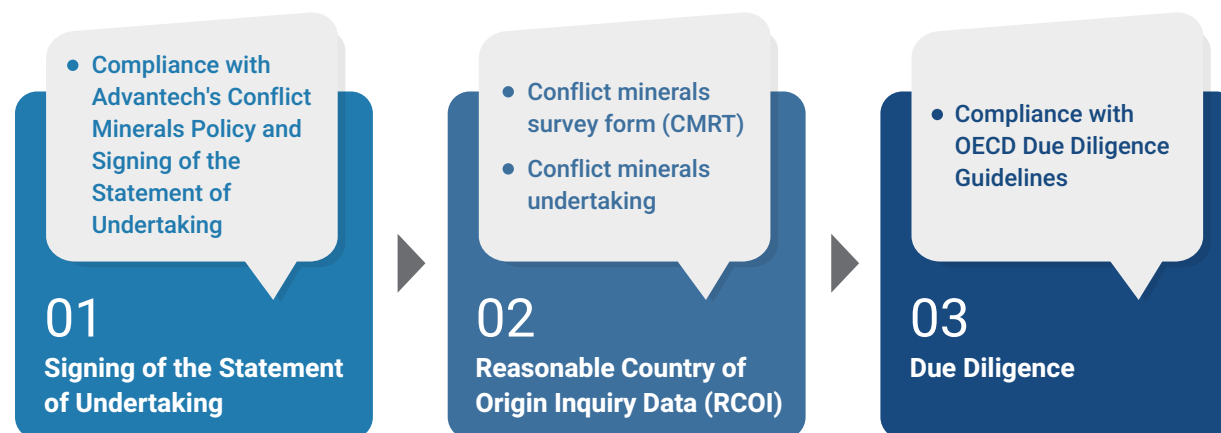
Annual	Planned Execution Project
2023	Completion of carbon emission survey of high-carbon emission suppliers
2024	Completion of energy-saving and carbon-reduction counseling for 20% of high carbon emission suppliers
2025	Evaluation and completion of ISO 14064 inventory and certification of 20% high carbon emission suppliers

Sourcing Strategy of Conflict Minerals

Advantech follows the Responsible Business Alliance (RBA) Code of Conduct to implement the policy of not using conflict minerals. In addition to our own declaration and commitment not to accept the use of metals from conflict mining areas, we also require Advantech's suppliers to abide by and make commitments to ensure that Advantech's supply chain respects human rights and does not have involvement in conflict activities. As of 2022, 100% of Advantech's significant suppliers had signed the Declaration of Non-Use of Conflict Minerals. In addition, none of Advantech's own products use conflict minerals.

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

1. Signing of pledge: Members of the Preferred Vendor List have signed a letter of commitment to confirm compliance with Advantech's conflict minerals policy, guaranteeing correct and complete disclosure of their smelter sources.
2. Investigate: Through the Conflict Minerals Reporting Template (CMRT), conduct an investigation on the source of minerals used by suppliers and identify the source of the 3TG smelter.
3. Due diligence: Advantech's supplier risk identification and evaluations are carried out in accordance with the due diligence guidelines procedures formulated by the Organization for Economic Cooperation and Development (OECD).



According to the 2022 conflict minerals due diligence results, we have identified 259 smelters in our supply chain. Among them, a total of 249 smelters are eligible-compliant per the standards of the Responsible Minerals Assurance Process (RMAP) (or equivalent cross-accreditation assessment) and a total of 10 are participating in the plan, and the qualified smelter ratio is 96.14%.

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

2.4 Risk Foresight and Crisis Management

Advantech defines each risk according to the overall operation direction of the Company. Also, the enterprise risk management system (ERM) is introduced to establish and identify, accurately measure, effectively supervise and strictly control the risk management mechanism. Possible losses are prevented within the acceptable risk range. Also, best risk management practices are continuously adjusted based on changes in the internal and external environment. Advantech's risk management process identifies major risks that fully cover economic, environmental, and social issues. Key topics on the economic side include business inheritance, domestic and overseas governance structures, sustainable supply chains, information security, taxation strategies, etc. Environmental topics include low-carbon and green products, climate risks, etc. The social aspect includes talent cultivation and retention, social welfare, customer management, labor relations, personal data protection, etc. The survey results of the annual major suitability issues are also used as one of the basis for the identification and measurement of the annual major risk issues. Taking 2022 as an example, major sustainability issues are also regarded as major strategic or operational risk issues in corporate risk management, accounting for 70% of the total.

Advantech reduces or avoids the impact of risks on the Company's possible income, costs, and goodwill through risk management mechanisms. Meanwhile, the opportunities that risks may bring will also be actively explored, such as investing in related applications in the solar energy, wind power, and electric vehicle industries, and being developed as an energy management platform applicable to different industries.

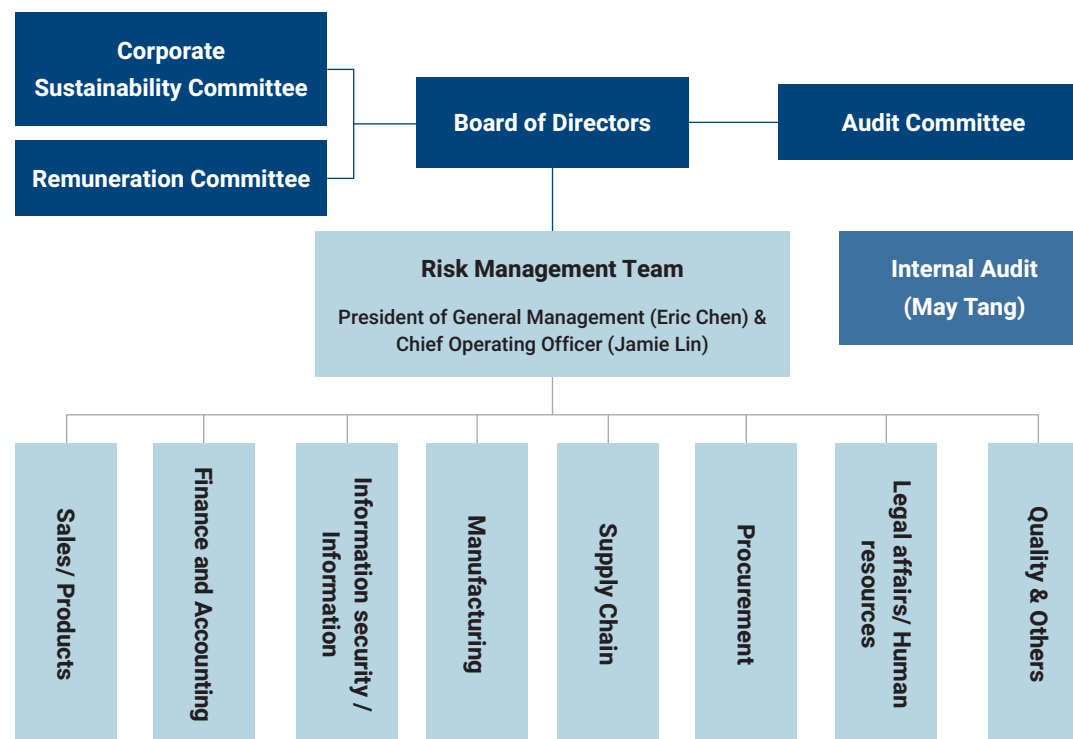
Risk Management Organization

The Board of Directors is the highest governance entity for risk management, and it supervises the update of the overall risk management mechanism and approves policies. Pan-strategic risks are mainly reported and tracked to the Board of Directors, Sustainable Development Committee and Compensation Committee. Pan-operational risks are primarily overseen by the Audit Committee.

The risk management team is the highest management unit for risk management. It is responsible for the implementation of the risk management process. Also, it reviews the performance of risk mitigation on a quarterly basis. The responsible manager is responsible for setting up response measures. Internal auditors shall closely monitor or even assist in driving all risk management processes. It shall also provide opinions and conduct audits on various risk topics as needed. Basically, if there is any major risks with unclear results, they shall be included in the project audit of the current year. The proposal for the evolution of the risk management mechanism is also discussed by the risk management team and internal audit before putting forward.

Due to the rapid changes in the business environment, the risk management team and management authorities will often observe and propose various risk changes that need attention. Relevant response plans have been added or adjusted, and included in the discussion and tracking of quarterly risk management meetings or routine management meetings.

Figure 2.4.1 Risk management organization



the following information can be referenced from the risk management page of the Company's website ([Chinese/English](#))

- Risk Governance Structure and Major Risk Subjects
- Risk Management Policy and Procedures
- Risk Management Mechanism and Processes
- Emerging Risks and Mitigation Actions
- Sensitivity Analyses for Major Risks

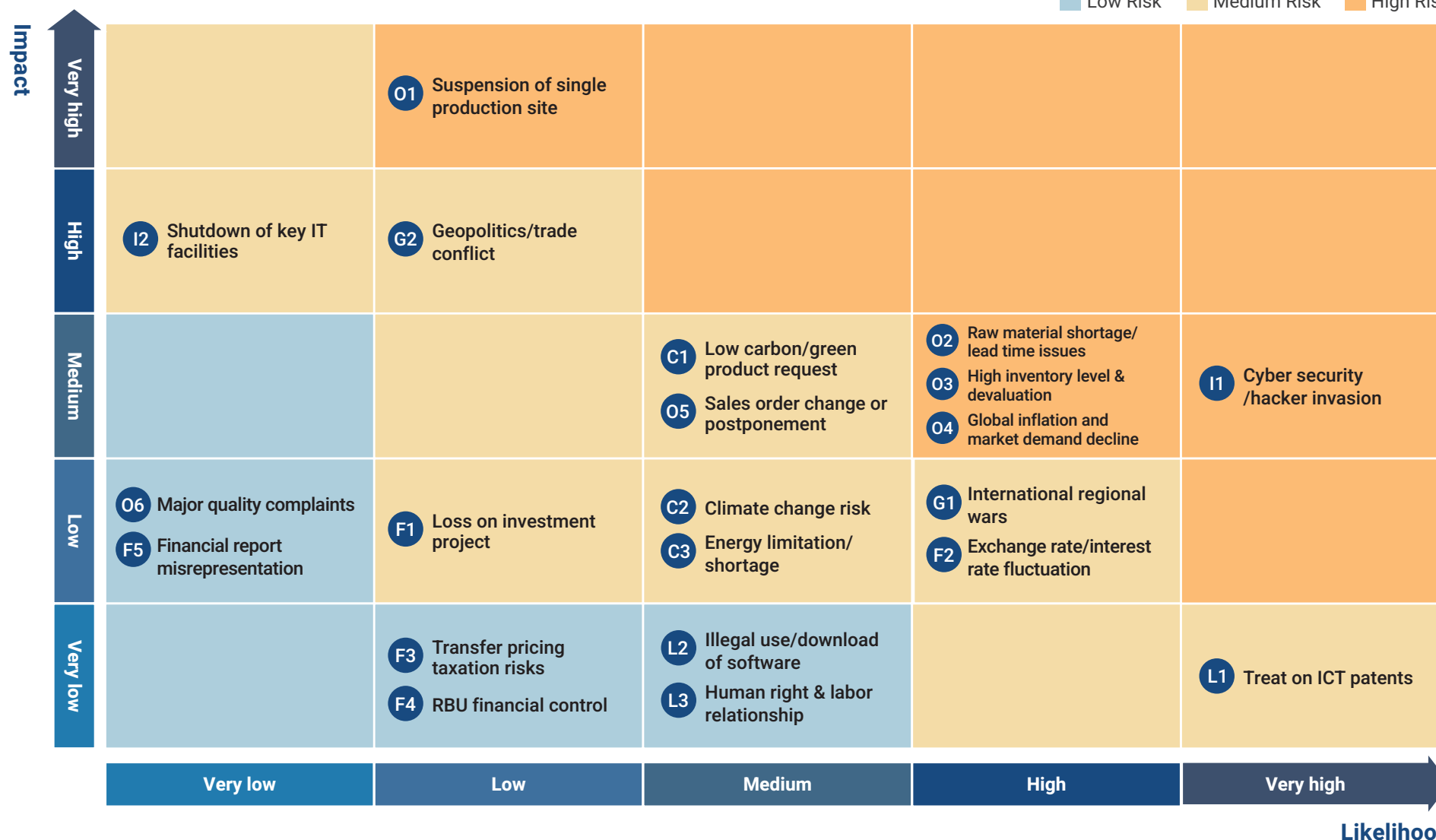
Advantech's Risk Map and Response Actions for Projects with Major Risks

Figure 2.4.2 2022 Pan-Operational Risk Map

Pan-operational risks are summarized and labeled into six categories:

I Information security **O** Operation **F** Finance **L** Compliance and litigation **C** Climate risk **G** Geopolitics

■ Low Risk ■ Medium Risk ■ High Risk



The high-risk areas marked in orange in the risk map represent that the risk appetite of the Company has been exceeded. Risk adaptation strategies and response measures need to be adopted to reduce the probability of occurrence or potential magnitude of impact, and the effectiveness of improvement is closely monitored.

Figure 2.4.3 Items of material risks and the response actions taken

1 Operation suspension of a single production site	<ul style="list-style-type: none"> ● Transfer of production in Linkou/Kunshan ● Production support collaboration with external partners 	<ul style="list-style-type: none"> ● Establishment of a sound safety management system ● Strengthening of self-owned or outsourced bases in third places
2 Raw material shortage/delivery issues	<ul style="list-style-type: none"> ● Establishment of a direct strategic supply relationship with key vendors ● Proactive use of alternative materials and suppliers with low sustainability risks 	<ul style="list-style-type: none"> ● Market trend and industry analysis of key raw materials ● Communication and management of global customers, and negotiation of necessary price increases
3 High inventory and risk of falling prices	<ul style="list-style-type: none"> ● The work order allocation of factories on both sides of the strait has been greatly rationalized ● Commonly used materials are changed to use the leveled basis to place orders 	<ul style="list-style-type: none"> ● The owner and monthly KPI of each material item are clearly defined ● Enhancement of inventory forecast and monitoring mechanism
4 The slowdown in demand amid global inflation concerns	<ul style="list-style-type: none"> ● Enhanced software and integration services to increase customer loyalty ● Sales team to enhance customer order and demand management 	<ul style="list-style-type: none"> ● Close tracking of unshipped orders, including custom and standard products ● Strict control of the number of headcount and operating expenses in each region
5 Information security or hacking incidents	<ul style="list-style-type: none"> ● The SAP server was moved to an external IDC to promote Linkou's remote backup mechanism ● The promotion of diagnosis tools for firewall policies 	<ul style="list-style-type: none"> ● 3-2-1 Data backup mechanism has been extended to major overseas regions ● Strengthening of cyber security education and training, and engineering drills of social letters



Project Highlights 1

Number of trainees for internal control and risk management courses: about 1,600 trainees in 2021; more than 4,000 trainees in 2022.



Highlight Case 2

Expansion of Recipients of the 2022 Risk Management Opinion Survey

The directors/managers/assistant managers in the Greater China Region were targeted for the first time for investigation, and a total of 988 copies were sent. The response rate was about 34%.

Opinion survey of executives above the vice president level and stakeholders: A total of 37 people was sent in the fourth quarter of 2022 with a return rate of 57%. A total of 25 people was sent in the fourth quarter of 2021 with a recovery rate of 48%.