

Lanner

Innovating for the Future

5G



CSR Report

企業社會責任報告書

2018

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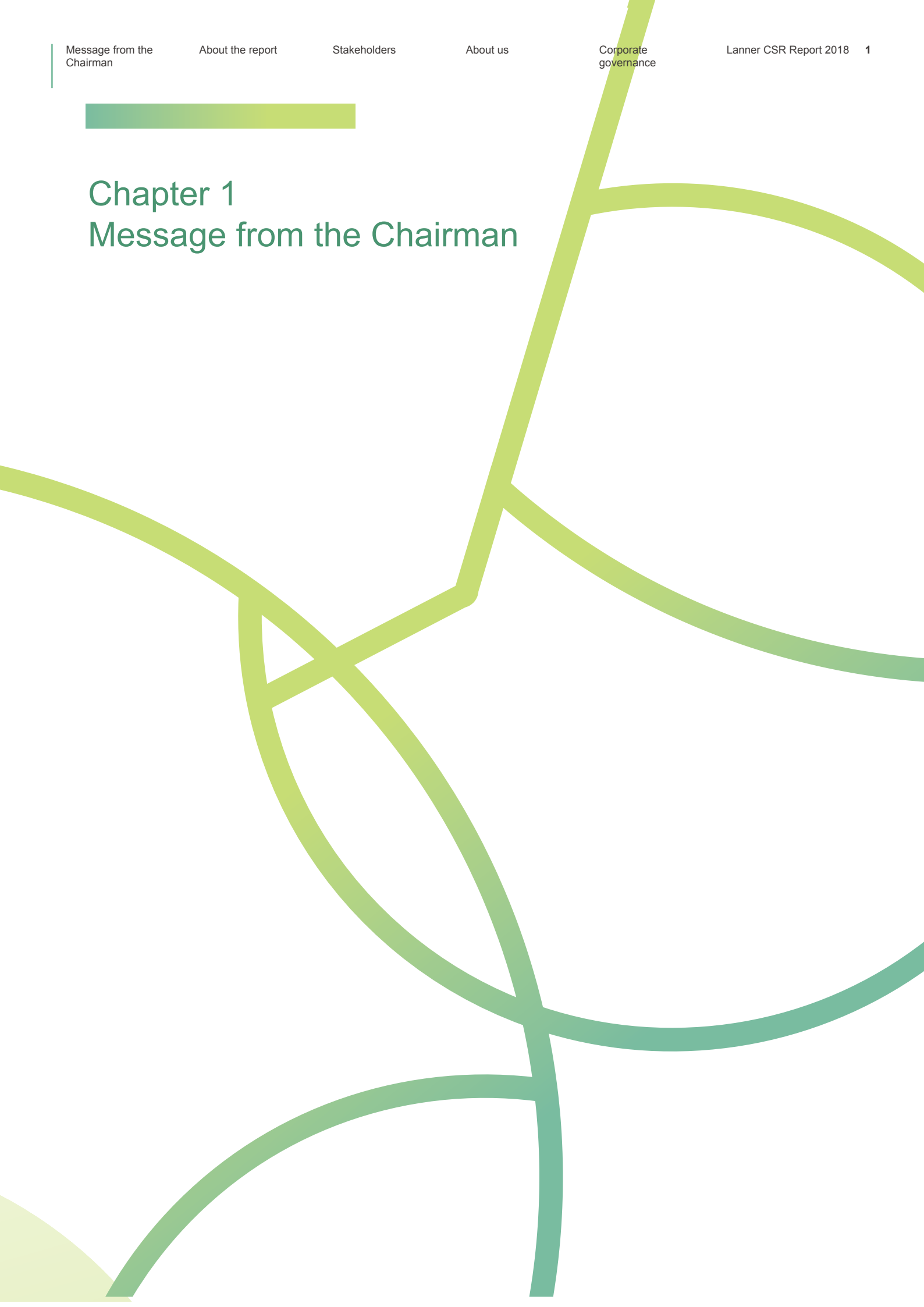
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Charity



Chapter 1

Message from the Chairman



Message from the Chairman

The 17 Sustainable Development Goals (SDGs) introduced by the United Nations have been accepted among businesses worldwide as common guidelines to sustainable practice, and for the first time in history, the Company is adopting the SDGs to guide its sustainability efforts.

Economic aspect: Compound growth rate between 2011 and 2018 reached 16%

The Company supports UN SDGs 8, which is to promote sustained, inclusive and sustainable economic growth.

In this regard, the Company generated NT\$7,460,780,000 of net operating revenues in 2018, up 16% from the NT\$6,434,499,000 reported in 2017, whereas net income was concluded at NT\$424,236,000 for the year, representing a 21.7% growth over the NT\$348,628,000 in 2017. Owing to the contributions of our employees, the Company was able to achieve a compound growth rate of 16% between 2011 and 2018, while maintain an EPS above NT\$3 for 7 consecutive years before achieving record-high NT\$3.92 in 2018. In terms of network security, Lanner has established its reputation as a leading manufacturer in Taiwan by supplying quality products and advanced technologies to customers and industry peers.

Environmental aspect: Protecting Earth's resources and reduction of energy and emission

The Company supports UN SDGs 13 - To take urgent action to combat climate change and its impacts, and SDGs 12 - To ensure sustainable consumption and production patterns.

We adopt strict standards on all raw materials used in electronic products for the purpose of protecting Earth's environment, which are fully compliant with environmental protection laws around the world. In Europe, these laws include Restriction of Hazardous Substances (RoHS) and Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) that are applicable to electronic and electrical equipment. We begin our compliance assessment procedures from as early as the design and manufacturing stage; furthermore, we will be undertaking a redesign of our air conditioning system to reduce energy and carbon emission.

Social aspect: Friendly workplace and social engagement

In the social aspect, Lanner has identified employees as internal stakeholders and donees as external stakeholders. Our efforts in this regard correspond to UN SDGs 1 - End poverty in all its

forms everywhere, SDGs 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, and SDGs - Achieve gender equality in the workplace.


For employees, Lanner considers accomplishments in "life" and "profession" to be equally important, and has therefore implemented a balanced human resource policy while created a work environment that caters for employees' career and lifestyle at the same time. Lanner believes in every employee's potential to contribute to the growth of the Company, and in the future, Lanner will continue operating in the best common interest of individual employees, the organization, shareholders and customers.

With respect to social welfare, Lanner Culture and Education Foundation was founded and commenced operation in August 2017 to serve as the Company's charity arm. Lanner Culture and Education Foundation joins Lanner Electronics Inc. in charity and executes social responsibility programs with 4 main themes: "Education," "Culture," "Localization" and "Act of Decency." Through action, we solve problems and expand our influence to change the society for the better.


One thing worth mentioning is that Lanner is currently engaging National Chiao Tung University in industry-academia collaboration on edge computing, and has invited the institution to participate in the development of a 5G mobile computing platform as part of its social engagement efforts in 2018. Lanner and National Chiao Tung University (NCTU) will be co-founding a joint laboratory that combines expertise from NCTU Department of Computer Science and Department of Mechanical Engineering on 5G studies in the EU and Lanner's SDN/NFV offerings to apply 5G for low-latency, high bandwidth, and large-scale connections. Meanwhile, topics such as next-generation high-end server, heat sink, wireless network and mobile network will all be part of our industry-academia interaction. Through this collaboration, we hope to contribute to the upgrade of domestic industries while create more opportunities for talent and knowledge exchange.

Chairman





Chapter 2 About the report



This report adopts the new GRI guidelines as the reporting framework

Overview of the report

This is the 2018 corporate social responsibility (CSR) report of Lanner. We will continue publishing CSR reports in the future as a means to disclose non-financial performance to the outside world, and show the public how we have taken actions toward achieving our corporate vision of sustainability.

The 2018 CSR Report discloses information from January 1, 2018 to December 31, 2018. The Company releases CSR reports once a year, and this particular report is prepared in accordance with GRI Sustainability Reporting Standards (GRI Standards). The report follows the core option of the GRI guidelines, and contains a GRI index.

Boundaries of disclosure

Economic data of this report was sourced from consolidated financial statements presented in the 2018 annual report. Boundaries of environmental and social disclosure are limited to Lanner Electronics Inc. For more details on affiliated enterprise, please refer to consolidated financial statements presented in the 2018 annual report.

External assurance

All financial data disclosed in this report was taken from consolidated financial statements audited by KPMG Taiwan using International Financial Reporting Standards (IFRS). Other international standards that Lanner has been certified for include: ISO 9001 - Quality management system, TL 9000 - Communication quality management system, ISO 14001 - Environmental Management System, IECQ QC 080000 - Hazardous Substance Process Management, OHSAS 18001 - Occupational Health and Safety Management System, ISO 28000 - Supply Chain Security Management, and Authorized Economic Operator (AEO).

Contact information

Lanner Electronics Inc.

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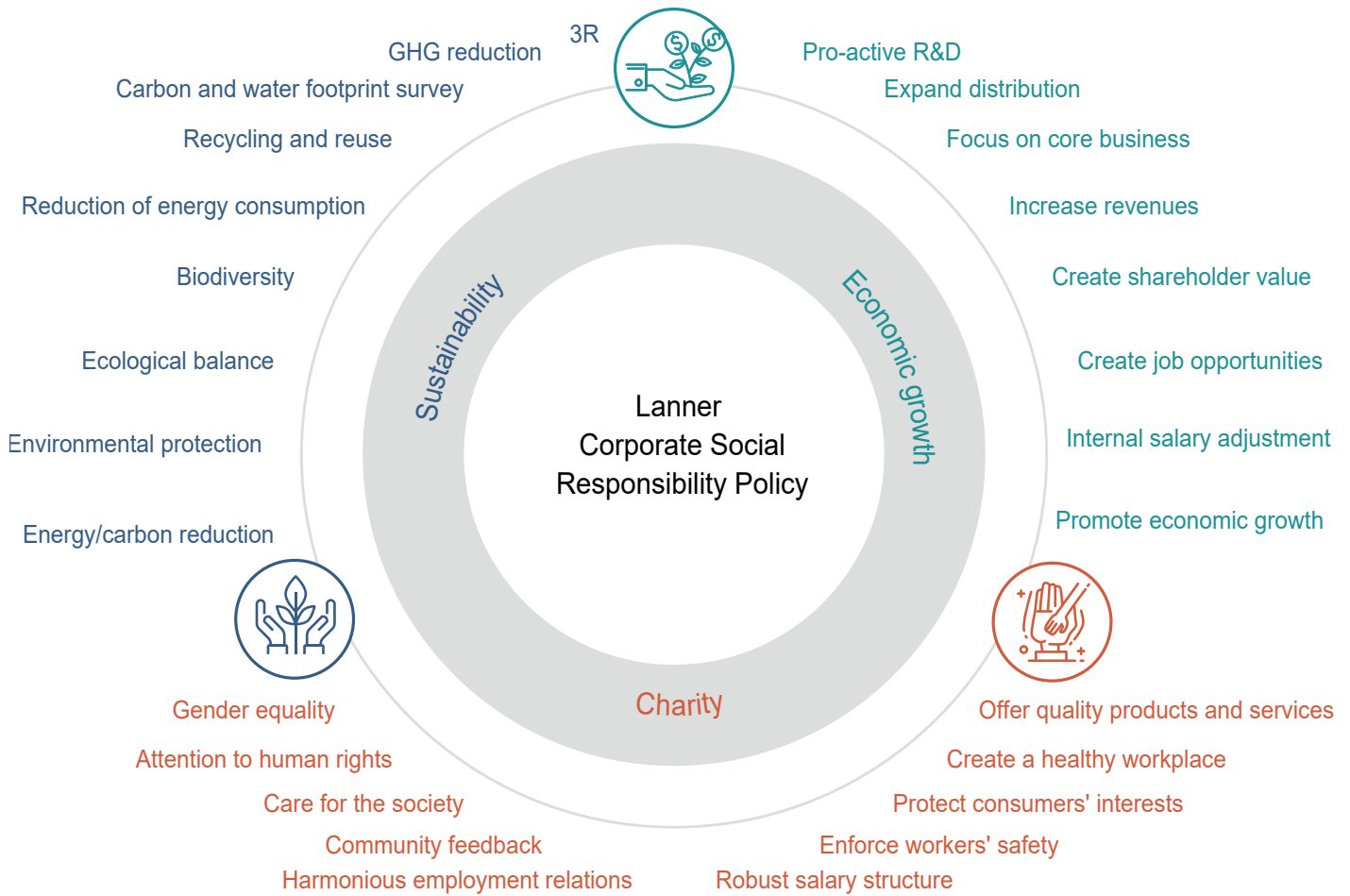
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▼ Lanner's CSR Policy





Chapter 3 Stakeholders



Stakeholder engagement

We have devised robust methods to identify the stakeholders whom we engage with. First, members of the CSR Committee brainstormed to identify possible stakeholders including employees, investors, government agencies, customers, suppliers and local communities.

We then adopted the 2015 AA1000 Stakeholder Engagement Standard (AA1000 SES 2015) established by non-government organization - AccountAbility and applied the 5 principles: responsibility, influence, tension, dependency and diverse perspective to rate all stakeholders we have identified. At the end of the process, we were able to determine the 6 stakeholders that were of utmost priority to the Company.

Method, frequency and procedures of stakeholder engagement

For each of the 6 stakeholder categories identified, we engaged them in a number of approaches including unilateral, bilateral, one-to-many and many-to-one. See the Stakeholder Engagement Table for details on the method, frequency and procedures used.

New GRI stakeholder engagement processes in 2018

The Company adopts Business Reporting on the SDGs jointly established by GRI and The UN Global Compact as the framework and as one of our management approaches toward promoting the 17 United Nations Sustainable Development Goals (SDGs).

▼ New stakeholder engagement processes introduced in accordance with Business Reporting on the SDGs



▼ Method, frequency and procedures of stakeholder engagement

Stakeholders	Means of communication	Frequency of communication	Records
	Means of communication	Frequency of communication	Records
Employees	Labor-management meetings	Once a quarter	Labor-management meeting minutes
	Employee performance evaluation	Twice a year	Employee performance evaluation worksheet
	Welfare committee meetings	Once a quarter	Welfare committee meeting minutes
	Internal communication (mail, posters, elevator bulletin)	Unscheduled	Mail, posters, photographs
Non-profit organizations	Phone interview	Unscheduled	Phone interview records
	Face-to-face interview	Unscheduled	Interview records
	CSR mailbox	Unscheduled	Mail
Investors	Annual general meetings	Once a year	Shareholder meeting report, meeting manual, meeting minutes
	Monthly revenue announcements	Once a month	Monthly revenues and news releases, available from MOPS and company website
Customers	CSR audit	Once a year	Customers' audit records
	Quarterly business meetings	Once a quarter	Meeting minutes
	Customers' environmental protection requirements	Once a year	Customers' specifications
	Customer satisfaction survey	Once a year	Customers' response records
	Compliance survey	Unscheduled	Customer survey sheet
	Customers' supplier conferences	Once a year	Meeting records
Suppliers	Documentary review	Upon addition of new supplier	Supplier contract
	On-site audit	Once a year	Supplier audit records
	Supplier training	Unscheduled	Training materials
Government agencies	Exchange of correspondence	Unscheduled	Correspondence
	Market Observation Post System (MOPS)	Unscheduled	
	Company website	Unscheduled	

Response to stakeholders' concerns

From the questionnaires recovered, we applied weight to the responses and determine issues that are of most concern to stakeholders. These issues were then matched to GRI Standards and presented in the form of material topics. For details on how we responded to each of the key issues and concerns and the list of stakeholders identified for each key issue/concern, please refer to Chapter - "Identification of Material Topics and Boundaries" and Chart - "Ranking of Material Topics" in this report. Below are the standard procedures we took to respond to stakeholders:

Issues concerning external stakeholders are discussed in regular department meetings.

All department heads report regularly to the senior management on stakeholder issues and future plans.

A CSR Committee has been assembled to analyze and manage impacts of each issue.

Through ongoing internal engagement, the CSR Committee reports findings to the senior management, determines internal/external boundaries of disclosure and material issues, and devises response solutions for the Company.

Internal audits are conducted to review the adequacy of supporting evidence for public information.

Once the scope and boundaries of disclosure have been determined, a final report or press release is released to officially address stakeholders' concerned issues.

Process and result of internal engagement are maintained on record in electronic or printed form to serve as evidence for third-party certification if necessary.

In addition to the standard procedures mentioned above, a "Stakeholders" section has been created on the website while a mailbox (kenny@lannerinc.com) has been provided exclusively to communicate with stakeholders on any queries, suggestions or even complaints they may have. This open communication ensures sound interaction with our stakeholders.

Defining report contents

We gather sustainability reference from numerous sources to guide our CSR practices. We have also determined our material topics by adopting a 4-step process: Identification, Prioritization, Validation, and Review.

Step 1: Identification

In the identification stage, the CSR Committee held a series of internal meetings and applied GRI Standards, TWSE's assessment criteria, and local and foreign CSR assessment standards and sustainability indicators to compile a list of issues that need to be addressed in this report.

Step 2: Prioritization

In this stage, we adopted the three principles of GRI Standards to rank the Relevant Topics by their significance.

- Principle 1: The reporting organization shall identify its stakeholders, and explain how it has responded to their reasonable expectations and interests.
- Principle 2: Sustainability Context - The report should disclose the organization's improvements and mitigation measures taken to address local or global economic, environmental and social trends over the long term.
- Principle 3: Materiality - The organization should verify that the topics it has chosen do reflect the organization's significant economic, environmental and social impacts. Meanwhile, we hold regular internal meetings to gather issues that are of concern to stakeholders, and report findings to the executive management.
- Principle 4: Completeness - The report shall include coverage of material topics and their aspect boundaries, sufficient to reflect significant economic, environmental, and social impacts.

Step 3: Validation

We performed internal validation to improve the quality of information disclosed, and in doing so deliver the requirements of GRI Standards on Accuracy, Balance, Clarity, Comparability, Reliability and Timeliness.

Step 4: Review

The Company will begin gathering stakeholders' feedback after the report has been published, so as to prepare for the next reporting cycle. Opinions provided by stakeholders will prove useful in the Identification step of the next report.

▼ Material topics and aspect boundaries

Rank	Material topic	Impact boundary	Corresponding GRI
1	Economic performance	Investors	201-1
2	Control of hazardous substance	Suppliers	Self-defined topic
3	Corporate governance	Government agencies	102-16
4	Diversity and equal opportunity	Employees	405-1/405-2
5	Occupational safety and health	Employees	403-1
6	Indirect economic impacts	Non-profit organizations	203-1
7	Materials	Suppliers	301-1
8	Energy	Government agencies	302-1
9	Non-discrimination	Employees	406-1
10	Training and education	Employees	404-1
11	Water	Government agencies	303-1
12	Supplier environmental assessment	Suppliers	308-1
13	Anti-corruption	Employees/Government agencies	205-3
14	Employment	Employees	401-1
15	Labor/management relations	Employees	402-1



Stakeholder inclusiveness

Identify stakeholders and respond to their reasonable expectations and interests. Propose material topics and issues of concern through communication with stakeholders.

Material topics identified based on GRI 101



Sustainability context

Sustainable development incorporates 3 aspects: economic, environmental and social, and we have made associations with environmental and social interests on a broader scale.



Completeness

Material topics and boundaries of this report adequately reflect economic, environmental and social impacts of the Company's operations. They also include evaluation of the Company's performance during the reporting period.



Chapter 4 About us



Global leader in networking and communication hardware

Lanner Electronics Inc. was incorporated in 1986 and has since grown into a leading brand of networking and communication hardware in the world. Headquartered in New Taipei City, the Company currently has more than 1,000 employees worldwide. Lanner shares were listed on the Taipei Exchange on May 19, 2003 with an ID of 6245.

Lanner first started with a focus on industrial computers and later expanded product line to network security. It currently has close working relationship with world's major network security companies. As 5G technology emerges on a global scale, Lanner began expanding its involvement into the telecommunication field, and after 3 years of hard work, Lanner's vCPE/uCPE have now been adopted by major carriers as a solution for software-defined wide area network (SD-WAN).

Backed by 30 years of systems, PCB and hardware engineering experience, Lanner not only provides customers with reliable and cost-effective high-performance computing solutions, but offers design and development of advanced network applications and rugged computers as well. Lanner specializes in supplying system interfacing solutions and equipment needed by service providers and application developers. Meanwhile, Lanner works with industry's leading brands to source the latest technologies and explore ways to extend product lifespan.

The Company's main product lines include Network & Communication (NC), Embedded Computing (EC), Industrial Cyber Security (ICS), Smart Grid (SG), Intelligent Transportation Solution (ITS) and Telecom Applications (TA).

We have positioned ourselves as a "supplier of vertical applications and platforms" and were one of the first companies to venture into network security platform; this foresight has earned us our industry-leading position and a 40% share of the Chinese market today. Lanner invests substantial budget into R&D each year, and has established R&D centers in Taipei and Beijing to house a strong team of high-tech talents from around the world and coordinate them towards developing competitive advantage. For further enhancement of global competitiveness, we have set up foreign marketing offices in USA, Canada and China to provide customers with timely and satisfactory service.

We have set our mission to becoming the leader of the Internet generation, and adopted the vision to lead the development of networking, security, communication and Internet technologies in the world. We possess the technological capacity and competitiveness to accomplish these goals, including the ability to respond quickly and flexibly to customers' needs with customized solutions. There had been no material change in the Company's relationship with supply partners during the reporting period.

▼ Product weight relative to sales

NC - Network & Communication	87.92%
AC - Applied Computing	6.70%
Others	5.38%
Subtotal	100%

▼ Markets served

USA	Canada
Mainland China	Southern Asia
Russia	Israel
EU	Japan

Glorious accomplishments

Three of Lanner's products were recognized for the 26th "Taiwan Excellence Award," including: NCA-1611 - high-performance virtual network platform, HTCA-6200 - hybrid telecommunication platform, and R6S - shock and water-resistant fanless embedded platform for rail systems. Lanner's products won favor of the jury for having exhibited innovation and excellence in several areas from R&D, design, quality, marketing to production. The award further affirms Lanner's accomplishment in telecommunication, information security and smart transportation.

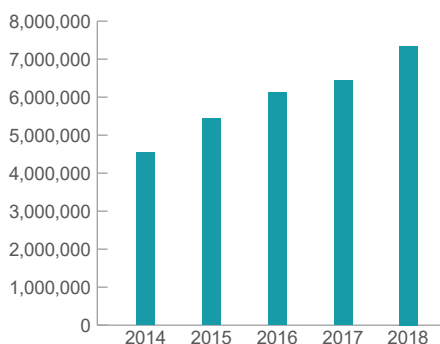
▼ Award-winning products

- 23rd Taiwan Excellence Award: FX-7220 - cloud-based modular firewall, FW-8877 - wireless IoT security gateway
- 24th Taiwan Excellence Award: NCA-1010 - wireless IoT security gateway, UP-2010 - Poe network security platform
- 25th Taiwan Excellence Award: FW-8896 - high-performance modular SDN/NFV platform
- 26th Taiwan Excellence Award: NCA-1611 - high-performance virtual network platform, HTCA-6200 - hybrid telecommunication platform, and R6S - shock and water-resistant fanless embedded platform for rail systems

2018 consolidated revenues increased 16% annually to record-high NT\$7.461 billion

Consolidated revenues

(NTD thousands)



Results of business plans

Driven by a customer-centric philosophy, Lanner is dedicated to offering professional products and quality services, and distinguishes itself from market competitors through high degree of integration and high-end offerings. In response to trends such as network virtualization, software-defined network and 5G, the Company ventured into the telecommunication market offering new solutions such as edge computing, vCPE for businesses, 5G Cloud RAN and network security virtualization service at a relatively early stage, and managed to tap into the high growth potentials of a new market. By working with strategic partners, the Company is able to achieve mutual gains in terms of technology, production and market presence, and set good example of knowledge transfer for the industry.

Owing to the contributions of our employees, the Company was able to achieve a compound growth rate of 16% between 2011 and 2018, while maintain EPS above NT\$3 for 7 consecutive years before achieving record-high NT\$3.92 in 2018. In terms of network security, Lanner has established its reputation as a leading manufacturer in Taiwan by supplying quality products and advanced technologies to customers and industry peers.

The Company generated NT\$7,460,780,000 of net operating revenues in 2018, up 16% from the NT\$6,434,499,000 reported in 2017, whereas net income was concluded at NT\$424,236,000 for the year, representing a 21.7% growth over the NT\$348,628,000 in 2017. Profit growth was mainly attributed to increases in both operating and non-operating revenues.

101%

Lanner achieved 101% of its budgeted revenues in 2018, representing a solid accomplishment.

- Lanner achieved 101% of its budgeted revenues in 2018, representing a solid accomplishment.
- Operating expenses totaled NT\$1,475,104,000 in 2018, up 13% from the NT\$1,302,073,000 reported in 2017 and representing a budget accomplishment rate of 99%.
- In terms of profitability analysis, gross profit margin in 2018 was calculated at 27.2%, down 0.8 percentage point from the 28% in 2017; operating expense ratio, however, reduced from 20.2% in 2017 to 19.8% in 2018. Net operating profit increased 11.6% for the year. The Company remains committed to improving operating costs, and despite the strengthening of the NTD and increase in the price of raw materials, net income still grew by 21.7% compared to 2017.

21.7%

and despite the strengthening of NTD and increase in the price of raw materials, net income still grew by 21.7% compared to 2017.

▼ Economic performance

	Unit	2016	2017	2018
Capital	thousand dollars	1,036,446	1,046,494	1,089,934
Consolidated revenues	thousand dollars	6,120,048	6,434,499	7,460,780
Gross profit	thousand dollars	1,722,183	1,800,028	2,030,668
Income tax	thousand dollars	84,750	98,025	127,244
Consolidated net income	thousand dollars	410,147	393,927	477,039
After-tax earnings per share	dollars	3.83	3.27	3.92
Net worth per share	dollars	25.32	25.51	27.13
Employee salary and benefits (Note 2)	thousand dollars	1,003,119	1,032,478	1,187,169
Distribution of stock dividends (stock dividends/share)	dollars	0	0.2	0.8
Distribution of cash dividends (cash dividends/share)	dollars	3	2	2

Note 1: Since 2013, the Company has changed the basis of financial statement preparation from Generally Accepted Accounting Principles (GAAP) to International Financial Reporting Standards (IFRS).

Note 2: Information was prepared based on International Accounting Standards 19 - Employee Benefits (IAS 19).

Support for UN SDGs



The 17 Sustainable Development Goals (SDGs) were established by the United Nations in 2015. According to the UN, SDGs have become increasingly important to investors.

Because they not only represent the world's most imminent environmental, social and economic problems, and can also be used by investors to evaluate significant environmental, social and governance issues concerning their portfolio. There are already prominent examples of how SDGs offer potentials to generate consistent returns to investors, and present opportunities for businesses to address customers' concerns and offer distinctive, sustainability-related financial products. The following is a list of the 17 UN SDGs, for which Lanner is committed to supporting and has responded with appropriate actions.

Goal 1 - End poverty in all its forms, everywhere

Goal 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3 - Ensure healthy lives and promote well-being for all at all ages

Goal 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5 - Achieve gender equality and empower all women and girls

Goal 6 - Ensure availability and sustainable management of water and sanitation for all

Goal 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 12 - Ensure sustainable consumption and production patterns

Goal 13 - Take urgent action to combat climate change and its impacts

Goal 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16 - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17 - Strengthen the means of implementation and revitalize the global partnership for sustainable development

In addition, we have realized that now is the time to escalate sustainability reporting to the next level. SDGs promote transparency and accountability in a company, and our goal is to incorporate SDGs into reporting by following Business Reporting on the SDGs, and in doing so help all countries and companies solve world's most imminent problems. The Company also uses Business Reporting on the SDGs as a means to adjust its best practices and coordinate with stakeholders around the world towards common sustainability goals.



Chapter 5

Corporate governance



Corporate governance



The Company ranked in the 2nd tier (6%~20%) of TWSE's 5th Corporate Governance Evaluation

All directors have placed the Company's and shareholders' long-term interests at the top of their priority, and are able to exercise their duties in an independent and objective manner. For this reason, we continue to adopt best corporate governance practices by having shareholders elect a board of directors and creating functional committees to support the board's duty. We adopt the highest standard of corporate governance practice to ensure functionality of the board of directors, and thereby protect shareholders' interests.

Board of directors

There were 7 directors in the year of report, including 2 independence directors, and 28.57% of whom were independent directors. By enhancing independence and diversity of the board of directors, we enable them to fulfill their strategic role. The board of directors convenes meetings at least once per quarter. A total of 6 board meetings were held in 2018, which averaged an attendance rate of 86%. The position of Chairman was assumed by Chou I Wen, who oversaw all corporate governance affairs and hosted board meetings.

Lanner complies with "Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies," which requires board of directors to be elected after taking multiple factors into consideration, including: decision-making capability, management skills, analytical skills in accounting and finance, crisis management, industry knowledge, global vision, leadership, decision-making capabilities etc.

▼ Board members (December 31, 2018)

Designation	Name	Gender	Age 50 and above
Chairman	Chou I Wen	Female	Yes
Director	Representative of Jiou Kang Investment Co., Ltd.: Chen Jui Hsu	Male	Yes
Director	Yang Chen Wei	Male	Yes
Director	Chou Hsu Lung	Male	Yes
Director	Cheng An	Male	Yes
Independent Director	Lu Hung Te	Male	Yes
Independent Director	Tsai Hsing Tao	Male	Yes
Supervisor	Wen Feng Chiao	Female	Yes
Supervisor	Li Chung Wang	Male	Onboard since June 19, 2018

The board of directors also complied with "Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEX Listed Companies" by arranging external training programs. The following training arrangements were made for directors in 2018:

▼ Topics and hours of board of directors training

Designation	Name	Date of training	Organizer	Course name	Hours
Director	Chou I Wen	2018.09.27	Taiwan Securities Association	The Company Act Amendments and Case Studies 2018	3
		2018.11.23	Computer Audit Association	Introduction to Website Security and Audit (2)	6
Representative of corporate director	Chen Jui Hsu	2018.07.25	Securities and Futures Institute	Corporate M&A Trends and Case Studies	3
		2018.09.27	Corporate Governance Association in Taiwan	Audit Committee Practices	3
Director	Yang Chen Wei	2018.09.27	Taiwan Securities Association	The Company Act Amendments and Case Studies 2018	3
		2018.12.05	Business Council for Sustainable Development	Corporate Social Responsibilities and Trade - Sustainable Supply Chain	3
Director	Chou Hsu Lung	2018.09.27	Taiwan Securities Association	The Company Act Amendments and Case Studies 2018	3
		2018.12.05	Computer Audit Association	IT Audit and Governance_Innovative Application and Risk Management in Banking 3.0	6
Director	Cheng An	2018.07.31	Taiwan Corporate Governance Association	Introduction to New Personal Information Protection Laws in EU and China	3
		2018.08.03	Taiwan Corporate Governance Association	Directors' Corporate Leadership in an Environment of Rapid Technological Changes	3
		2018.08.31	Taiwan Corporate Governance Association	Legal Responsibilities and Case Studies of Insider Trading	3
		2018.07.27	Taiwan Corporate Governance Association	Taxation Issues Before and After M&A	3
Independent Director	Lu Hung Te	2018.05.03	Securities and Futures Institute	Anti-money Laundering and Compliance	3
		2018.10.26	Taiwan Institute of Directors	Rise of Innovative Economy - Changes and Challenges of Business Administration	3
Independent Director	Tsai Hsing Tao	2018.09.27	Taiwan Securities Association	The Company Act Amendments and Case Studies 2018	3
		2018.11.20	Securities and Futures Institute	Replacing Supervisors with Audit Committee	3
Supervisor	Wen Feng Chiao	2018.09.27	Taiwan Securities Association	The Company Act Amendments and Case Studies 2018	3
		2018.10.23	Securities and Futures Institute	Directors' and Supervisors' Liabilities in Misstatement of Financial Report	3
		2018.10.23	Securities and Futures Institute	Key Issues of the Latest Company Act Amendments	3
Supervisor	Li Chung Wang	2018.12.05	Securities and Futures Institute	Corporate Strategy and KPI	3
		2018.12.05	Securities and Futures Institute	Human Resource and Integration in Corporate M&A	3

The board of directors enforces corporate governance principles by constantly reviewing business performance and discussing strategic issues including economic, environmental and social impacts, and risks and opportunities associated with business activities. The board's major resolutions are announced immediately on MOPS, whereas, the Articles of Incorporation and board of directors conference rules are also disclosed publicly. Information such as directors' remuneration, functionality and avoidance of interest-conflicting motions has been made readily accessible by local and foreign investors. Lanner has a Remuneration Committee comprising independent directors and outside experts/scholars assembled under the board of directors.

Establishment of Remuneration Committee

The Company has assembled a Remuneration Committee comprising 2 independent directors and 1 outside expert to serve a term of 3 years. The Remuneration Committee held 3 meetings in 2018 and achieved a 100% attendance rate.

The Remuneration Committee has been assembled in conformity with the corporate governance spirit and to undertake the following responsibilities:

- ① Regularly review the adequacy of directors' and managers' salary/compensation policies, systems, standards and structures, and propose recommendations to the board of directors based on the prevailing competitive environment, operating policy and market rates.
- ② Regularly assess association of directors' and managers' compensation with corporate performance, review and adjust managers' compensation policy, and raise proposals to the board of directors.

Availability of supervisors

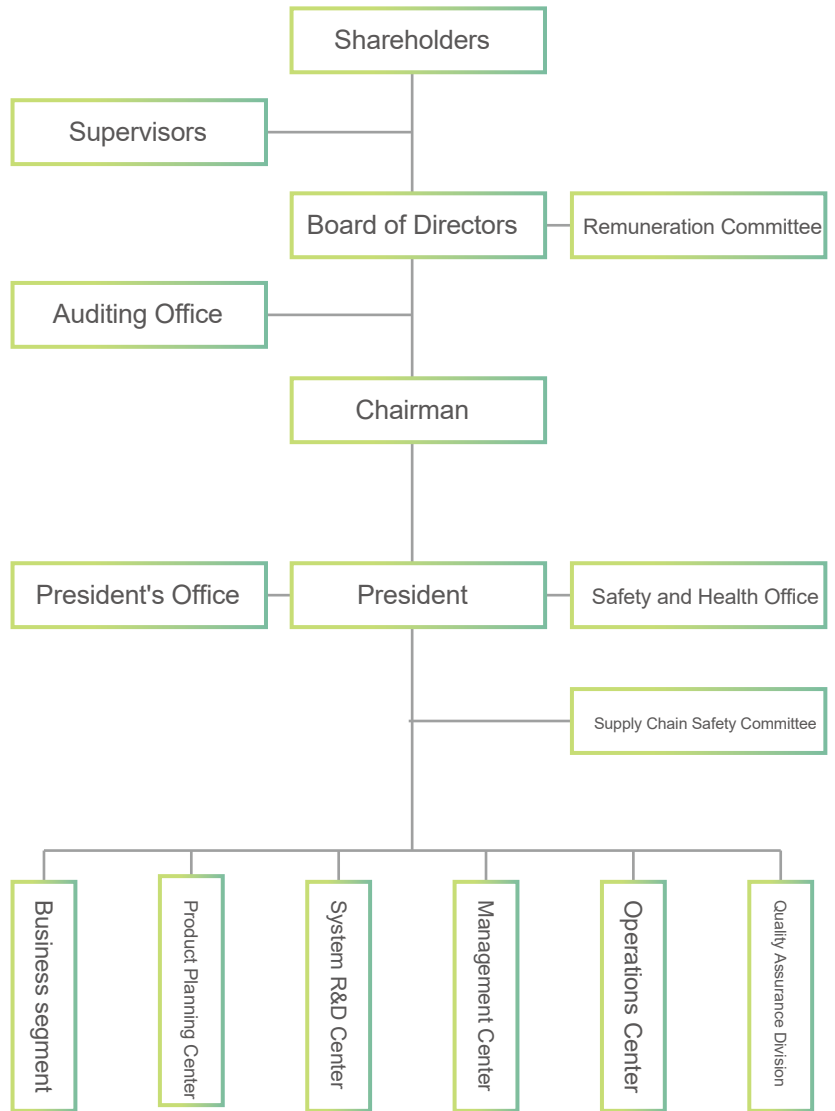
Lanner has made available 2 supervisor positions in accordance with the Securities and Exchange Act. The supervisors are responsible for overseeing the following matters: 1. Business and financial audit of the Company. 2. Audit of accounting records and documents. 3. Inspection of employees' duties and misconducts. 4. Review of budget and year-end account closure. 5. Review of earnings appropriation or loss reimbursement proposals. 6. Other duties required by law.

Enforcement of anti-corruption and business integrity

We adopt rules of the Responsible Business Alliance (RBA) as our ultimate guiding principles, and have implemented internal policies including "Corporate Governance Code of Conduct," "Business Integrity Code of Conduct," "Subsidiary Management Policy," "Group Affiliate, Special Entity and Related Party Transaction Procedures," "Insider Trading Prevention Procedures" and "Supplier and Employee Integrity Behavior and Anti-corruption Guidelines" to guide our actions. New recruits are required to sign commitments to integrity behavior and anti-corruption when reporting to duty, and are subjected to annual review and on-job ethical training on a regular basis.

The Company's management and employees are committed to enforcing the integrity policy, and demand that suppliers duly comply with integrity and anti-corruption guidelines in all business activities. In 2018, the Company received no complaint concerning the Company's/employees' violation of business integrity or involvement in illegal activities.

▼ Organization chart



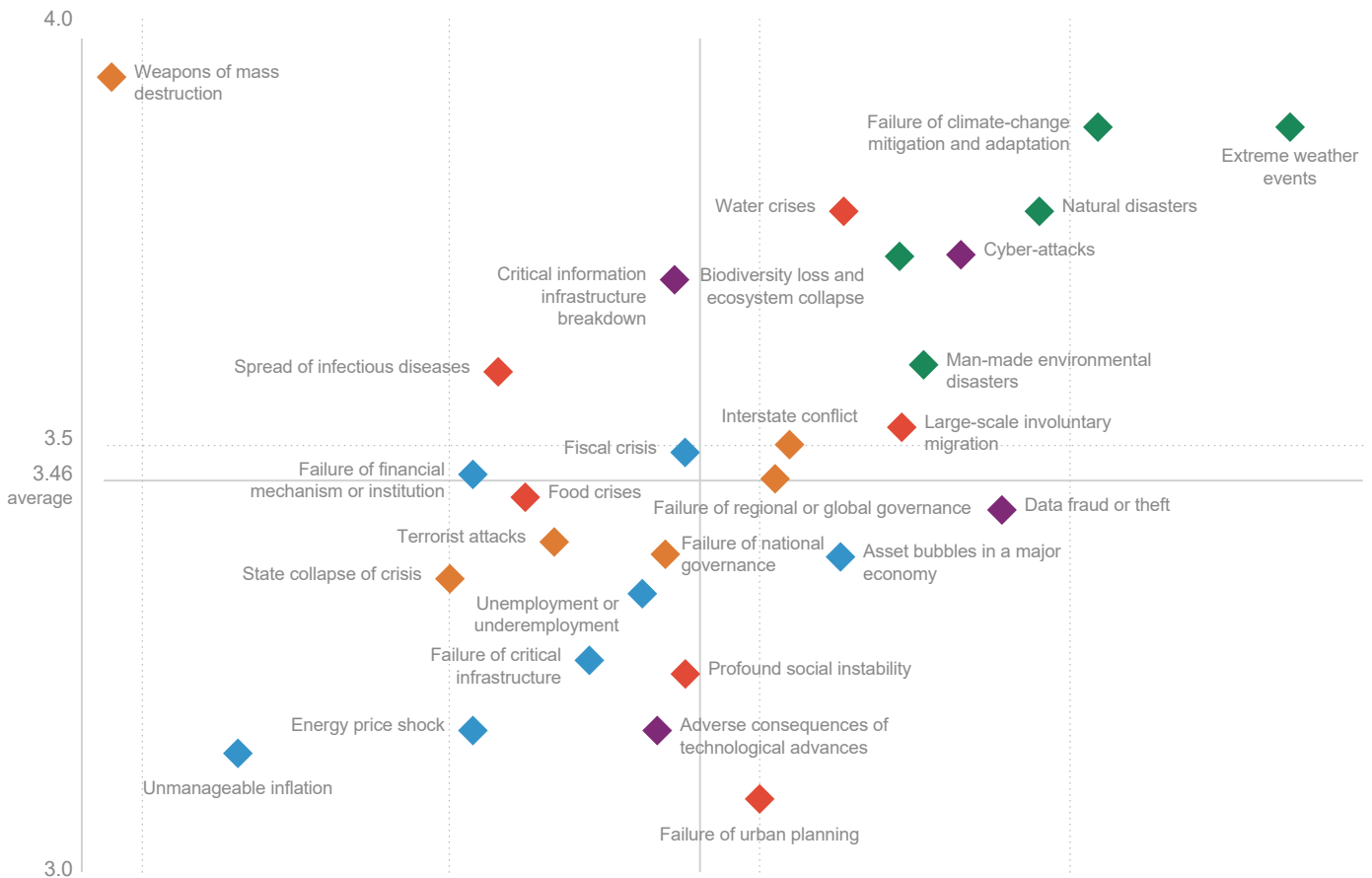
Connecting global risk management awareness

In 2019, World Economic Forum (WEF) released its Global Risks Report that indicated data breach and cyber-attack as two new risks in addition to climate change. Meanwhile, growing tension around the world may pose negative impact on the global economy and deter countries from cooperating in response to these major issues.

According to the WEF report, "climate change" has been named the most concerned issue among global experts and decision makers for 3 consecutive years, whereas "cyber-attack" is concurrently placed on the top-10 list of "most likely" and "most impact" risks. 82% of surveyed subjects expect risk of monetary and data theft caused by cyber-attack to rise this year, while 80% of surveyed subjects were convinced that such attack may disrupt operations. The survey says this "reflects how new instabilities are being caused by the deepening integration of digital technologies into every aspect of life."

The Company pays close attention to changes in global risk trends, and adjusts risk management approach and corporate governance practices accordingly. For a more detailed description of actual risk management practices undertaken during the reporting period, please refer to page 28 of the annual report.

▼ This is the first CSR report in which the Company has directed attention to the Global Risks Report released by World Economic Forum (WEF). WEF's 2019 report has indicated data breach and cyber attack to be the two new risks of concern in addition to climate change. The Company will continue paying close attention to changes in global risk trends, and adjusts risk management approach and corporate governance practices accordingly.



Certificate of third-party assurance

By obtaining certificate of third-party assurance, Lanner has fully aligned with international management standards from quality, environment, occupational safety, supply chain safety to information security management.



ISO 9001 - Quality management system

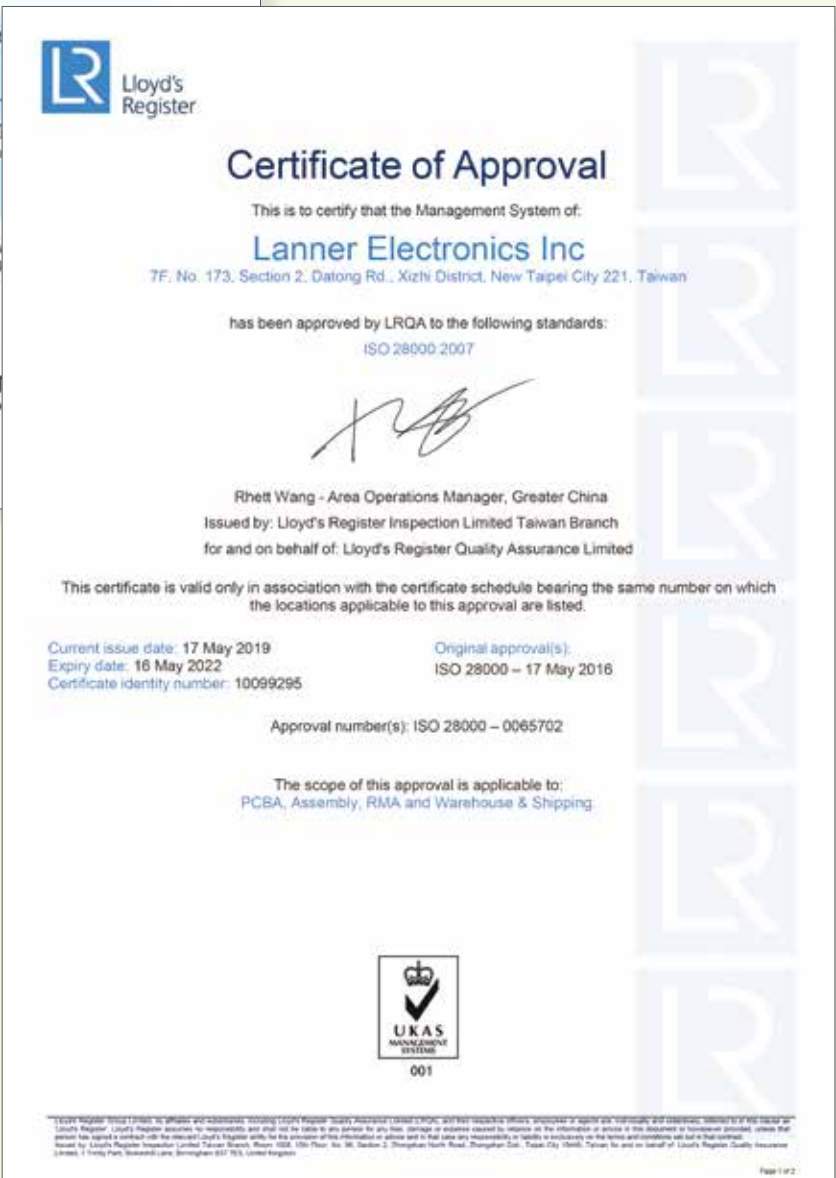
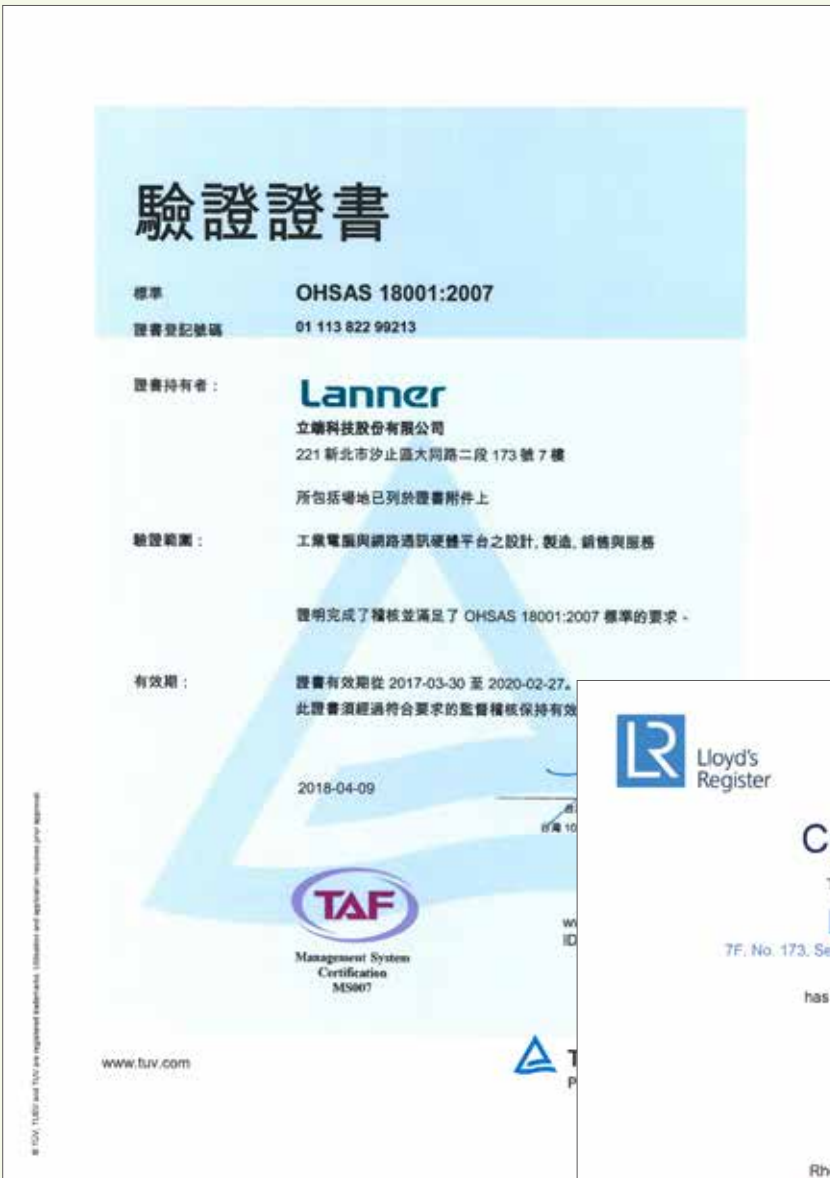


TL 9000 - Communication quality management system

ISO 14001 - Environmental Management System



OHSAS 18001 - Occupational Health and Safety Management System



ISO 28000 - Supply Chain Security Management

AEO Supply Chain Safety Management System



安全認證優質企業證書
TWAEO Certificate


TWAEO 證書號碼/ Certificate No. TWAEO-104000036

證書持有人 Holder of the Certificate	發證機關 Issuing Authority
立端科技股份有限公司 Lanner Electronics Inc.	財政部關務署 Customs Administration Ministry of Finance
統一編號/ BAN No. 22327466	

安全認證優質企業行業別
Business Type of TWAEO


- 出口商 (貨物輸出入) Exporter
- 進口商 (納稅義務人) Importer
- 製造業 Manufacturer

資格生效日期：中華民國 104 年 12 月 25 日
Effective Date of the AEO Status: Dec. 25, 2015



Certificate TW19/00205

The management system of
Lanner Electronics Inc.
7F, No. 173, Sec. 2, Datong Rd., Xizhi District,
New Taipei City, 221 Taiwan, R.O.C.



has been assessed and certified as meeting the requirements of
ISO/IEC 27001:2013



For the following activities

The scope of registration appears on page 2 of this certificate.

This certificate is valid from 09 July 2019 until 09 July 2022 and remains valid subject to satisfactory surveillance audits. Recertification audit due a minimum of 60 days before the expiration date. Issue 1. Certified since 09 July 2019

This is a multi-site certification. Additional site details are listed on the subsequent page.


Authorized by

SGS United Kingdom Ltd
Rosemead Business Park, Elmwood Park, Cheshire, CH5 3EN, UK
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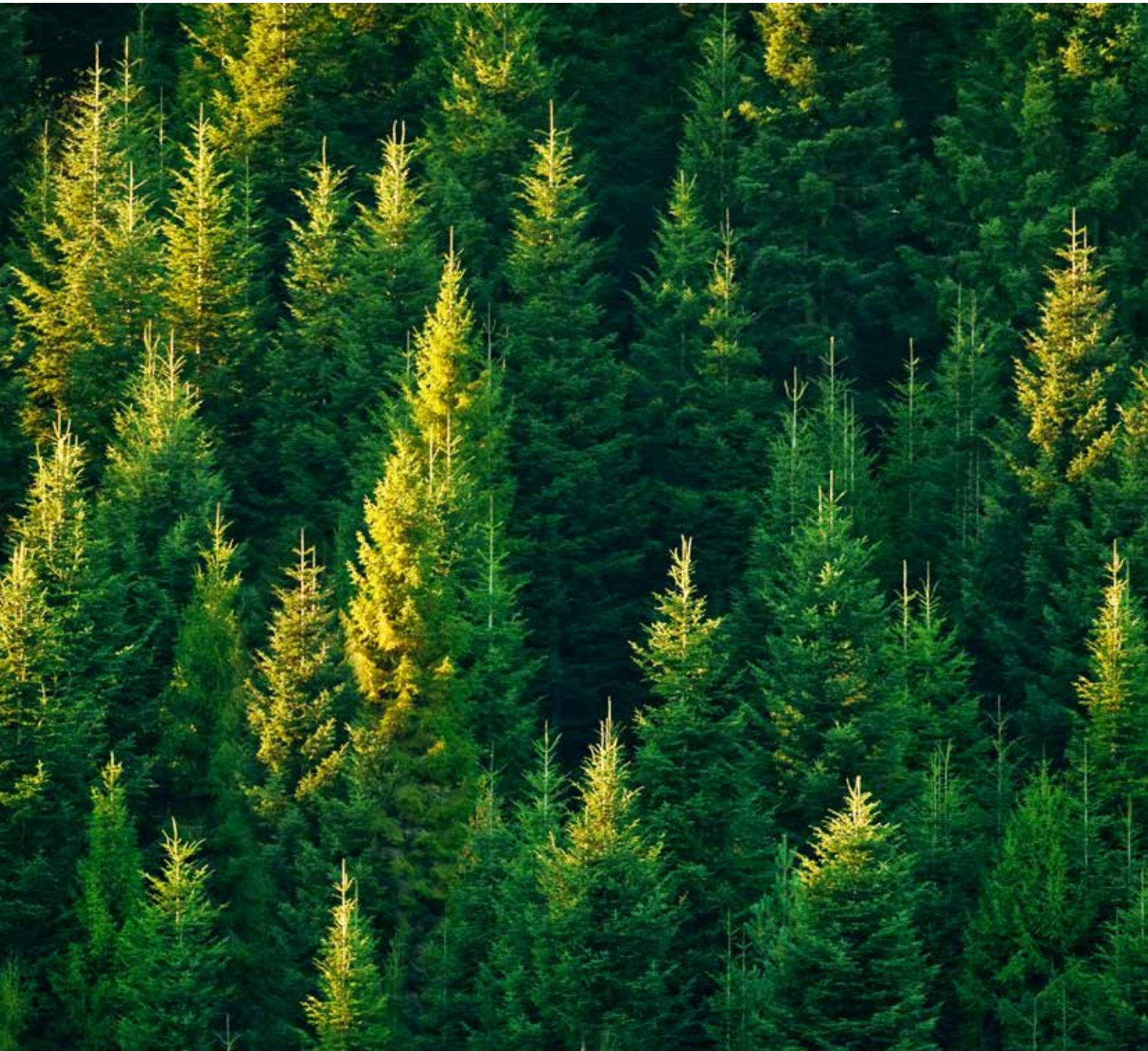


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Chapter 6
Environmental friendliness

Lanner is committed to implementing environment-friendly projects in all of its operations. We have passed certification for ISO 14001 - Environmental Management System and IECQ QC 080000 - Hazardous Substance Process Management, and ensured compliance with WEEE directive, RoHS and REACH. We have implemented long-term policies on issues concerning environmental protection, energy conservation and use of natural resources, and are constantly devising feasible action plans to execute these policies and strategies.



Responsible use of raw materials

It was after the Industrial Revolution that humans began excavation of minerals on a large scale, and as a manufacturer of electronics, Lanner is committed to exploring solutions to reduce the use of minerals. In compliance with Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE), we began introduction of a raw material inventory retake system in 2017 that will enable us to categorize raw materials instantaneously into (1) Reuse, (2) Recycling and (3) Recovery in the near future.

This new raw material system requires support from suppliers, which is why we have asked suppliers to sign "Supplier Commitment to Refrain Use of Prohibited and Restricted Substances" since 2017 that requires them perform the following:

- 1 Specify "material weight."
- 2 Provide content description up to 3 decimal places, such as: 0.001g.
- 3 Specify "recyclable" or "non-recyclable."

▼ Lanner introduced a new version of Supplier Commitment to Refrain Use of Prohibited and Restricted Substances to facilitate disclosure of raw material reuse, recycling and recovery

Lanner 立隆電子股份有限公司		供應商環境限制用物質不使用宣告書(材料承諾用)	
茲證明向 立隆科技公司 所供應之下列各(種)零件，其用物質成份"不含"或"低於"下列法規/指令之要求。特此證明。			
材料基本資料			
零件號碼	供應商零件號	單位	
零件描述	<input type="checkbox"/> 可回收 (塑膠, 玻璃, 金屬, PCB, ...)		重量(g)
	<input type="checkbox"/> 不可回收 (LCD, PROXL, 高頻銅, 鋅電阻器, ...)		ELC, RoHS (小數點三位)
宣告範圍 (<input type="checkbox"/> / <input checked="" type="checkbox"/>)			
<input type="checkbox"/>	歐盟 RoHS 指令 - 2011/65/EU		
<input type="checkbox"/>	歐盟 RoHS 指令(2012/19/EU)		
<input type="checkbox"/>	歐盟 Reach 指令 - EC 1907/2006		
<input type="checkbox"/>	高鹵素 - Halogen Free - 93/85/EEC		

Compliance with WEEE

Electrical and electronic equipment represents the fastest growing source of waste in the European Union (EU). So-called E-waste often contains hazardous substances that can contribute to land contamination and ground water pollution, and pose health risks to consumers. WEEE was implemented to reduce the creation of electrical and electronic waste and to encourage the recovery, reuse and recycling of electrical and electronic products. In doing so, the directive aims to promote sustainable production and consumption while mitigate environmental impact of electronic and electrical equipment over their lifespan.

WEEE demands manufacturers/suppliers of the 10 main categories of electrical and electronic product circulating in the EU to assume responsibility in the recycling and reuse of E-waste through a preventive approach, and thereby maintain, protect and improve the current environment as well as human health. WEEE also promotes reasonable and cautious use of natural resources as ways to support reuse and recycling, and minimize processing of waste. WEEE mainly regulates manufacturers and recyclers and holds them responsible for processing electrical and electronic products, while ensuring that used products are recycled at the percentage specified by WEEE.

WEEE 2002/96/EC-Definitions

Reuse

Means any operation by which WEEE or components thereof are used for the same purpose for which they were conceived, including the continued use of the equipment or components thereof which are returned to collection points, distributors, recyclers or manufacturers.

- P1: Power Supply
- P0: Adapter
- 80: Cable
- TE: HDD
- 97: Fanf
- TA: Ethernet Card
- 20: DRAM MODULE
- 11: Assembly CPU
- TF: Flash Card

WEEE 2002/96/EC-Definitions

Recycling

Means the reprocessing in a production process of the waste materials for the original purpose or for other purposes.

- 85: Packing
- 92: Plastic
- 86: Manual
- 84: BIOS Sticker
- 90: SHEET METAL/METAL
- 93: Rubber
- 77: Heat SINK

WEEE 2002/96/EC-Definitions

Recovery

Means any of the applicable operations provided for in Annex IIB to Directive 75/442/EEC

- 79: PCB
- 50: Transistor
- 36~39: Resistor
- 30~35: Capacitor

RoHS & REACH - Safer raw material control

An enormous quantity of electronic products is being produced on a yearly basis, and while they improve the lifestyle for all mankind, they also pose potential hazards and take up much space in landfills. As a result, many countries are starting to restrict uses of certain substances and chemicals for the protection of health and the environment. In Europe, these laws include Restriction of Hazardous Substances (RoHS) and Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) that are applicable to electronic and electrical equipment.

RoHS stands for Restriction of Hazardous Substances. The standard was officially implemented on July 1, 2006 mainly to regulate the quality of materials and craftsmanship in electronic and electrical products for better protection of health and the environment. The purpose of the standard is to eliminate the presence of 6 substances: Pb, Hg, Cd, Cr6+, PBBs and PBDEs from electronic and electrical products. On June 4, 2015, the EU released version 2.0 of its RoHS directive that added 4 additional hazardous substances (DEHP, BBP, DBP and DIBP) to the list for a total of 10 controlled hazardous substances. We have made the following commitments in this regard:

- To ensure that all Lanner products are 100% compliant with relevant standards and laws: Lanner has specialized legal affairs department and personnel in place to ensure that all electronic products we have produced are 100% compliant with laws and requirements, and contain no restricted hazardous substance or chemical before they are sold to the destination countries.
- To ensure that all Lanner products comply with RoHS directive and supervision of the respective countries: Lanner has specialized legal affairs department and personnel in place to update the scope of responsibilities and requirements that the Company is bound to comply as a producer and supplier to the EU. They work through language barriers and resolve regulatory differences so that all Lanner products are compliant with RoHS directive and supervision of the respective countries.

Efficient utilization of energy and water resource

Energy consumption is a main cause of climate change, because the combustion of non-renewable fuel creates greenhouse gas (GHG) among other environmental impacts. Making efficient use of energy is key to mitigating climate changes, and is a goal we strive to achieve by continually improving our production procedures. Furthermore, we monitor water usage on a yearly basis using water resource consumption data we have gathered.

▼ Energy and CO2 statistics 2018

Plant	Total power consumption Jan-Dec (Unit: Kwh)	Joule (Unit: millions)	CO2 (Unit: tonnes)
Zhongxing Plant	759,467	2,734,080	420.75
Datong Building B	3,932,031	14,155,311	2178.34
Datong Building C	727,958	2,620,650	403.28
TTL	5,419,456	19,510,042	3002.38

Remark:

1 Kwh = 1 kilowatt x 3600 seconds = 3,600,000 joules

1 Kwh = 0.529 kg of CO2 (based on the 2016 emission coefficient of electricity published by the Bureau of Energy, Ministry of Economic Affairs)

▼ 2018 water consumption statistics (unit: kiloliters)

Category/unit	Value
Water supplied by municipal government or other public or private suppliers	2,829
Surface water, including that from wetlands, rivers, lakes and sea	n/a
Rain water collected and stored by the organization	n/a
Effluent from other parts of organization	n/a
Others	n/a
Total water drawn	2,829

Greenhouse gas survey and reduction

As part of our commitment to environmental protection, we have set goals to reduce overall GHG emission intensity (total GHG emission / revenues) annually by 3% over the long term.

The Company conducts its own emission surveys regularly and uses emission coefficient of electricity to calculate emission volume in CO₂-equivalent terms. Survey results for the last two years are as follows:

- 2017 emission based on a internal survey was calculated at approximately 0.428 kg per NT\$1,000 of revenue.
- 2018 emission based on internal survey was calculated at approximately 0.523 kg per NT\$1,000 of revenue.
- Carbon emission in 2018 was about 22% higher than 2017.

However, in terms of emission intensity, the 0.72 kwh per NT\$1,000 of revenue calculated in 2018 was lower than the 0.80 kwh per NT\$1,000 of revenue recorded in 2017 by 0.08 kwh/NT\$1,000 of revenue. Power efficiency had actually improved significantly, and the Company will continue implementing energy conservation measures in the future to further reduce carbon emission.

GHG reduction highlights

The air conditioner system was re-designed in 2018 to change chiller water outlet from independent pipelines to shared pipelines across different floors. This new design accomplishes the following energy-saving benefits:

- Startup rate for chiller internal pump and compressor was reduced by 50% after the redesign.
 - The chiller compressor requires 17A of startup current, including 3A for the pump.
 - Before redesign: startup rate of C7 chiller compressor was measured at 62%
 - After redesign: startup rate of C7 chiller compressor was measured at 44%
- After the redesign, the Company is able to continue air conditioning for office space even when one chiller malfunctions.
- The redesign has shortened the time taken to replace outdated chillers.
- Payback period for the costs incurred is estimated at 4 years and 4 months, calculated as: $\text{NT\$}300,000 / \text{NT\$}5,731 = 53 \text{ months} = 4 \text{ years and } 4 \text{ months}$.

Other GHG reduction measures



In addition to the redesign of air conditioning system, we have also been committed to implementing GHG reduction and energy conservation plans and contributing to the mitigation of climate change.

- Employees are constantly reminded to unplug office equipment if unused for a prolonged period of time, leave office with lights and air conditioner off, and make sure that taps are properly turned off without dripping.
- Digital correspondence and workflow are being introduced to reduce use of paper.
- Office air conditioning equipment is properly adjusted for temperature and undergoes regular maintenance for improved efficiency and power consumption.
- Photocopying machines are regularly serviced by contractors to ensure optimal performance, and thereby minimize paper jam and power consumption.
- Lanner has established an environment, safety and health system in accordance with international standards including ISO14001 and OHSAS18001 to regulate raw materials, production procedures, products, activities, facilities, services and waste treatment. This system has proven effective in managing negative environmental impact, minimizing potential hazards to employees, equipment and property, rectifying non-compliant issues and making ongoing improvement to overall environment, safety and health.

Reduction of product energy requirements

Incorporation of 80 Plus Power Supply to high-performance modular SDN/NFV platforms (E.g NCA-6210 or FW-8896).

For example, the system consumes approximately 396W of power at full capacity, and installation of Delta DPS-800AB 800W power module increases conversion efficiency by 2.92% to save 15.81W of power consumption.



NCA-6210	FW-8896
	

Changed DOE Level 5 Power Adapter to DOE Level 6 Power Adapter in Desktop products (ex. FW-7551). Take a 36W Adapter for example, the 6.15% higher rated capacity saves about 2.214W of power. Compared to the Efficiency Test, the solution represents a 2% improvement and saves approximately 0.72W of power.

FW-7551	FW-7551
	

Introduction of Smart Fan Control into NCA-1210

NCA-1210 consumes 0.28w of power at idle and 0.96w at full speed; using smart fan control has the potential to save 0.68W of power consumption.

NCA-1210	NCA-1210
	

Responsible waste management

We try not to dispose or bury our obsolete equipment; instead, we do what we can to make them reusable one way or another. We have gone to great extent in making sure that the equipment is recycled in a proper manner that poses no threat to employees' health or the environment. A series of resource and product recycling activities have been coordinated in support of the above initiatives, and the following are the results we had achieved during the reporting period. The Company produced 5.6 tonnes of hazardous industrial waste and 13.138 tonnes of general industrial waste in 2018. No severe leakage and no violation of environmental protection law had occurred during the reporting period.



Chapter 7

Supplier management



Implementation of supplier management policy

Under Lanner's sustainable business philosophy, the Company values its relationship with supply chain partners not only for the quality of goods and services supplied, but also for the prospect of creating a sustainable supply chain that unites participants toward common corporate social responsibilities and environmental protection.

The Company has devised a "Supplier Management Policy" to achieve effective management of suppliers. Under this policy, all suppliers are evaluated for third-party certification including but not limited to ISO9001 - Quality management system, IECQ QC08000 - Hazardous Substance Process Management System, ISO14001 - Environmental Management System, OHSAS18001 - Occupational Health and Safety Management System, ISO28000 - Supply Chain Security Management, AEO and C-TPAT. Suppliers are assigned grades from A to D based on the outcome of the evaluation; suppliers that fail the evaluation are required to make improvements within a given time or banned from further dealing.

The Company requires all suppliers to sign Business Partner Safety Statement, Conflict-free Mineral Statement, Supplier and Employee Integrity Code of Conduct, Anti-corruption Guidelines and "Supplier Commitment to Refrain Use of Prohibited and Restricted Substances," and provide supporting documents to show that all products or components supplied, including accessories, packaging materials and parts, are fully compliant with RoHS, WEEE and the Company's "Prohibited and Restricted Substance Content and Testing Procedures." The Company may terminate supply contract with partners that fail to comply with rules, and by strictly enforcing the above, we exert influence over our suppliers to take pro-active steps toward corporate social responsibilities.

We demand more than just performance and quality from our suppliers. Before commencing business relationship, suppliers are required to sign a set of stringent Anti-corruption Guidelines, Commitment to Prohibition against Conflict Minerals, and Supply Chain Safety Policy in order to ensure that they are aware of our expectations with regards to social and environmental responsibilities. Our internal auditors are being assigned to review the abovementioned documents. Assistance is offered to suppliers that do not meet the requirements.

Meanwhile, we maintain regular contact with suppliers and conduct annual audits, unscheduled surveys etc., to make sure that they keep up with the expected standards. Suppliers that do not to meet the requirements will be instructed to make satisfactory improvements within a given time. If improvements cannot be made to satisfaction, we will look for other suppliers that meet our moral and environmental protection standards.

Internally, we monitor our suppliers using four general principles: Quality, Cost, Delivery and Service (QCDS), and have developed our own supplier management procedures based on local and international rules/regulations. We have implemented an internal materials management system to control raw materials at the source of the supply chain.

Enforcing the 3 Rs

Lanner not only enforces the 3 Rs (Reduce, Reuse and Recycle) in its own capacity, but also rallies supply partners to its cause. Through supplier conventions and audits, we invite all our suppliers to join us in the improvement of our environment, and reduce or even prevent pollution in design, production and service activities where possible in order to create a green supply chain. Furthermore, Lanner has taken steps to realize its vision of a green, sustainable supply chain starting from the foundation of its organization.

Supplier categories and local purchases

Our main supplier categories comprise: material manufacturers, material distributors, contractors, and others such as consultants, mold producers, service providers. We also source our raw materials and supplies from local sellers where possible for all our operations worldwide, provided that they meet our usability and quality requirements. Doing so not only ensures the timeliness of materials delivered and reduces risk and cost of transportation, but also minimizes pollution to the environment. Region-wise, 415 suppliers were located in Taiwan, 11 were in Mainland China (including Hong Kong), and 42 were in other countries.

Implementation of ISO 28000 - Supply Chain Security Management

Lanner's supply chain security management system has been created based on ISO 28000 to monitor risks throughout the entire supply chain. This system is also being used for risk evaluation and operational control with the help of supporting measures including monitoring reports, key performance indicators, internal audit and training.

Prohibition against conflict minerals

Lanner demands suppliers to refrain from purchase and use of conflict minerals. Effectively, this ensures suppliers' commitment to providing minerals of legitimate source, and that our purchase of resources such as cassiterite, coltan, wolframite and gold, and do not result in the financing of armed conflicts. This policy has been included as one of the prerequisites for all products provided and designed by suppliers. Suppliers that are found to have used conflict minerals will be required to disclose information of the smelter. Lanner used survey version CMRT 5.11 in 2018, and received response from 100% of the 127 suppliers surveyed.

▼ Supplier QPA audit results 2018



▼ Supplier QSA audit results 2018



▼ Supplier CSR audit results 2018



▼ Supplier HSF audit results 2018



Supplier audit and assessment

Lanner has been expanding the scope of its supply partner evaluation on a yearly basis. In 2018, we added CSR (Corporate Social Responsibility) and HSF (Hazardous Substances Free) to the scope of our supplier audit, in addition to existing QSA and QPA, as customers and users around the world became increasingly demanding about RBA. Not only has Lanner set good example in this regard, it actively promotes and conveys the underlying values of CSR and HSF through supplier conventions, and uses supplier audit as a means to exert influence, so that Lanner's supply partners are made better aware of Lanner's resolve and efforts toward CSR and HSF management. We conduct 4 main types of audit:

- Quality Process Audit (QPA): Focuses on process documentation, material certification, equipment/procedure standardization, analysis of defects, and environment safety. Applies to PCB/ Chassis / EMS suppliers.
- Quality system assessment (QSA): Focuses on documentation of the quality system.
- CSR (Corporate Social Responsibility) audit: Focuses on the 5 aspects of RBA, namely Labor, Health & Safety, Environmental, Management System, and Ethics.
- HSF (Hazardous Substances Free) audit: Focuses on Hazardous Substances Management System, Parts Approval and Supplier Management System, and Process Management System.

In 2018, we conducted QPA on 42 suppliers, of which 35 were rated excellent, 6 were rated satisfactory and 1 was rated poor. As for QSA, we assessed 21 suppliers, of which 18 were rated excellent and 3 were rated satisfactory. In terms of CSR audit, we assessed 18 suppliers, of which 14 were rated excellent and 4 were rated satisfactory. In terms of HSF audit, we assessed 18 suppliers, of which 14 were rated excellent and 4 were rated satisfactory.

Each supplier is assigned a rating of poor, satisfactory or excellent based on the industry's most stringent standards. We would also offer counsel and assistance to suppliers that exhibit poor performance and devise strategies to help them improve knowledge and capacity. Suppliers that are unwilling or unable to meet our standards will be removed from the supply chain.



Chapter 8 Employee care



Employees' passion towards innovation has been the reason behind the success of Lanner Electronics Inc. We have created a safe, respectful, ethical, equal, and diverse work environment where employees may grow. We have also committed substantial resources into talent development to keep the Company ahead of competition in terms of research and development. By creating an attractive work environment, we hope to establish Lanner Electronics Inc. as the most ideal employer to work for.

Human resource policy

Lanner considers accomplishments in "life" and "profession" to be equally important, and has therefore implemented a balanced human resource policy while created a work environment that caters for employees' career and lifestyle at the same time.

- "Right talent for the right job": Lanner assesses human resource requirements with logic and takes the initiative to train globalized talents.
- "Performance management": Lanner associates "recruitment and promotion" with "performance evaluation" system and offers fair compensation.
- "Performance-driven management": Lanner manages employees by "action" and "consequence" and adopts a rational performance management system.
- "Dual-path talent development": Lanner develops learning roadmaps for employees based on their job role. Depending on employees' career expectations and qualities, the Company offers "specialist" and "management" training programs that employees may utilize to their advantage.

Lanner believes in every employee's potential to contribute to the growth of the Company, and in the future, Lanner will continue operating in the best common interest of individual employees, the organization, shareholders and customers.

▼ Information on employees and other workers

Group	Male		Female		Subtotal	
	Head count	Percentage	Head count	Percentage	Head count	As a percentage of total employees
Marketing personnel	60	13%	65	20%	125	16%
R&D head count	143	32%	17	5%	160	20%
Managerial personnel	31	7%	33	10%	64	8%
Manu- facturing personnel	217	48%	216	65%	433	55%

▼ Information on employees and other workers

Category	Group	Male		Female		Subtotal	
		Head count	Percent-age	Head count	Percent-age	Head count	As a per-centage of total employ-ees
Work location	Taiwan	451	100%	331	100%	782	100%
Age	18-20	7	1.60%	2	0.60%	9	1.20%
	21-30	99	22.00%	65	19.60%	164	21.00%
	31-40	171	37.90%	133	40.20%	304	38.90%
	41-50	154	34.10%	94	28.40%	248	31.70%
	51-60	17	3.80%	36	10.90%	53	6.80%
	60 and above	3	0.70%	1	0.30%	4	0.50%
	Academic back-ground	Doctoral Degree	1	0.20%	0	0.00%	1
Master's Degree		67	14.90%	31	9.40%	98	12.50%
Bachelor's Degree		197	43.70%	112	33.80%	309	39.50%
College		90	20.00%	69	20.80%	159	20.30%
Senior high school		96	21.30%	119	36.00%	215	27.50%
Employ-ment type	Full-time	436	96.70%	307	92.70%	743	95.00%
	Contract staff	0	0.00%	0	0.00%	0	0.00%
	Temporary workers	15	3.30%	24	7.30%	39	5.00%

▼ Total number and percentage of new and departed employees by age group, gender and region

		Male		Female		Subtotal	
		Count	Percentage	Count	Percentage	Count	Percentage
New employees	30 and below	78	39.40%	74	46.00%	152	42.30%
	31~ 50	116	58.60%	86	53.40%	202	56.30%
	51 and above	4	2.00%	1	0.60%	5	1.40%
	Subtotal	198	100%	161	100%	359	100%
Departed employees	30 and below	46	28.20%	48	37.50%	94	32.30%
	31~ 50	109	66.90%	77	60.20%	186	63.90%
	51 and above	8	4.90%	3	2.30%	11	3.80%
	Subtotal	163	100.00%	128	100.00%	291	100.00%

Note: There were 782 employees at period-end

▼ Promotion percentage by gender

	Male		Female		Subtotal	
	Count	Percentage	Count	Percentage	Count	Percentage
Managerial role	16	84.21%	3	15.79%	19	100.00%
Non-managerial role	18	46.15%	21	53.85%	39	100.00%
Subtotal	34	58.62%	24	41.38%	58	100.00%

Incentive compensation and benefit

Lanner offers competitive salary and adjusts payroll in April each year to reflect employees' and the Company's performance. We have a stimulative compensation system in place that encompasses year-end bonus, profit sharing, production bonus, R&D bonus, and sales bonus to reward contributing employees. In 2018, the Company raised salary by an average of 3%~5% after taking into consideration the consumer index, market levels and employees' past performance. Employees of non-managerial role earned average annual salary of NT\$970,226 during the year. We value work-life balance and enforce strict rules to ensure (1) No more than 5% overtime per week, (2) No more than 60 hours of work per week, and (3) 1 off day for every 6 work days.

Lanner has complied with "Organization Regulations on Employee Welfare Committee" stipulated by the Council of Labor Affairs and asked each department to nominate one representative to form an Employee Welfare Committee that oversees the planning and execution of employee welfare budgets. Please refer to page 45 for details.

▼ "Average" annual salary of full-time, non-managerial staff

NT\$ 970,226

"Average" annual salary of full-time, non-managerial staff - 2018

Pension and welfare systems are 100% compliant with local employment regulations

The Company complies with the Labor Standards Act and contributes an amount equal to 2% of employees' monthly salary to the pension fund (i.e. the "old" pension system). An Employee Pension Fund Supervisory Committee has been assembled to supervise uses of the pension fund. Furthermore, following the implementation of Labor Pension Act (a defined contribution plan; referred to as the "new" pension system below) on July 1, 2015, the Company contributes an amount no less than 6% of monthly salary for new employees who came onboard after the implementation date and for employees of the old system who opted to carry forward their seniority over to the new system. Contributions to the new pension system are deposited into employees' individual pension accounts.

Insurance



The Company subscribes to Labor Insurance, National Health Insurance and travel insurance coverage, and makes pension contributions equal to 6% of employees' monthly salary.

Attendance



Employees are entitled to 2 off days a week and work hours that conform to the Labor Standards Act.

Overtime



Overtime hours are compliant with the Labor Standards Act.

Benefits



The Company offers gifts (vouchers) and cash for occasions such as Labor Day, Duanwu Festival, Mid-autumn Festival, Chinese New Year, birthday, wedding, funeral and celebrations.

Events



The Company organizes year-end banquet, lottery, annual domestic/foreign trips, and travel subsidies.

Meal gathering



Department meal gatherings are organized on a quarterly basis.

Training



The Company offers comprehensive on-job training programs (common knowledge course, professional course, management course etc.) and has an E-Learning platform in place.

Health



The Company has made arrangements such as annual health checkup, on-site physician, health seminar, on-site massage specialists and health promotion activities to help maintain employees' health conditions.

Club activities



Employees are encouraged and subsidized to form clubs and engage in club activities as a way to achieve work-life balance.

Communication



Lanner uses whistleblower system, management mailbox and hotline, labor-management meeting, business meeting and welfare committee meeting as means of communication.

Employee health, care and protection



The Company fulfills its corporate social responsibilities in accordance with government regulations. Arrangements such as annual health checkup, tiered health management system, stationed physician and health seminar have been made to promote a healthy work culture. A total of 600 employees had undergone health checkup in 2018, and all of whom were subjected to tiered health management as required by law. Employees rated tier 2 and above were each offered 11 sessions of medical consultation with the on-site physician, and a total of 93 sessions were taken up during the year. Furthermore, to support the Ministry of Labor in reducing work pressure and musculoskeletal injuries, the Company not only offers stress and tension relief courses for high-risk employees but also arranged massage specialists to perform service on-site. These arrangements have been actively taken up by employees and have proven to be effective in raising employees' self-management awareness.

In terms of health protection, the Company requires all employees involved in certain operations and night shift to undergo special health checkup, while at the same time organizes environment monitoring, on-site inspection and evaluation etc. to create a safe workplace. The Company also provides employees with protective gears such as earplugs (muffs), masks and goggles depending on their work nature to protect them from direct exposure to hazards.

Occupational safety management

To assure employees of a safe working environment, we have followed our Environment Health Safety (EHS) guidelines and created a dedicated team and management system along with robust policies, procedures and standards to guide our occupational safety practices. Our commitment in making ongoing improvements to occupational safety has earned us certification for OHSAS 18001 - Occupational Health and Safety Management System.

In the meantime, a Safety and Health Office and a Safety and Health Committee have been assembled in accordance with the laws of Taiwan. The committee has 23 members in total, 17 (two-thirds) of whom are employees' representatives. Their presence in the committee is to assist in the supervision and recommendation of occupational health and safety-related issues. Lanner undertakes precautionary measures to build a work environment with minimal chance of work injury and absenteeism, and thereby ensure employees' safety at work. We also make improvements to our environment safety and health practices on a regular and ongoing basis, and commit extensive efforts into occupational safety training, accident management, health checkup and medical care.

▼ Environment safety and health management solutions undertaken in 2018

Item No.	Solution name	Goal/target	Accountable departments	Current progress
1	Safety awareness enhancement and occupational hazard reduction	To reduce FR value <0.79 and SR value <47 in 2018	Safety and Health Office	In 2018, both FR (0.72) and SR (7.16) were significantly lower than 2017.
2	Employee health and ionizing radiation hazard protection	1. Conduct special health checkups once a year 2. Perform radiation reporting and monitoring 12 times a year 3. Re-train radiation operators 3 hours a year	Safety and Health Office	a. Results of all ionizing radiation reports are normal b. 4 employees were subject to level 1 management, and 3 employees were subject to level 2 management c. 7 employees completed re-training in 2018
3	Health management planning and execution	Health data of 706 employees was collected and monitored	Safety and Health Office	a. 599 or 84% of employees completed health checkup in 2018 b. 474 employees completed the ergonomic questionnaire
4	Employee response enhancement and mitigation of potential corporate risks	To organize 3 or more fire safety and emergency response training sessions	Safety and Health Office	The Company organized 1 drill for chemical leakage, 2 drills for fire safety and 1 drill for emergency evacuation in 2018, during which a total of 131 employees had participated
5	Carbon emission reduction	To reduce the Company's overall carbon emission to 0.501 kg per NT\$1,000 of revenue in 2018	Safety and Health Office	CO2 emission in 2018 was calculated at 0.523 kg/NT\$1,000 of revenue, up 1.2% from the 0.517 kg/NT\$1,000 reported in 2017.
6	Waste reduction	To reduce the volume of waste generated by the Company and increase the percentage recycled and reused to 20%.	Safety and Health Office of the Production Department	Total volume of self-treated waste and outsourced waste treatment in 2018 was 4.1% less than 2017. Furthermore, suppliers were persuaded to begin recycling and reuse of their packaging materials during the year.
7	Enforcement of exhaust duct inspection	To outsource the inspection of exhaust duct on an annual basis, and ensure the efficiency of the exhaust system.	Safety and Health Office of the Engineering Department	The 2018 inspection report had fully complied with environmental emission standards

▼ Work injury statistics 2018

Item	Category	Male	Female
No. of disabling injuries	Work injury	1	0
	Commuting to and from work	0	1
Total days lost due to disabling injuries	Work injury	10	0
	Commuting to and from work	10	28

Item	Variant	Value
FR	Excluding commuting to and from work	0.72
	Including commuting to and from work	1.43
SR	Excluding commuting to and from work	7,16
	Including commuting to and from work	27.2

Safety of high-risk workers

Lanner complies with legal requirements on "Special Hazard Operations," and workers involved in high-risk operations such as ionizing radiation, dust and n-hexane (organic solvent) are given appropriate protection. New employees involved in Special Hazard Operations are required to undergo special physical checkup before commencing work, whereas existing employees are subjected to special health checkup on a yearly basis. Employees that have been subjected to level 2 health management are given medical consultation from physicians stationed on-site. A total of 26 employees had completed special health checkup in 2018, including 7 ionizing radiation operators, 3 dust operators, and 20 n-hexane operators.

▼ Safety measures for high-risk workers

Operation category	Requirements	Back-training
Ionizing radiation operations	Operators are required to complete 18 hours of training in advance	At least 3 hours a year
Dust operations	The head of operations is required to complete 18 hours of dust-related courses	At least 6 hours every 3 year
N-hexane operations	The head of operations is required to complete 18 hours of organic solvent-related courses	At least 6 hours every 3 year

Diversified training channels

Lanner has always been a devoted contributor to talent training! Lanner's training system is consisted of 5 main components: "New Recruit," "General Knowledge," "Specialist," "Management," and "Self-Inspiration":

- New Recruit: Basic training for new recruits and new personnel onboard.
- General Knowledge: Conveys corporate culture, corporate philosophy, customer satisfaction, quality, safety and health.
- Specialist: Training of specialized skills given employee's job role, or project involvement.
- Management: Training for management reserves, department heads, leaders and management roles.
- Self-Inspiration: On-job learning, self-motivated learning and work group discussion.

At Lanner, we have designed our job roles and training programs so that general and specialized talents may choose the career paths that suit them. Lanner offers several career paths including "Specialist/Engineering," "Administration," and "Management." Given the level of globalization that is happening around the world, Lanner encourages each employee to undertake challenges not only in Taiwan but to compete internationally as well. For this reason, we offer opportunities for aspired individuals to compete in the Chinese market and the rest of the world, and grow personal capacity through practice.

▼ Average hours of training per year per indirect employee

	Formula	Male	Female	Subtotal
Actual head count during the reporting period	A	345	185	530
Training hours completed during the reporting period	B	4421	1810	6230
Average training hours completed per employee during the reporting period	$C = B / A$	12.8	9.8	11.8

Note: Total employee count at end of reporting period is 530

Performance evaluation

We conduct performance evaluation on a regular basis, for it is helpful to employees' personal growth and facilitates management of skills and human capital within the organization. The Company has a robust career development and promotion system available to cater for employees from recruitment, transfer to retention. These systems have been designed not only to support employees' career development, but also to inspire their potentials and open them up to whole new opportunities.

▼ Percentage of employees receiving regular performance and career development reviews

Formula	Male			Female			Subtotal		
	Total employee count at end of reporting period	Number of employees subjected to regular performance evaluation and career review	Percentage	Total employee count at end of reporting period	Number of employees subjected to regular performance evaluation and career review	Percentage	Total employee count at end of reporting period	Number of employees subjected to regular performance evaluation and career review	Percentage
	A	B	C=B/A	D	E	F=E/D	G	H	I=H/G
Head count and percentage	418	451	93%	272	329	83%	690	780	88%

Enforcement of human rights and gender equality

It is our belief to treat all workers with dignity. In addition, we have assigned manpower to make sure that all our labor policies/practices are fair and compliant with human rights principles. We abide by the laws and prohibit the use of child labor and forced labor; we do not subject workers to slavery or human trafficking, and at the same time respect their freedom of association and rights to collective bargaining. The Company prohibits all forms of discrimination in the workplace. Employees are offered humane treatments including reasonable work hours, break time, compensation and benefits; all of which are constantly being improved. During the reporting period, none of the operations exhibited any sign of major violation against human rights, whether in regards to violation against freedom of association and collective bargaining, use of child labor, sexual harassment, or forced/compulsory labor.

Should the Company encounter a major change of operation that affects employees' rights or terms of employment, we are obligated under Article 16 of the "Labor Standards Act" to serve minimum notice before terminating employment contract.

We place great emphasis in the creation of gender-equal workplace, and ensure 100% compliance with local labor regulations and policies including "Act of Gender Equality in Employment." In addition to gender equality, we also strive to provide equal pay and equal opportunities for employees engaged in the same line of work, while at the same time refrain differential treatments based on race, ethnicity, social status, lineage, religion, disability, gender, sexual orientation, family responsibilities, marital status, political association, or age. Ratio of female basic salary to male basic salary is 1:1.



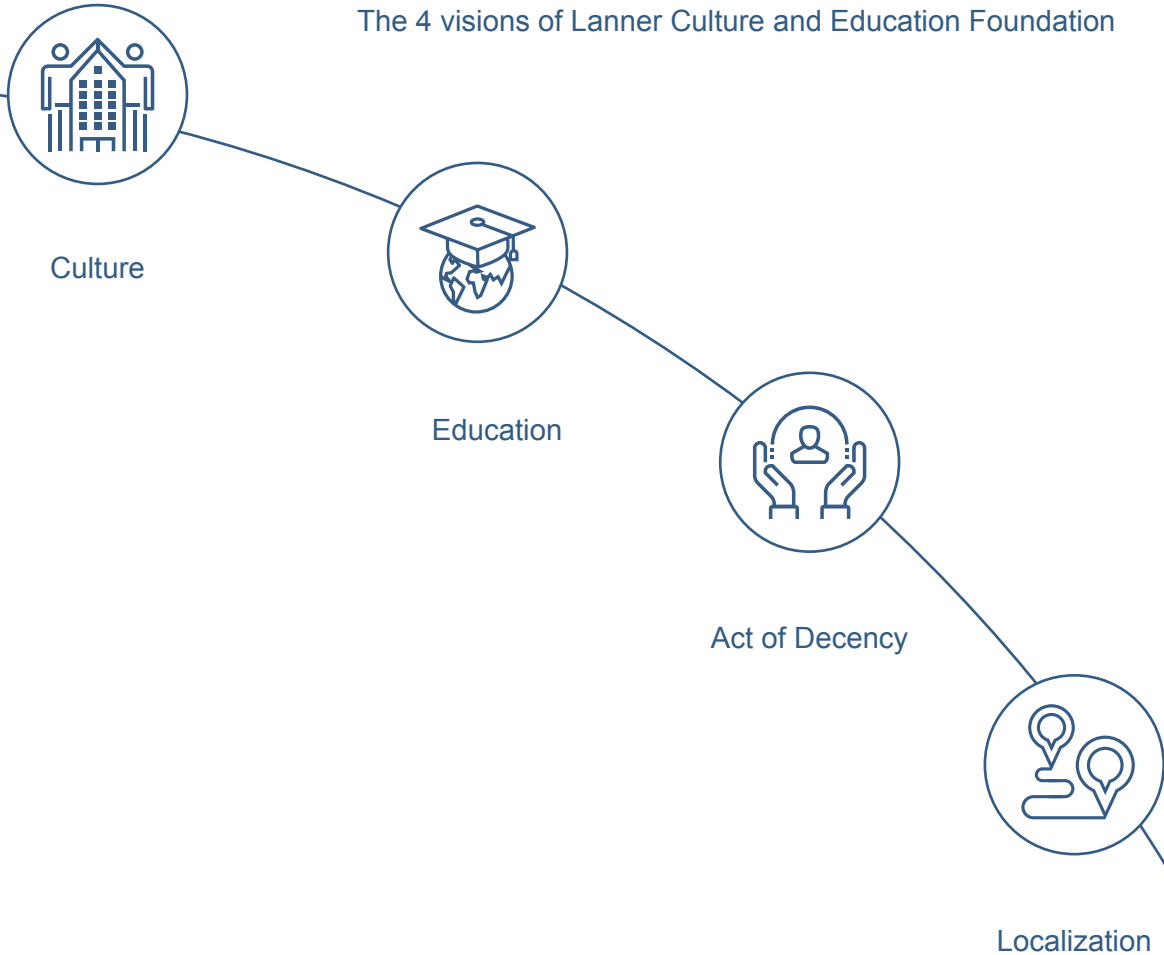
Chapter 9 Social welfare



1. About Lanner Culture and Education Foundation

Lanner Culture and Education Foundation is a non-profit organization founded by Lanner Electronics Inc. in April 2017; it received approval for incorporation from New Taipei City Education Department the same year. Lanner has been able to grow revenues, profits and assets consistently for 30 years since incorporation, and out of gratitude for those that contributed to its success, the Company sets out on a mission to give back to the society and fulfill its duties to the public. As the charity arm for Lanner Electronics Inc., Lanner Culture and Education Foundation executes social responsibility programs with 4 main themes: "Education," "Culture," "Localization" and "Act of Decency." Through action, we solve problems and expand our influence to change the society for the better.

The 4 visions of Lanner Culture and Education Foundation



2. Education for the disadvantaged

As part of our Localization philosophy, we have directed our attention to caring for students of elementary schools located in the priority districts of New Taipei City. Although there is not much an outsider could do to change a child's family background, we can, however, provide disadvantaged students with a better future through education. This is why we have committed ourselves to providing disadvantaged students with diverse learning opportunities and helping them develop balanced qualities from "morality, intelligence, physique, teamwork to aesthetics." By collaborating with other charity organizations in the private sector, we are able to integrate resources across partners that share our cause and expand our care for disadvantaged students by many folds.

2.1

Underprivileged communities in New Taipei City

Diverse education program for elementary schools



Lanner Culture and Education Foundation participates in the After-school Child Care program of Xiwan Road Church to organize summer learning camps featuring diverse teaching methods targeted at disadvantaged elementary school students. The learning camp caters for children of mixed age and offers distinctive courses including: (1) Digital art creation - in which students are guided towards exploring digital art and creativity using secondhand laptops donated by Lanner; (2) Board game programming - in which students are introduced to programming, computing and logics through fun games without having to learn software tools from scratch; and (3) Verbal expression - in which disadvantaged students are trained to think logically and express their thoughts verbally. The camp also arranges opportunities for students to learn through competition, leadership and teamwork.

Sponsored subjects: Grade 3 ~ grade 6 elementary school students

Sponsored unit: After-school Child Care program of Xiwan Road Church

Execution period: July ~ August 2018

Total students: 20

Camp duration: 4 hours a week over 8 weeks of summer break for a total of 32 hours

2.2

Priority education districts in New Taipei City

Elementary school basketball promotion program



In 2018, Lanner Culture and Education Foundation organized after-school basketball training for 6 elementary schools including Yuying, Wenhua and Tian Sheng from Danshui District, Jingxin and Xingnan from Zhonghe District, and Beigang from Xizhi District. The foundation not only coordinated with Beigang Elementary School and Mustang Junior Basketball Association in the organization of basketball summer camp during summer break, but also sponsored New Taipei City Department of Education and Mustang Junior Basketball Association in hosting the 2nd Lanner Mustang Junior Cup.

The after-school basketball program targets Grade 3 and Grade 4 elementary school students for basic training and inspiration, so that by the time students progress into Grade 5, they would have developed the solid skills needed to participate in school teams.

- After-school elementary basketball training
 - Participants: Grade 3 and grade 4 elementary school students
 - Assisted schools: 6 elementary schools from priority districts (Danshui District, Zhonghe District, and Xizhi District)
 - Execution period: From January 2018 to January 2019
 - Student count: 20 from each school, total of 120 from 6 schools
 - Training hours: 3 hours per week over 16 weeks per semester; 572 hours total across 6 schools for the year
- Elementary school basketball summer camp
 - Participants: Grade 3 to Grade 6 students of Beigang Elementary School
 - Participating school: Beigang Elementary School
 - Execution period: July 2018
 - Student count: 20
 - Camp hours: 3 hours per day over 5 days for a total of 15 hours

With the support of Lanner Culture and Education Foundation, "Lanner Mustang Junior Cup" was organized for the 2nd year in New Taipei City with season starting from September to January the following year. Elementary school teams that participated in the "Lanner Mustang Junior Cup" have all demonstrated tremendous improvements in terms of experience and skills. This is the reason why "Lanner Mustang Junior Cup" has developed strong reputation among elementary schools in New Taipei City!

- Lanner Mustang Junior Cup - Basketball tournament of New Taipei City elementary schools
 - Participants: Grade 5 and Grade 6 students from elementary school basketball teams
 - Participating schools: 28 teams from 23 elementary schools in New Taipei City
 - Execution period: From October 2018 to January 2019
 - Student count: 15 per team, 420 players total
 - Tournament duration: 64 games total in a round-robin tournament

Young as they may be, these junior players perform admirably on the court from dribbling, driving, shooting, teamwork to overall discipline. Through cheers and laughter, the children strengthened friendship with each other. At the end of the game, players from opposing teams shook hands and embraced, bringing a satisfactory close to the event. By sponsoring basketball camps and tournaments, Lanner Culture and Education Foundation provides the ideal means of basketball training for children in Taiwan.

In this year's "Mini Basketball National Championship" organized by the Ministry of Education, 3 of the 8 quarterfinal teams, namely "Wang Xi," "Xinping" and "Yongping" elementary schools, were from New Taipei City and had all benefited from their participation in the Lanner Mustang Junior Cup. Lastly, Wang Xi Elementary School, a participant of the "after-school basketball camp," advanced into the championship final and won the national runner-up. Another exciting accomplishment in this year's championship was that, despite the absence of basketball traditions, "Yonghe" and "Jimei" elementary schools from New Taipei City had benefited from their participation in "Lanner Mustang Junior Cup" and were able to claim 1st and 2nd places in Division B.

In the future, Lanner Culture and Education Foundation will continue working with Mustang Junior Basketball Association to support junior basketball development in Taiwan.

3. Charity involvement

The foundation has long supported Lanner's "Used Goods Marketplace" event and sponsored under-funded charity organizations; in addition, it organizes a series of lifestyle and aesthetics seminars and art exhibitions to promote the public's interests toward culture and arts. The foundation also advocates environmental protection in everyday life, and reminds everyone to take part in creating a healthy, sustainable and lively environment for the next generation.

3.1

Art program for underprivileged children



In an attempt to direct the public's attention towards underprivileged children, Lanner Culture and Education Foundation invited Light Children Association to host "Light Art Exhibition for Critically Ill Children" at Lanner's art corridor in March 2018, and later invited Growth Holistic Care Association to host "Growth Gallery" in December 2018. Through these exhibitions, 700 of Lanner's employees were able to learn more about the children in need and contribute to charitable cause. The two exhibitions raised NT\$172,400 in donations, which have been entirely donated to art education foundation for children.

3.2

Support for environment-friendly farmers



The foundation organizes a charity program called "Healthy Produce" where it invites environment-friendly farmers from all over the nation to sell produce at Lanner's plant sites every Friday. Through this event, the Company provides employees with access to clean produce while at the same time donates 10% of sales to the After-school Child Care program, and thereby contributes to environmental friendliness, employee health and charity awareness at the same time.

3.3

"Pomelo Plantation Initiative"



As pomelos became ready for harvest, Lanner Culture and Education Foundation launched its "2018 Pomelo Plantation Initiative", recruited 13 employees and managed to raise NT\$20,000 in donations to sponsor plantation of pomelos. For the 2nd phase of the event, 62 employees and family members were mobilized to volunteer in pomelo harvest during weekend.

For this particular occasion, Lanner Culture and Education Foundation organized a one-day harvest trip to Maling, Jinmingchang and Fangyu Farms in Qidu District, Keelung City, along with a series of exciting activities including local guided tour, country meal, and pomelo jam-making. At the end of the day, participants got to experience the fund parts of farming and contribute to charity at the same time.

At the break of dawn, Lanner volunteers were led by farm owner Chang Ching Po to harvest pomelos into bags. On the day of event, the foundation also invited underprivileged children from "After-school Child Care program of Xiwan Road Church" to join the harvest. The After-school Child Care program has been implemented mainly to care for underprivileged children near Xiwan Road, and a total of 16 children joined Lanner volunteers in the harvest on that day, many of whom had never been to a fruit farm before. They were all excited by the sheer volume and size of the pomelos on site. The pomelo harvest was filled with laughter and many were too tempted by the fragrance of ripened fruit that they began eating impatiently like children unwrapping their holiday presents.

Chairman Yang Chen Wei of Lanner Culture and Education Foundation said that the purpose of this event was to provide support to the society where it is needed. Through this pomelo harvest, the foundation hoped to remind people to spend time with their family this Mid-autumn, and encourage consumers nationwide to support local produce. Founded by Lanner Electronics Inc., Lanner Culture and Education Foundation is committed to charitable activities and fulfilling corporate social responsibilities.

For more details on Lanner's charity involvements, please visit the official website at <http://www.lannerinc.com>



Lanner Chairman Chou I Wen (4th from left) and Professor Lin Ying Dar of National Chiao Tung University (3rd from right) signing the industry-academia collaboration agreement.

4. Lanner engages NCTU in edge computing development

Lanner recently began investing into telecommunication-related technologies including vCPE, SD-WAN, 5G Cloud RAN and network virtualization in light of upcoming trends such as 5G, network functions virtualization (NFV) and software-defined network (SDN). To facilitate R&D, industry upgrade and talent exchange at a higher level, Lanner has collaborated with National Chiao Tung University (NCTU) on the development of a 5G mobile computing platform.

During the contracting ceremony held on September 5, Lanner Chairman Chou I Wen and NCTU Professor Lin Ying Dar signed the collaboration agreement on behalf of the two parties as a commitment to integrate theories, hardware, technology and market resources into creating more proofs of concept (POC) for telecommunication and high-end information security applications. As partners of the SDN/NFV ecosystem, the two organizations promised to contribute to the future growth of 5G network and edge computing.

Founding of joint laboratory

Lanner and NCTU will be co-founding a joint laboratory that combines expertise from NCTU Department of Computer Science and Department of Mechanical Engineering on 5G studies in the EU and Lanner's SDN/NFV offerings to apply 5G for low-latency, high bandwidth, and large-scale connections.

Meanwhile, topics such as next-generation high-end server, heat sink, wireless network and mobile network will all be part of our industry-academia interaction.

Chairman Chou I Wen: Lanner is dedicated to playing the role of 5G pioneer

Chairman Chou I Wen said during his speech that industrial computers had been Lanner's primary focus before 2000, and the Company has since expanded product line to network security. It has developed leadership position in the market and maintains close working relationship with world's major network security companies. As 5G technology emerges on a global scale, Lanner began expanding its involvement into the telecommunication field, and after 3 years of hard work, Lanner's vCPE/uCPE have now been adopted by major carriers as a solution for SD-WAN worldwide. Chou is confident that this collaboration with NCTU will help maintain Lanner's market leadership in the 5G era.

Mobile edge computing for mutual benefits

Lanner has been active in the development of mobile edge computing (MEC) technology in recent years to accommodate the new 5G network and to provide additional cloud computing capacity. MEC has the potential to relieve network equipment of increasing stress, thereby enable mobile carriers to deliver unique 5G service experience for customers.

Edge computing is the concept of processing data locally near where data is generated. By having data processed close to the source, preferably within the same local network, there will be less need to transmit data over the cloud, thereby reduce the time taken for data transfer and minimize cost of bandwidth. Infrastructures and facilities are the key to shaping new Internet lifestyle, and by supplying optimal hardware and participating in the development of 5G standards at an early stage, Lanner hopes to contribute to the evolution of telecommunication technologies.





Chapter 10 Appendices

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