

# 2018

# 2018 Alpha Corporate Social Responsibility Report



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# **About this Report**

Alpha Networks Inc. (hereinafter referred to as "Alpha") has published the annual corporate social responsibility (CSR) report since 2018. The CSR report will present to all stakeholders the investments and accomplishments made by Alpha in terms of business operations, corporate governance, environmental protection, employee rights and community involvement.

This CSR report is available in both Chinese and English. Stakeholders can download the contents of this publicly available report from https://www.alphanetworks.com.

#### **Publication**

The report was published in June 2019. Alpha published the inaugural CSR Report in 2018 and the company's sustainable development-related performance is disclosed in the report in June every year.

# **Scope and Boundary**

This Report discloses the measures implemented by Alpha Networks in the CSR domain and their outcomes. In addition to Alpha Networks (Hsinchu), parts of the Report also encompass the following factories located in China but not its sites in Chengdu (China), Japan, the U.S. and other corporate entities not directly controlled by Alpha.

- Alpha Networks Inc.: Corporate Headquarters. Known as Alpha Networks (Hsinchu) for short
- Alpha Networks (Dongguan) Co., Ltd. (hereinafter referred to as "Alpha Dongguan")
- Alpha Networks (Changshu) Ltd. (hereinafter referred to as "Alpha Changshu")

# **Guidelines and Principles**

This report has been prepared in accordance with the GRI Standards: Core option as the basic framework for the disclosure of sustainability issues and information at Alpha. The GRI Standards reference table is also provided in full as an index to the contents of each section.

# **Report Assurance**

In order to ensure the transparency and reliability of information disclosure, the report has received type 1, medium level assurance from a third party TÜV (hereinafter referred to as TUV Rheinland) based on AA1000 AS(2008), as well as the GRI Standards: Core option. The Independent Verification Statement is attached in the appendix of this report.

#### **Contact Information**

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# From the Chairman

# Forging the Internet to connect people and things

The 5th generation communication (5G) will soon be upon us, its broadband, high speed and low latency advantages are set to infiltrate to various industries and change people's way of life. "5G will be enabling the digital transformation of all industries." Riding the wave of 5G technology, Alpha Networks has devoted resources to develop cutting-edge communications and networking products, create smart cities through professional technology and bring people closer with love and care. It is the company's intention to break the limitations of boundaries, propagate knowledge, get in touch with people's emotions and imbue warmth and hope to the society through networking.

Forging the Internet to connect people and things is our vision and our products will serve as the bridge that brings everything together. In 2018, we unveiled new products including the 100G/400G datacenter switch, 5G terminal equipment and Cloud of Radio Access Network (Cloud-RAN). The products' application includes firefighting, medical care, police, industrial automation, utilities and energy management, becoming an integral part of people's lives and the guardian of society.

With sustainability in mind, we focus on energy

conservation, green energy and environmental protection. The R&D process of the company's network communication products complies with 3 major international regulations (RoHS, WEEE, and ErP), while the manufacturing process also abides by international safety standards. In addition, we value information security and the protection of confidential information, therefore apart from the ISO27001 information security management system certification, the company regularly conducts internal information system crisis drills in order to fortify the information security of the company and the clients.

We believe that networking is the best medium for bridging the knowledge divide, therefore the Alpha Networks Foundation visited elementary schools in remote townships in Hsinchu on Christmas Eve of 2018 with its corporate volunteers, bringing network communication equipment such as switches, small cells and wireless routers to help optimize the schools' backbone and create a wireless teaching environment. Corporate volunteers dressed up as Santa and organized a "mobile network education challenge" for children living in remote townships to explore the treasure trove of knowledge in the cloud

through network technology in a fun, interesting manner, just like the kids from urban areas.

We will strive to uphold the philosophy of giving back to society. With over a decade of experience in network communication, Alpha Networks will continue to participate in education, culture, and social welfare-related activities in order to fulfill our responsibilities as a corporate citizen and create a more wonderful life for the general public through philanthropy.



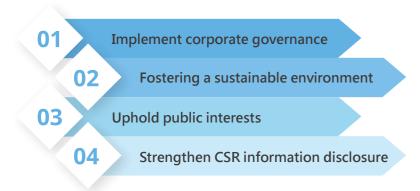
Chairman John Lee

# Alpha Policies

# Integrity, fairness, legal compliance and abiding by business ethics

# Corporate Social Responsibility Policy

Alpha upholds the following principles in the practice of its CSR:



# **RBA Policy**

Alpha actively supports the Code of Conduct - Responsible Business Alliance, RBA Version 6.0 (previously known as the EICC) to ensure a safe working environment throughout the entire supply chain and for sub-contractors, every employee is treated with respect and dignity, business operations are environmentally friendly and ethical.

In addition to the continued review of our own progress in labor, health and safety, environment and ethics, and agreeing to on-site audits by third-party verification bodies, we are also committed to actively asking our suppliers adopt the tools and standards of RBA. To fulfill this commitment and build a business environment for sustainable development, we have

formulated RBA related policies based on integrity and making no compromises. We will strive to work relentlessly for the rights and interests of the electronic industry supply chain and operators.

Alpha is committed to forging a long-term relationship with our suppliers in order to foster a brighter future together. In addition, they will be expected to comply with RBA regulations, thereby fulfilling our corporate social responsibilities.

# **Ethics Policy**

All business activities at Alpha must uphold the principles of integrity and fairness, comply with laws and regulations, and adhere to business ethics. Employees are prohibited from engaging in bribery, corruption, and accepting or giving of gifts, money and hospitality not commensurate with commercial value from suppliers, customers and stakeholders. The confidential information, assets and intellectual property of Alpha, customers and suppliers must be placed under strict protection.

Alpha believes strongly in ethical business management and all forms of inappropriate behavior are banned. A system for protecting the identity of whistleblowers and the accused has been put into place.

A channel for complaints is provided if any illegal behavior is detected. A thorough investigation will be carried out by Alpha with protection given to the whistleblower. The content and outcome of the investigation will also be strictly protected to avoid harming the rights and interests of relevant personnel.



# Alpha CSR Committee

# Investing diverse resources to complete the CSR report

The CSR Committee is organized as follows:

The Alpha CSR Committee was authorized by Chairman John Lee to evaluate global sustainability trends, the Company's business development targets, as well as key issues in the corporate governance, environmental, and social aspects. Organizational resources such as the Chairman's Office, the President's Office, Legal Affairs, Corporate Auditor's Office, Finance & Accounting, Business Units, Manufacturing Center, Quality Assurance, Labor Safety, Human Resources, and the Alpha Foundation were then brought together to complete this CSR report.





# Stakeholder Communication and Identification

# Understanding the stakeholders' expectations towards Alpha through diverse communication channels

The Alpha CSR Committee convenes meetings to discuss the types of stakeholders. Six main types of stakeholders were compiled including customers, employees, investors, suppliers, government agencies/neighborhood and the media. Different communication channels have been established for different stakeholders. Communication with stakeholders will hopefully give us a better idea of stakeholder requirements and expectations. OThe opinions of stakeholders can be used to help Alpha examine and develop its corporate strategy, and to create value for Alpha and stakeholders.

#### ■ Identification Process of Materiality



# ■ Six main types of stakeholders





# **Stakeholder Issues of Concern Survey**

The Alpha CSR Committee convened a meeting to list the sustainable development issues linked to our Company based on the GRI Standards. The aspects to be surveyed included sustainable economy, sustainable environment, and sustainable society. Twenty issues of concern to stakeholders were listed and compiled for the Alpha CSR Stakeholder Survey. The survey was issued by the members of the CSR Committee to Alpha's CSR stakeholders.



- Operating performance
- Industry Localization
- Environmental Protection Investments
- Supply Chain Management
- Research and Development
- Information Security Management
- Business Continuity Management



Sustainable environment aspect

- Use of Raw Material and Recycle Material
- Energy Management
- Water Source Management
- Product Carbon Footprint
- Wastewater Withdraw Control and Waste Management
- Environmental Compliance
- Green Supply Chain Management



- Talent Attraction and Retention
- Employment Relations
- Occupational Safety and Health
- Career Development and Education Training
- Employee Rights
- Community Care and Participation

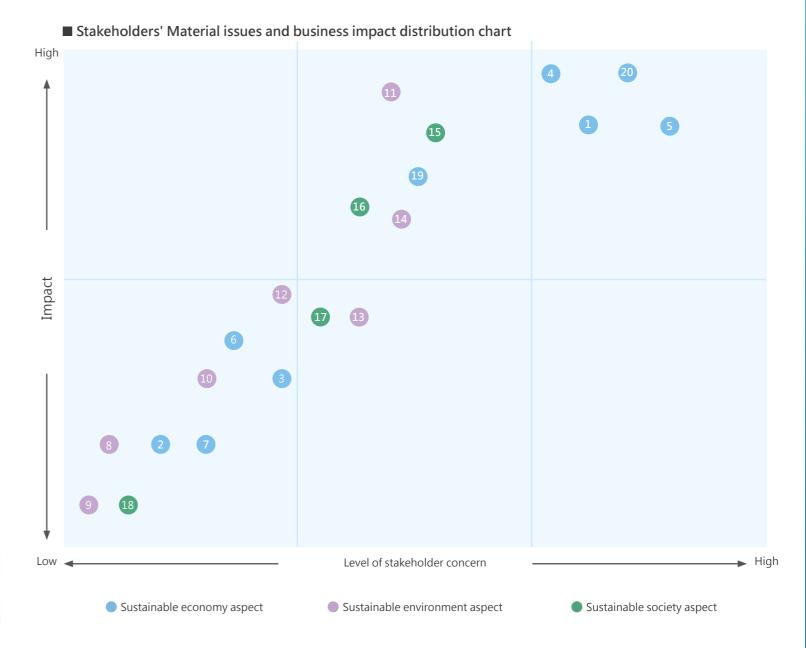


# Identification and Sorting of the Stakeholders' Material Issues

The Alpha CSR Committee was convened to discuss the recovered surveys. The level of stakeholder interest in each issue and impact on operations were analyzed to determine the seven issues most material to Alpha: Operating Performance, Supply Chain Management, Research and Development, Environmental Regulation Compliance, Occupational Safety and Health, Information Security Management, and Business Continuity Management. A formal response to stakeholder concerns was issued by using the GRI Standards as the basis for disclosure in the CSR report. The handling of material issues is indicated in the GRI Index and explained for each indicator.

List of Material Issues						
1	Operating performance	11	Environmental Compliance			
2	Industry Localization	12	Green Supply Chain Management			
3	Environmental Protection Investments	13	Talent Attraction and Retention			
4	Supply Chain Management	14	Employment Relations			
5	Research and Development	15	Occupational Safety and Health			
6	Use of Raw Material and Recycle Material	16	Career Development and Education Training			
7	Energy Management	17	Employee Rights			
8	Water Source Management	18	Community Care and Participation			
9	Product Carbon Footprint	19	Information Security Management			
10	Wastewater Withdraw Control and Waste Management	20	Business Continuity Management			

	Major Issues of Concerns					
1	Operating performance	15	Occupational Safety and Health			
4	Supply Chain Management	19	Information Security Management			
5	Research and Development	20	Business Continuity Management			
11	Environmental Compliance					



# Stakeholder Communication Mechanism

# Responding to the stakeholders' expectations towards Alpha

Alpha assigned a corresponding internal unit or working group to each issue of concern for communicating and responding to stakeholders through a variety of channels in order to understand stakeholders' expectations of Alpha, and to compile them in a systematic manner to serve as an important reference for compiling the CSR report for next year.

The Alpha website (https://www.alphanetworks.com), public e-mail address (see Alpha website < CSR > Stakeholder Contact Information), annual report, and market observation post system (http://mops.twse.com.tw) serve as our routine channels for communication. Stakeholders can use the above channels to find out about important Alpha information and contact the relevant units.

The communication channels and frequency for issues of concern to stakeholders have been collated in the following table.



Stakeholders	Material Issue of Concern	Communication Channel and Frequency
Customers	<ul> <li>Environmental Compliance</li> <li>Research and Development</li> <li>Use of Raw Material and Recycle Material</li> <li>Supply Chain Management</li> <li>Information Security Management</li> </ul>	<ul> <li>Customers satisfaction survey (annual)</li> <li>Quarterly business review (quarterly)</li> <li>Customer complaints management system (ad hoc)</li> <li>Supplier conference (ad hoc)</li> <li>Client information security questionnaire survey (ad hoc)</li> </ul>
Employees	<ul><li> Employment relations</li><li> Talent Attraction and Retention</li><li> Career Development and Education Training</li><li> Employee Rights</li></ul>	Employer-Employee Meeting (quarterly)     Employee Welfare Committee (monthly)     Occupational Safety and Health Committee (quarterly)
Investors	<ul><li>Operating performance</li><li>Research and Development</li></ul>	<ul> <li>Shareholders' Meeting (annual)</li> <li>Investor conference (annual)</li> <li>Market Observation Post System (ad hoc)</li> <li>Corporate website (ad hoc)</li> </ul>
Suppliers	<ul> <li>Supply Chain Management</li> <li>Business Continuity Management</li> <li>Research and Development</li> <li>Operating performance</li> </ul>	<ul><li>Supplier platform (ad hoc)</li><li>Supplier evaluation (ad hoc)</li><li>Supplier conference (ad hoc)</li><li>Supplier visit (ad hoc)</li></ul>
Government agencies/ Neighborhood	<ul> <li>Product Carbon Footprint</li> <li>Wastewater Withdraw Control and Waste Management</li> <li>Environmental Compliance</li> <li>Information Security Management</li> </ul>	<ul><li>Corporate website (ad hoc)</li><li>Telephone (ad hoc)</li><li>Official document (ad hoc)</li></ul>
Media	Operating performance     Research and Development	<ul><li>Press release (ad hoc)</li><li>Press conference (ad hoc)</li></ul>

# A globally recognized, professional networking DMS supplier

# 1. Sustainable Development

Company Operations and Development

Operating Performance

Sustainable Products and Services

Corporate Governance

**Ethical Management** 

Risk Analysis and Management





Company Operations and Development Operating Performance Sustainable Products and Services Corporate Governance Ethical Management Risk Analysis and Management

# Friendly Workplace

Recruitment Compensation and Benefits Talent Development Social Participation

### Sustainable Environment Development

Green product Management **Environmental Management** Greenhouse Gas Inventory Safety and Health

Supply Chain Management and Social Relations

Conflict Minerals Due Diligence Green Production and Continuous

Customer Satisfaction Survey Analysis

### **Appendix**

**Improvement** 

**GRI Standard Index** Accuracy of Disclosure

# Company Operations and Development

# Using advanced technology to provide customers with outstanding solutions at the best value

# **About Alpha**

Alpha Networks Inc. was established in 2003. After D-Link split the branded and OEM businesses in 2003, Alpha focused on the design, development and manufacturing of network communication products. Alpha now provides customer the full range of DMS services spanning product software/hardware design, system integration, mechanical design, product testing and certification.

Alpha possesses the most comprehensive production line in the network communication industry, including business units such as LAN/MAN, Wireless Broadband, Digital Multimedia and Mobile Enterprise Solutions. Alpha pro-actively develops high-end, integrated products, providing clients with more competitive products and solutions. Although the future of international trade is full of uncertainties due to the tense relationship between China and the US, developments in the network communication industry will be driven by the 5G revolution in mobile communication. 5G enables the digital transformation of all industries, therefore the network communication industry is confronted with a new wave of transformation, bringing with it opportunities in new technology and new applications.

In order to increase profitability and ensure sustainability, Alpha's long-term development strategies are:

01	Develop a long-term partnership with the company's clients and suppliers, as well as expand the sales market.	
0	Emphasize operating efficiency, rigorously control manufacturing quality and cost, and improve the company's profitability.	
03	Invest in cutting-edge technology and establish core competitive advantage.	
0	Commit to sound corporate governance and fulfill corporate social responsibilities.	

Company Name	Alpha Networks Inc.
Chairman	John Lee
Headquarters	Hsinchu, Taiwan
Establishment Date	2003/9/04
Public Listing Date	2004/12/20 (TWSE: 3380)
2018 Capital	NT 5.435 billion
2018 Revenue	NT 15.61 billion(consolidated revenues)
2018 Earnings per Share	- NT 0.17
2018 Total workforce	Over 3,500 (worldwide)



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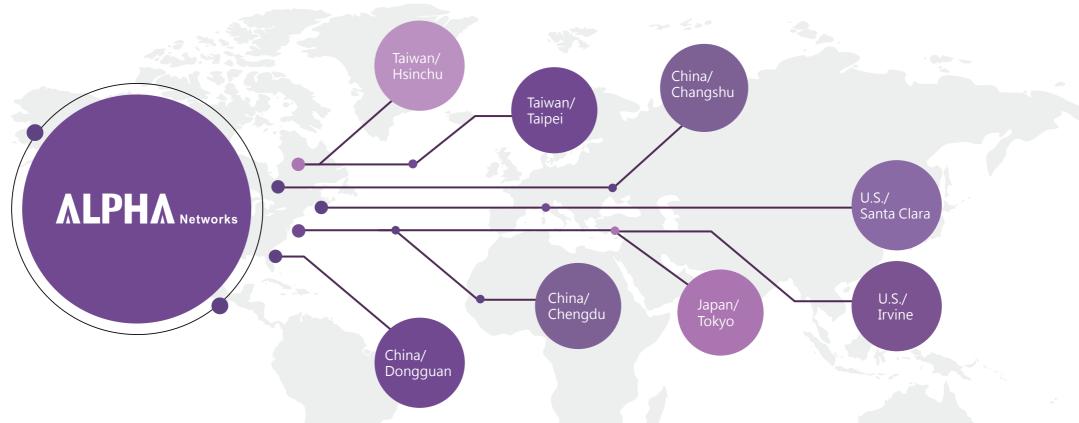
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**GRI Standard Index** Accuracy of Disclosure

# Providing comprehensive service and efficient local support



### **Global Presence**

Alpha headquarters is located at Hsinchu Science-based Industrial Park in Taiwan. We have established service or manufacturing sites in the U.S., Japan and China to provide the full spectrum of services and efficient localized support. The combination of offices and workshops at Alpha headquarters support R&D, testing, sales and services, supply chain, manufacturing and RMA services. Headquarters is responsible for coordinating customer requirements and the allocation of resources. Our primary manufacturing sites are located in China. They consist of the Dongguan Factory in Guangdong Province, and the Changshu Factory in Jiangsu Province, Sales subsidiaries have also been established in Tokyo (Japan), Irvine (southern California, USA) and Santa Clara (northern California, USA), and Dongguan (China) to better serve our customers.



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# Management System

International management system certifications such as ISO 19001, TL9000, IATF-16949, ISO 14001, QC080000, ISO 14064-1 and AEO were actively introduced at the three Alpha manufacturing sites.

System/Factory	Alpha Networks (Hsinchu)	Alpha Networks (Dongguan)	Alpha Networks (Changshu)
ISO 9001:2015	•	•	•
TL 9000 R6.1/R5.5	•	•	•
IECQ QC 080000	•	•	•
ISO 14064-1:2006	•		
ISO 14001:2015	•	•	•
IATF 16949:2016	•		•
AEO	•		
C-TPAT		•	•
OHSAS 18001:2007		•	•
ISO 27001:2013	•		



# **Memberships**

Alpha actively participates in network communications industry associations and technology alliances. We hope to stay on top of industry trends through frequent networking with members of the industry. We are involved in the following organizations:

- 25G/50G Ethernet Consortium
- Automotive Ethernet Alliance
- Autonomous Driving Systems Industrial Platform
- Dolby Laboratories
- Driver Information Platform Development Alliance (DIPDA)
- High-Bandwidth Digital Content Protection (HDCP)
- High-Definition Multimedia Interface (HDMI)
- Hsinchu Human Resource Management Association
- IPC-Association Connecting Electronics Industries
- MulteFire Alliance
- Open Compute Project (OCP)
- OuEST Forum
- Taiwan Association of Information and Communication Standard (TAICS)
- Taiwan Vehicle Team
- Telecom Infrastructure Project
- Wi-Fi Alliance

# Participation in trade shows

Alpha attended the Broadband World Forum in Berlin in 2018, the premier event for the network communication industry, featuring technologies including 100G Data Center, smart home integration, small cell solutions and automotive applications. The aim is to develop the next generation Internet in order to connect everything swiftly and effortlessly.



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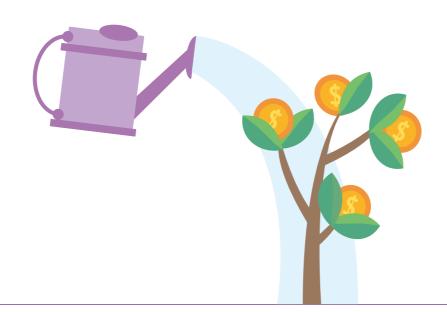
# **Appendix**

**GRI Standard Index** Accuracy of Disclosure

# **Operating Performance**

Alpha's consolidated revenue for 2018 was NT\$15.608 billion. Products such as mobile broadband, fiber-optics user terminal equipment and automotive mmWave radar had exhibited continuous growth; however, the company's overall revenue had declined because the demand of certain enterprise and consumer product lines were not as expected. Net loss after tax was NT\$88 million, or loss of NT\$0.17 per share in 2018. Despite the loss, the company's operating activities were generating positive cash inflow, demonstrating a sound overall financial structure. In order to increase profitability, the company will pro-actively develop core businesses and expedite new product development, as well as continue to improve organizational operating efficiency.

The consolidated operating performance, related financial information, profit analysis of Alpha over the last five years as well as its 2018 revenue portfolio are presented below in graph form. For more information about Alpha's operating performance and finances, please refer to the "Alpha Networks Inc. 2018 Annual Report" or check with the Market Observation Post System.



#### Income Statement

Item/Year	2014	2015	2016	2017	2018
Operating revenue	23,277,512	22,995,238	21,830,730	19,057,109	15,608,222
Operating costs	20,012,133	20,095,471	18,647,259	16,164,744	13,504,544
Gross profit	3,265,379	2,899,767	3,183,471	2,892,365	2,103,678
Operating expenses	2,796,217	2,801,336	2,534,479	2,280,474	2,303,706
Operating profit & Loss	469,162	98,431	648,992	611,891	(200,028)
Non-operating income and expenses	188,881	(359,522)	154,581	84,463	115,742
Income (loss) before tax	658,043	(261,091)	803,573	696,354	(84,286)
Income tax expenses	122,270	79,017	195,534	147,816	3,723
Net Income (loss)	535,773	(340,108)	608,039	548,538	(88,009)

Unit: Thousand NTD

#### **Related Financial Information**

Item/Year	2014	2015	2016	2017	2018
Total assets	16,725,522	14,313,914	14,261,424	13,724,615	14,929,075
Ordinary share capital	4,971,271	4,429,144	4,344,697	4,443,967	5,435,172
Total equity	9,683,098	8,411,088	8,518,656	8,694,960	10,393,751
Cash dividend (note)	663,265	579,293	217,130	451,630	543,743
Book value per share/Dollar	20.04	19.37	19.62	19.58	19.12
Cash dividends per share/Dollar(note)	1.36	1.20	0.50	1.04	1.00
Average closing price per share/Dollar	20.99	18.10	18.36	23.80	19.88

Note: The information of cash dividend and cash dividends per share is show the information of previous year.

Unit: Thousand NTD



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# **Profitability**

Item/Year	2014	2015	2016	2017	2018
Return on assets (%)	3	(2)	4	4	(1)
Return on equity (%)	6	(4)	7	6	(1)
Profit Before Tax to Capital Stock (%)	13	(6)	18	16	(2)
Net profit ratio (%)	3	(1)	3	3	(1)
Earnings per share (NTD)	1.10	(0.74)	1.40	1.26	(0.17)

# **Project Grants**

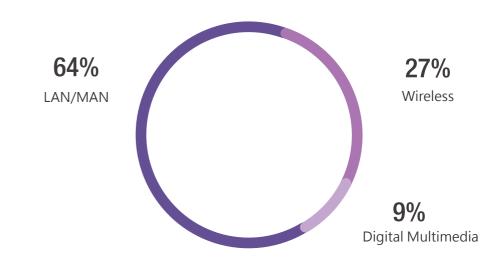
Technology development at Alpha focuses on the development, manufacturing and support of network communications equipment. Alpha is now actively investing in the development of 5G mobile communications, Advanced Driver Assistance Systems (ADAS), Internet-of-Vehicle applications.

Alpha is now leveraging its outstanding R&D and technology integration capability along with support for the government's "industrial innovation upgrade" policy to secure related grants and tax deductions from the government.

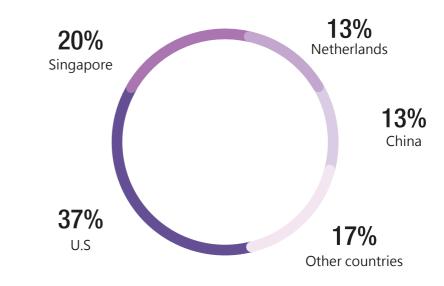
Project	Grant Type	Grant Basis
Technology Development Program - Fusion of Dissimilar Sensors with Anti- Collision Warning Automotive Electronic System Development Project	Grant received (note)	Statute for Industrial Innovation - Industrial Development Bureau, MOEA
Technology Development Program - A+ Industrial Innovation R&D Program - "M-ECHO Project Grant"	Grant received (note)	Statute for Industrial Innovation - Department of Industrial Technology, MOEA
Investment credit	Tax credits obtained	Statute for Industrial Innovation - Industrial Development Bureau, MOEA

Note: Income from technology development programs are in the form of multi-year grants.





### ■ Revenues by Region





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# Sustainable Products and Services

# Investing in advanced technology and reinforcing core competitiveness

In network communication industries, multiple technologies are approaching new ones to meet 3GPP 5th generation communication standards, and worldwide operators are also aggressively developing plans to commercialize their 5G related services. 5G new technologies not only push the communication network to revolutionary boundary, but also bring new solutions and services to vertical markets, along with the rise of Mobile Edge Computing (MEC). 5G will enable the digital transformation of all industries, therefore, the network communication industry is gearing up to embrace a new wave of transformation, bringing with it business opportunities in new technology and new applications. The company will strive to develop high-end and integrated products, offering its clients more competitive products and solutions. With Alpha's years of experience in technology R&D, it is believed that the company has already laid the bedrock for successfully capturing future opportunities in the industry.

# I. The company's current product (service) lineup

#### 1.LAN MAN Product Line

- Data Center Ethernet Switch
- Enterprise Ethernet Switch
- SMB Ethernet Switch
- Carrier-Grade Ethernet Switch
- IoT Ethernet Switch
- Industrial Ethernet Switch

#### 2. Wireless Broadband Product Line

- VDSL Router / IAD
- GPON ONT/EPON ONU
- 10G-PON ONU

- LTE Router / IAD
- LTE Small Cell
- NB-IoT Smart Parking & Tracker Device
- · Wireless LAN Access Point
- · Wireless LAN Module
- Wireless LAN Router

# 3. Digital Multimedia Product Line

- OTT STB / IP STB / Hybrid STB
- IP Camera
- NAS
- PLC
- IoT Devices

### 4. Mobile Enterprise Solutions Product Line

- 24GHz Smart Radar Sensor
- 77GHz Smart Radar Sensor



SIG-4000 Series L2 Gigabit Industrial PoE Switch



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#### II. New products and technologies under development

#### 1.LAN MAN Product Line

- 400G Spine Network Ethernet Switch
- Enterprise-based SDN total solution
- Multi-G POE++ Ethernet Switch
- 5G Mobile Backhaul Ethernet Switch
- 5G Fronthaul Ethernet Switch
- Network Function Virtualization Platform Technology
- Edge Computing Switch
- XGS-PON OLT

#### 2. Wireless Broadband Product Line

- G.fast CPE
- 5G Cloud RAN End-to-End Solution
- 802.11ax Router
- 802.11ax Access Point
- NB-IoT Industrial Sensor
- G.fast + LTE MPTCP Hybrid IAD
- 5G FWA CPE

### 3. Digital Multimedia Product Line

- SMB multi-core NAS
- Gigabit PLC
- Smart Surveillance solution
- Intelligent Video and Audio Analytics
- AI-Box

# 4. Mobile Enterprise Solutions Product Line

- mmWave Radar with Image Fusion Technology
- AVB Ethernet Gateway



PON-34332B XGS-PON Tri-band 11ac HGU





GE swtich







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**GRI Standard Index** Accuracy of Disclosure

# **Industry Competition**

Global advances in technology have led to breakthroughs in wired and wireless product technologies. The rapid evolution of new technology also translates into shorter product life cycles and uncertainty during new product development. To lower costs or simplify product functionality, many vendors have now adopted a strategy of competing on price.

Alpha has a complete product range of any network equipment maker in Taiwan. Our many years of experience with product development and design means we can provide a one-stop solution for large international brands. The network communications industry will continue to develop in the direction of smart applications and integration in the future. Networking technology will become faster as well. Only vendors capable of developing the full range of network communications software and hardware technologies will be equipped to provide customers with the latest and the most complete solution.

# **Product Development Trends**

# 1. Mobile broadband roll-out and upgrade

An increasing number of subscribers around the world can now enjoy mobile broadband services and the transmission of mobile audio-video content, driving demand for high-speed mobile network access. The 4G LTE will maintain a high level of growth; however, the commercial deployment of 5G commenced for the first time in 2018 and the commercialization of 5G mobile communication is expected in 2020.

# 2. Demand for fixed bandwidth to continue increasing

Copper-wire broadband will be upgraded from ADSL to VDSL and G.fast. Fiber broadband will be upgraded from GPON to 10G-PON. Since the users' need

for the network applications has expanded from simple data transmission to mobile audio-video content and interaction, the demand for higher bandwidth has increased as well. As a result, mobile network operators will continue to expand the bandwidth and apply MultiPath TCP (MPTCP) to improve the external bandwidth of households. The implementation of FTTH and FTTdp fiber-optics technologies will facilitate the development of diversified products.

### 3. Ethernet switches with even faster transmission speeds

The demand for high-speed switching equipment from enterprise users will continue to increase. Growth in cloud computing services and high-quality multimedia content traffic will drive the construction and upgrading internal networks at data centers. The bandwidth requirements of switches will be upgraded from 10Gbps and 40Gbps to 25Gbps and 100Gbps. A new generation of Ethernet networking technology with speeds of up to 400Gbps is poised to enter the market.

4. Development of high speed Wi-Fi and an increase in offloading mobile data traffic Wi-Fi 5 (802.11ac) has become the mainstream market standard and the trend is developing towards the higher speed Wi-Fi 6 (802.11ax) standard. As the mobile data traffic increases rapidly, the ratio of offloading mobile data traffic via Wi-Fi will rise along with the need to deploy Wi-Fi hotspots.

# 5. Smart home development trends

The incorporation of artificial intelligence into the design of smart home products will become a trend in home security surveillance and smart homes. Advances in voice control and image recognition will also lead to even more smart applications.



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# Research and Development Focus

#### 1. LAN/MAN Business Unit

The company possesses software and hardware advantages in Ethernet switches, as well as abundant experiences in customized switch designs. As AI and IoT application development continues along with explosive growth in data volume and the need for enhanced computational performance, the importance of edge computing is also becoming more apparent. This is especially true for 5G development, which has fostered the emergence of MEC and vertical market. In light of this, the company has developed carrier-grade switches for 5G networks and a 5G system integration platform that can be customized according to the businesses' vertical applications and smart services. In addition, Alpha has developed industrial-grade temperature-hardened switches in response to the current trend in IoT. As the traffic at cloud datacenters grows, the company's datacenter high speed switch has been migrating to 400Gbps, and investments are being made in the area of frontier technology.

#### 2. Wireless Broadband Business Unit

Based on company's mobile communication centric strategy, Alpha has launched the 5G router and small cell, tapping into the telecommunication providers' Fixed Wireless Access (FWA) market. The company has integrated the technologies of switches, high-speed Wi-Fi, IoT sensors and mmWave antennas, to develop Cloud-RAN software, hardware and interfacing platform. Furthermore, Alpha has begun field testing for business vertical private networks, providing with diverse and flexible smart applications. Under the trend of high speed network development, copper-wire broadband will be upgraded from DSL to G.fast, while fiber-optics broadbands will be upgraded from G-PON to 10G-PON, and WiFi will be upgraded to Wi-Fi 6 (802.11ax). The company has already engaged in close collaborations with our clients to capitalize on the multitude of technology upgrade-related opportunities.

#### 3. Digital Multimedia Business Unit

Alpha has long been involved in the design and development of IP Camera, accumulating years of experience in optics technology. Since the company has advantages in proprietary software/hardware development and Wi-Fi technology, as well as optimized audio transmission over network and adaptive video streaming technologies, we are able to provide highly competitive customized products according to the clients' requirements. Moreover, the company has integrated IoT and AI technology into the smart home solution, and Intelligent Video Analytics(IVA) technology and AI application are developed and integrated into the IP Camera and smart gateway. Besides focusing on smart home applications, Alpha will also strive to develop enterprise security surveillance solutions.

#### 4. Mobile Enterprise Solutions Business Unit

The company's 24GHz mmWave radar sensor has already tapped into the Advanced Driver Assistance Systems (ADAS) market and expanded to smart parking applications. At the same time, the mmWave radar will also be applied to other applications. As the automotive mmWave radar constantly develops towards higher resolution and sensor fusion with image technology, Alpha has also launched the 77GHz and 79GHz radars in conjunction with wide-angle image detection capability. In addition, the company will continue to develop automotive Ethernet and integrate 5G-related technology applications in order to capture the V2X market.



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# Manufacturing and Quality Services

At Alpha, we believe in "getting quality right the first time." Before the product enters production, in order to ensure the competency of the colleagues who have a direct influence over the product's quality, the company will provide related training and retraining to make sure of their qualifications. This is to guarantee that the production line colleagues will be able to manufacture products of exceptional quality.

All products undergo rigorous and thorough design validation before the start of mass production, including quality testing, product safety certification, electromagnetic interference and resistance testing, compatibility certification testing, environmental and reliability testing, and more. All products go through a series of checks to ensure compliance with international standards; before products enter production all parts go through exhaustive incoming material inspection to keep defective parts out of the production line; quality on the production line is constantly monitored by quality control personnel during the production process; once production is complete, final products are sample tested by quality control personnel to ensure that their functionality and appearance are up to standard; an electro-static protection policy is place throughout the transport, development, production, process control, inspection, testing and repair during process management to ensure that sensitive parts are not damaged by static electricity; comprehensive after-sales support is provided by Alpha once a product has been shipped as well.

We are therefore committed to the following:

- Make it a matter of honor to get quality right the first time.
- The pursuit of excellence through continuous review and improvement.
- Manufacture the products that customers need and provide customers with satisfactory service.

Alpha will continue to enforce the above principles in the spirit of sustainable development and educate all of our employees accordingly. Quality-related feedback from within the company and from customers shall all be handled swiftly and appropriately.

# **Intellectual Property**

# 1. Education and training

Through regular and irregular, training and internal announcements, the company will instill the concept of intellectual property rights, trade secret-related laws and regulations, as well as the importance of using authorized software, together with its legal implications. For new employees, Alpha will promote intellectual property rights and trade secret-related management and principles during orientation training and the legal implications will be clearly stated in the employment contract.

### 2. Respect for Intellectual Property and Boosting Competitiveness

In the early stages of R&D, prior to formally committing the company's resources, a patent search of innovative technologies will be conducted in order to minimize the risk of infringement. Besides avoiding committing duplicate resources, Alpha can also obtain information on the competitors through the patent search, thereby adjusting the company's R&D direction. During the R&D process and output, Alpha will apply for patent, trademark and copyright in order to protect innovative technology and R&D output, in turn elevating the company's competitiveness and the values of our intangible assets.

#### 3. Management and Protection of Confidential Information

To ensure the reasonable protection of the company's and customer's confidential information, non-disclosure agreements are signed with external customers and business partners while employees undergo regular education and training on laws governing the protection of trade secrets. Employees are required to adhere to the terms of non-disclosure agreements in their use of confidential information. Messages shall also be transmitted through the legal and proper use of e-mail or other methods to ensure. These are to ensure confidential information owned by the company and customers are used legally during business activities without violating any of the relevant laws.



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# **Corporate Governance**

To ensure ethical business management, Alpha complies with the Company Act, Securities Exchange Act and other relevant laws. We also formulated the "Ethical Corporate Management Best Practice Principles", "CSR Best Practice Principles", "Insider Trading Prevention Management Regulations", and "Code of Ethical Conduct" to protect shareholder rights and interests, strengthen the function of the Board of Directors, and boost the effectiveness of the Audit Committee and Compensation Committee in order to improve the company's business performance and realize the ideal of sustainable corporate development.

#### **Governance Structure**



# **Board of Directors**

The top governance body at Alpha is the Board of Directors. In accordance with the Articles of Incorporation, between 5~9 directors may be elected to the Board for terms of 3 years and for successive terms. At least 3 of all directors shall be independent directors. Directors are elected from a list of nominated candidates. The "Rules Governing the Election of Board Directors" and the "Corporate Governance Best Practice Principles" explicitly calls for diversity in the overall composition and membership of the Board of Directors such as having different professional backgrounds, professional specialties and genders.

The 6th Alpha Board of Directors is composed of Nine directors that have the necessary wealth of experience or professional qualifications in business, legal affairs, finance, accounting or company operations. The Nine directors include three independent directors. Please refer to the Minutes for 2018 annual shareholders' Meeting or the TWSE market observation post system website for the directors' resumes, positions with other companies and continuing education.

The responsibilities of the Board include supervising corporate compliance, financial transparency, appointment and removal of executes, and deciding on important company issues. The management team assists the Board with its decision-making by providing information or briefings on business operations and situation. The Alpha "Rules Governing the Agenda of the Board of Directors" and "Audit Committee Organic Charter" all include regulations on avoiding conflicts of interests. If a director or the institutional investor they represent has a conflict of interest with any matter on the agenda, they shall explain the conflict of interest during the meeting of the Board or the audit Committee. If the company's interests may be harmed then the director shall recuse himself/herself from the discussion and voting, nor may they exercise the proxy votes of other directors.

The Alpha Board of Directors is convened at least once every quarter. In 2018, the Board was convened 6 times and the average attendance of each director was 93%. Important resolutions passed by the Board are also announced on the TWSE Market Observation Post System and the corporate website in a timely manner.

The Audit Committee and Compensation Committee were established as functional committees by Alpha to achieve the goals of operational transparency, respect for shareholders' interests and ensure the sound operation of the Board.



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#### Members of the Board of directors

Title	Name
Chairman and CEO	John Lee
Director and President	Yu-Chin Lin
Institutional director Institutional director representative	D-Link Corp. Shih-Kuo Lin
Institutional director Institutional director representative	D-Link Corp. Howard Kao
Institutional director Institutional director representative	Qisda Corp. Peter Chen
Institutional director Institutional director representative	Qisda Corp. David Wang
Independent director Audit Committee member	Harry Huang
Independent director Audit Committee member Compensation Committee member	Mao-Chao Lin
Independent director Audit Committee member	Samuel Lee

# **Auditing Office**

The Auditing Office is an independent unit that reports to the Board of Directors. Auditors carry out the annual auditing plan approved by the Board. They also review compliance with internal controls by Alpha Dongguan and Alpha Changshu and its subsidiaries to ensure their continued effectiveness and to provide a basis for further revisions to the internal controls.

The head of auditing shall not only brief the Audit Committee regularly on auditing affairs but also attend Board of Directors meetings to present reports as well. Any defects or potential risks identified during the audits may also be immediately reported if necessary.

Alpha embraces ethical business practices and adheres to the law. Effective internal controls and a dedicated enforcement unit have been put into place and are now implemented throughout Alpha including Alpha Dongguan and Alpha Changshu.

The internal control system at Alpha is based on the relevant regulations of the "Standards for Publicly Held Companies to Internal Control Systems."

In addition to annual self-reviews of internal control systems, the effectiveness of Alpha's internal controls are constantly being reviewed and revised in response to changes in the internal and external environments. Such revisions are then evaluated by the Audit Committee and Board of Directors.

# **Compensation Committee**

A Compensation Committee was established by Alpha on December 23, 2011. The Committee is responsible for formulating and regularly reviewing the policies, systems, standards and structure of governing executive performance evaluation and compensation. The Committee also assesses and sets the compensation for directors and executives. Our Articles of Incorporation cap directors' compensation at no more than 1% of the annual profits (profit before tax minus employee and directors' compensation) and these are paid in cash. Executive compensation includes fixed components such as base salary, bonuses, and benefits as well as variable components in the form of bonuses, dividends (cash/stock), stocks (restricted stock/treasury stock) and stock options. The fixed components shall, in principle, maintain the average competitiveness of the company in the industry. The variable components shall be based on company and individual performance as well as their personal contributions. Assessment items, goals and weightings are set at the start of each year based on internal and external business developments. Performance targets and industry compensation standards are then taken into account and reviewed by the Compensation Committee. It is then submitted to the Board of Directors for approval and implementation.

The Compensation Committee shall be convened at least two times each year and was convened two times in 2018. Meetings may be convened at any time if necessary. Members may invite the Chairman or CEO to attend meetings of the Committee. They shall however recuse themselves if there is a conflict of interest and not participate in the discussion. Directors, internal auditors, accountants, legal advisors and other personnel may be invited to attend the meetings to provide any necessary information.



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# **Ethical Management**

# **Regulatory Compliance**

Ethics, fairness, compliance and adherence to business ethics have always been the overriding principles in the business activities of Alpha. Company employees are prohibited from bribery, corruption, receiving or giving of gifts, and hospitality out of proportion to business etiquette from/to suppliers, customers and stakeholders. In addition to complying with the laws on labor, labor safety, information security, environmental protection, finance, and intellectual property rights as well as business regulations in Taiwan where we are headquartered, Alpha also applies the same standard to comply with the laws and regulations of the country where our factories or offices are located during our business activities. Alpha has established a legal affairs office for legal compliance and advice. Proper compliance is enforced in concert with professional advice from external consultants and quarterly internal updates on regulations, as well as education from time to time in order to reduce and control the risks in company operations. The aim is also to protect the rights and interests of our employees and shareholders.

# Whistleblower System

To protect the legal interests of stakeholders, Alpha has not only appointed dedicated personnel for communicating with the relevant stakeholders but also set up whistleblower mailbox for stakeholders to serve as the proper channel for complaints. Stakeholders can report any violations of corporate governance or illegal activity through this channel. The whistleblower mailbox for stakeholders is handled by dedicated personnel at Alpha to protect the identity of the whistleblower and the contents of their complaint. Whistleblower mailbox for stakeholders: improvement@alphanetworks.com

# **Information Security Management Policy**

In protecting the information security of the company, our clients and partners, Alpha is committed to building a secure information environment. On December 14, 2018, the company passed the ISO/IEC27001 information security management system certification, and relevant security policies and regulations were stipulated in accordance with the management system. Information security is implemented and improved through the ongoing internal audit mechanism in order to effectively preserve the confidentiality, integrity and availability of the information asset.

Management processes for IT equipment usage, network communications, account permissions, removal of computer equipment, physical printing and remote connections have been put into place based on the Information Security Management Regulation to ensure strict management of information at each stage of use and to reduce the risks to information security.

Encrypted connections are used throughout internal and external information systems to ensure the security of information system connections and transmissions. Transmissions are logged for traceability and particular emphasis placed on the protection of personal information defined in the Personal Information Protection Act to avoid the inappropriate use or compromise of confidential company and customer data.

For physical security, environmental control systems provide real-time monitoring of the information system's environmental status and effectively maintain the stability of data center operations. An enterprise cloud platform was also set up to centrally protect the information security of our company's R&D, manufacturing and business systems. A redundancy mechanism is also in place for the cloud system to ensure the continuity of the information system. In addition, Business Continuity Planning (BCP) was carried out in accordance with ISO 22301 specifications to ensure the security of information systems and data. Regular backups and disaster recovery drills are conducted, and backup data stored off-site at a third-party data center to ensure that company data is not lost due to human action or natural disasters.

A software asset audit system has been introduced to ensure compliance on "intellectual property rights". "Software real-name system" management along with quarterly user audits are used to effectively enforce proper software licensing; to strengthen information security awareness, we not only hold information security classes for employees but also continue to use internal information security bulletins to distribute information on information security and software licensing. We hope these efforts will realize the goals of enterprise information security and continuity of operations.



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# Risk Analysis and Management

# Observing Risk-related issues in order to prevent and control

Alpha collects and studies the risk issues of concern to each stakeholder through each functional organization. Strategic analysis tools are used to assess the impact of process risks in order to prevent and minimize the risks; the following risks have been identified by Alpha:

Potential Risks	Risk Sources	Response Measures
Financial risk	Bad debt     Exchange rate	<ul> <li>Conduct general risk assessments for related businesses on correspondent banks, customers and suppliers. Implement any necessary controls to reduce credit risk.</li> <li>Establish a currency hedging mechanism to avoid risks from currency rate fluctuations.</li> </ul>
Regulatory compliance	• Legal policy/standard changes	<ul> <li>Establish dedicated unit</li> <li>Ad hoc/regular updating of regulatory information and hosting of education &amp; training</li> </ul>
Natural disasters	<ul><li>Earthquake, power outage, fire,</li><li>Notifiable infectious diseases</li></ul>	<ul> <li>Fire safety education and training carried out quarterly</li> <li>BVP event drill carried out each year</li> <li>Carry out disaster recovery in accordance with the disaster recovery regulations</li> </ul>
Product development trends	<ul> <li>New technology changes the demands in the consumer market</li> <li>Schedule and changes for stipulating new technology specifications, as well as the restrictions of the telecommunication laws in various countries.</li> </ul>	<ul> <li>Regularly convenes strategy meetings to discuss the digitization of the business model and production automation with the product planner of various business groups in order to confirm the accuracy of technology R&amp;D, product development and design, and market needs.</li> <li>Maintain close collaboration and contact with relevant certification laboratories in accordance with the laws of various countries in order to respond to the future market developments in network communication applications such as 5G, AI and IoV.</li> </ul>
Supply chain disruption	• Raw material shortage	<ul> <li>Form strategic alliance with suppliers that have high supply risk</li> <li>Monitor market supply and demand to adjust delivery times as necessary and prepare safety inventory levels</li> <li>Establish alternative materials</li> <li>Look for spot markets</li> <li>Discuss response measures with suppliers or ask for materials to be supplied early</li> </ul>
Information security	<ul> <li>System functionality crash/ malfunction</li> <li>Hacker attack</li> <li>Protection of customer privacy</li> </ul>	<ul> <li>Obtain ISO/IEC27001 information security management certification and stipulate information security management policies as well as information security protection-related regulations.</li> <li>Construct a comprehensive data center environmental monitoring system to ensure the security of physical environment for information systems.</li> <li>Perform regular backups of information and data, set up off-site backup and recovery system, and in accordance with the integrity and availability of data.</li> <li>Formulate information security management policy and information security protection regulations based on the ISO 27001 standard.</li> <li>Set up information security systems such as firewalls, network anti-virus and mail filtering. Define rules governing the use of network and computer equipment to prevent information security risks.</li> <li>Preventive measures are implemented with regards to potential information security risks and internal information communication management is conducted in conjunction with the Legal Affairs Department per the requirements by the clients.</li> </ul>

# Attract, develop and inspire global talents

2. Friendly Workplace

Recruitment

Compensation and Benefits

**Talent Development** 

**Social Participation** 





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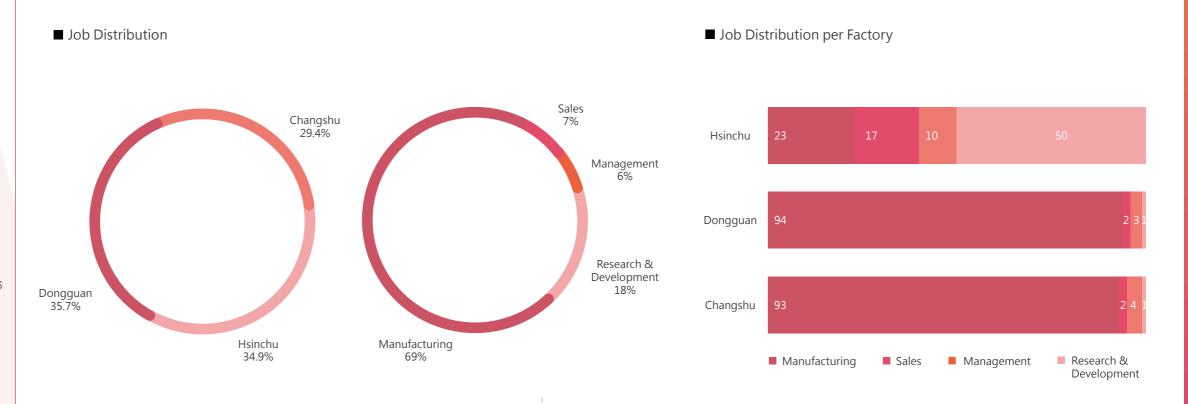
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# Recruitment

# Diversity and equality at the workplace

At the end of 2018, Alpha has a total of approximately 3,800 employees worldwide. The company headquarters is located in Taiwan's Hsinchu Science Park, responsible for product R&D, design, marketing, and logistics. The headquarters staff account for roughly 34.9% of Alpha's total workforce. R&D personnel account for 18% of the employees, and most of them are based in Taiwan. The company's primary production location is in Dongguan and Changshu, accounting for about 65.1% of the total workforce. The overall workforce distribution is as follows:





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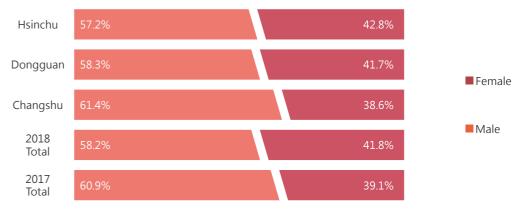
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**GRI Standard Index** Accuracy of Disclosure Alpha has upheld the spirit of "Responsible Business Alliance's Code of Conduct" and complied with local regulations to formulate various factories' employment policy to make sure that our employees are not discriminated against based on "ethnicity, skin color, age, gender, sexual orientation, race, religion, pregnancy, and other conditions protected by the law". The male and female staff constitutes 58.2% and 41.8% of the total factory workforce respectively, with the percentage of female employees showing an increase compared to last year. Considering the industry characteristics and labor market conditions, the gender ration at the plants is relatively balanced.

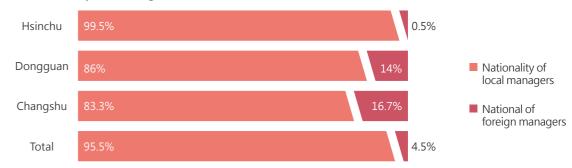
More than 95% of the management staff is made up of local citizens during 2017~2018. At the same time, in order to reach out to school campuses, Alpha (Hsinchu plant) has conducted annual campus recruitments to attract graduates.



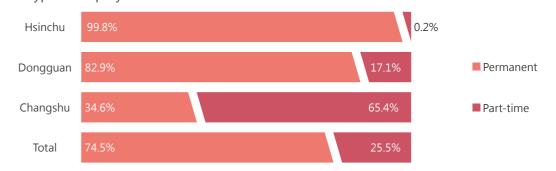




# ■ Nationality of Management Position



# ■ Type of Employment





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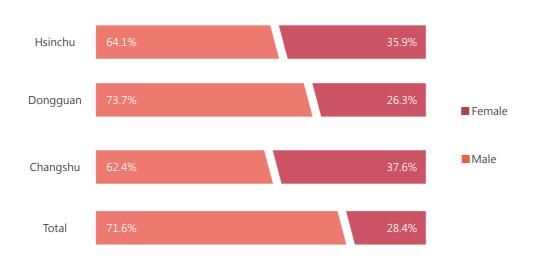
### ■ Permanent Employee - New

Resignation	Number	Age							
Hsinchu -	Number	0	87	66	32	10	0		
HSIIICIIU -	%	0.0%	44.6%	33.8%	16.4%	5.1%	0.0%		
D	Number	454	573	199	14	0	0		
Dongguan -	%	36.6%	46.2%	16.0%	1.1%	0.0%	0.0%		
Changchu	Number	0	70	44	3	0	0		
Changshu -	%	0.0%	59.8%	37.6%	2.6%	0.0%	0.0%		
Permanent _ employees	Number	454	730	309	49	10	0		
	%	29.3%	47.0%	19.9%	3.2%	0.6%	0.0%		

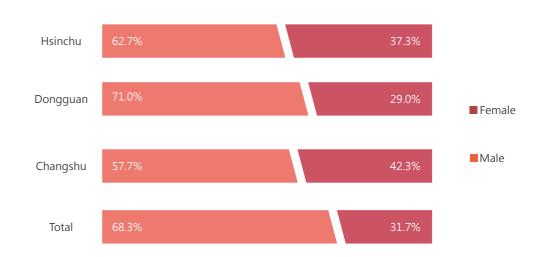
### ■ Permanent Employee - Resignation

Posignation	Number	Age						
Resignation							60~	
Hsinchu -	Number	0	43	74	21	4	0	
HSIIICIIU -	%	0.0%	30.3%	52.1%	14.8%	2.8%	0.0%	
D	Number	480	724	290	19	4	1	
Dongguan <sup>-</sup>	%	31.6%	47.7%	19.1%	1.3%	0.3%	0.1%	
Chanashu	Number	4	191	106	4	0	0	
Changshu -	%	1.3%	62.6%	34.8%	1.3%	0.0%	0.0%	
Permanent employees	Number	484	958	470	44	8	1	
	%	24.6%	48.8%	23.9%	2.2%	0.4%	0.1%	

# ■ Permanent Employee - New



# ■ Permanent Employee - Resignation





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# **Compensation and Benefits**

# Fair compensation and benefits policy

In recruiting and retaining outstanding professional talents, Alpha has taken the market standard and local labor regulations into consideration to regularly review the association between the company's compensation/welfare measures and the market, so as to preserve the competitiveness of the talent market. Alpha employees' compensation and bonus are not influenced by personal attributes such as gender, race, nationality or age. The hiring and compensation of company employees are conducted based on their expertise, education and experience. Each employee's compensation is adjusted in accordance with the company's overall operating condition and individual performance evaluation.

#### ■ Distribution of Average Salaries among New Alpha Employees

Region	Туре	Female	Male
<b>+</b> ·	Direct employees	1.10	1.10
Taiwan	Indirect employees	2.32	2.32

Note: Starting salary for new employees/ Statutory minimum wage

# ■ Distribution of Starting Salaries among New Alpha Employees

Region	Туре	Female	Male	
Tairran	Direct employees	1	1	
Taiwan -	Indirect employees	1	1	

Note: Distribution of starting salaries for new employees = Starting salary of new female employees/ Starting salary of new male employees

Alpha (Hsinchu plant) carries out retirement and the application thereof according to the Labor Standards Act and Labor Pension Act. Furthermore, where a fixed percentage of the employees' salaries is contributed to the pension account every month as per required by the law. The employer will contribute 6% and 2% of the employees' salary in accordance with the new and old labor pension system respectively. According to the Labor Pension Act, only vocational school students and foreign colleagues do not require contributions to the pension account, all permanent employees are required to participate in the retirement plan. In particular, only 16 people chose the old labor pension system.

In addition, the permanent and contract employees at Alpha (Hsinchu plant) join the coverage of group insurance that is superior to the insurance required by the law since their first day at work in order to protect the safety of their work and life. For overseas Alpha plants (Mingguan plant and Changshu plant), all employees join the coverage of social insurance according to the local regulations since day one, and other social security measures such as monthly contribution to retirement pension and medical care are also implemented.

In order to implement the leave management system at Alpha (Hsinchu plant), employee annual leave and remaining compensatory time notification will be delivered at the beginning of each month to remind the employees to plan their leave accordingly, thereby promoting the concept of a healthy workplace. For overseas plants, leaves are granted in accordance with local regulations.

At Alpha (Hsinchu plant), pregnant employees are offered parking space, breastfeeding room, prenatal examination leave, paternity leave, family leave, marriage leave, and maternity subsidy in order to encourage our employees to get married and have children. At the same time, the company complies with the labor rights stipulated by the Act of Gender Equality in Employment, where both male and female employees are entitled to apply for maternity leave and paternity leave. In 2018, 24 female employees applied for maternity leave, achieving a reinstatement rate of 70.8%. In the same year, 30 male employees applied for paternity leave, achieving a reinstatement rate of 100%.



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GRI Standard Index Accuracy of Disclosure Overview of Maternity and Nursery Leave at Alpha (Hsinchu)
 Maternity/paternity leave and nursery leave among Alpha personnel

Female			Male				
Number of People on Maternity leave	Number of People on Returned to work after Maternity leave	Percentage of Returned to work after Maternity leave	Number of People on leave without pay after maternity leave/ Resignation	Number of leave without pay after maternity leave/ Resignation	Number of People on Paternity leave	Number of People o n Returned to work after Paternity leave	Percentage of People on Returned to work after Paternity leave
24	17	70.8%	12	50.0%	30	30	100.0%





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# **Talent Development**

# Company's advancement relies on talent development

Alpha is aware that talents are the most valuable asset of the company, therefore we have spared no effort in training our employees. Every year, we invest a tremendous amount of time, money and manpower in providing them with the best learning opportunities, resources and development platform, while comprehensive training systems are designed to cater to the needs of our colleagues during various stages:

- Orientation training: We provide each employee with complete orientation training in areas such as company organization, core competence, internal system, and environmental safety and health, etc., helping the new employees to understand and blend into the company culture quickly.
- Management training: Relevant management courses are developed based on the management competency required by different levels of executives in order to reinforce their management ability.
- Professional training: In order to continue the heritage of Alpha's internal expertise and knowledge, supervisors and the HR Department have organized internal training courses to facilitate the exchange and sharing of professional experiences across different job categories, thereby fostering a learning organization.
- External courses: Besides systematic internal training, Alpha also encourages employees to partake in related training courses such as R&D, safety regulations, labor safety, and human resources according to their function and personal development needs, thereby offering them comprehensive training channels.



- Orientation/Self development
- Management training
- Professional training



- Career Planning
- International assignment
- Cross function project.
- Promotion and development according to performance



- Internal/ External training
- knowledge management
- Instructor
- e-learning platform





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**GRI Standard Index** Accuracy of Disclosure In supporting the Chairman's "Alpha's New Vision and Mission" curriculum in 2018, the company forged cooperation with relevant organizations (Tze-Chiang Foundation of Science & Technology) to host 5G-related courses such as "5G Standard Development and Industry Application", and lecturers were invited to present lectures at the Chengdu R&D Center.

In an effort to implement and deepen the corporate vision of "Forge the Internet to connect people and things", Alpha has formulated new values "ethics, customer values, agility, and network performance" through the Senior Executive Vision Communication Workshop in 2018. These are the values on which the company's development direction and goals are based.

In 2018, 100% of the employees in Hsinchu, Dongguan, and Changshu received training, accumulating a total of 43,353 training hours and 45,470 persons over the entire year. In order to encourage our colleagues to share their professional knowledge and expertise, Alpha (Hsinchu plant) conducts Teacher's Day incentive activity every September, sending out e-cards and gift vouchers to internal lecturers as a token of appreciation for their contributions in training the company staff. In 2018, a total of 269 colleagues received the e-cards and vouchers. Alpha (Hsinchu plant) offers subsidies for language training in English, Japanese, French, German, Spanish, and Russian in order to improve the language proficiency of our colleagues and the company's competitiveness.

# **Performance Management**

A comprehensive performance management scheme and system has been set up to improve employee performance and ability. The system is used to measure the accomplishment of the company's short, medium and long-term goals, and to provide a basis for internal assignments, promotions, salary adjustments, prizes, bonuses, training, and development.

Performance management at Alpha includes the measuring of tangible work targets as well as assessments of conduct. At the start of the year, supervisors interview employees based on organizational business strategy and the department's annual targets. The interviews are used to set each employee's targets, action plans, and personal development plan. Half way through the year, the progress is jointly reviewed by the supervisor and employees to see if the targets need to be adjusted. For the end-of-year performance evaluation, employees shall first complete their assessment of the work targets, core competencies, and personal development plan. The supervisor then provides the employee with feedback based on performance interviews. The feedback is incorporated into the work targets for the coming year or into the employee's personal development plan to boost their ability. Alpha places a strong emphasis on communication between the supervisor and employee as well as communication frequency during the initial target setting, interim performance review, and end-of-year performance evaluation phases. This is to ensure that both parties are on the same page when it comes to the targets set and achieved.



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# **Promotion Management**

Alpha offers both management and non-management tracks to personnel that demonstrate outstanding performance and potential. Those willing to take on greater challenges and responsibility can do so, while specialists can also demonstrate their skills in their chosen field.

Alpha provides supervisors with a list of personnel who satisfy the criteria for performance and seniority. Supervisors can then nominate candidates for promotion. The candidates are then reviewed by the authorized manager. Supervisors will arrange for employees slated for promotion to attend management competency courses if they are suitable for management roles.

# **Employee Events**

With diverse employee activities such as year-end banquets, birthday parties, and clubs, the company also organizes various lectures from time to time, covering popular topics such as workplace communication, parenting, investment and financial management, and art appreciation. Alpha (Hsinchu plant)'s welfare committee hosts company trips to bring employees closer to one another, allowing them to strike a balance between work and personal life.











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# **Social Participation**

# Giving back to society by taking action

Alpha Foundation endeavors to unleash our expertise in network communication, therefore Chairman John Lee led a group of corporate volunteers to elementary schools in remote townships in a bid to improve their network communication environment. The aim is to let kids from remote townships experience learning and explore the treasure trove of knowledge with the aid of technology, thereby bridging the urban-rural divide. On the other hand, the foundation has also visited senior citizen centers to provide cloud technology and smart living-related courses, demonstrating to them the convenience of the Internet, allowing them to keep up with the current trends.

Alpha Foundation held the 2018 Alpha Mobile Education Public Welfare Activity at Pinglin Elementary School in Hsinchu County this year. Chairman John Lee dressed up as Santa and led a group of corporate volunteers to present the school with Christmas presents. The presents include Alpha's network communication hardware products such as switches, routers, Wi-Fi AP, helping to optimize the backbone of the elementary school in remote townships, as well as to create a wireless Internet environment, enabling school children to engage in mobile learning online, in turn breaking the boundaries of traditional classrooms.

Corporate volunteers from Alpha Foundation also

designed mobile education challenges for the school children, allowing them to learn how to make VoIP calls, check for plant species, and practice solving math problems in order to gain insight into the boundless world made possible by the Internet. The digital, paperless characteristics of online information and interesting multimedia teaching materials are able to inspire the children's motivation to learn because they are all very fond of the fun approach to learning brought about by network technology.

On the other hand, Alpha Foundation also services senior citizens, hence the Cloud Technology and Smart Living course was launched for senior citizens at the East District Senior Citizen Center in Hsinchu City, where Alpha's corporate volunteers taught them how to operate a mobile device, so that they can check the hospital's patient registration status, bus schedule, train schedule, and ticketing via cloud technology, as well as how to use an call-blocking app. The diverse, everyday life-related classes brought smiles to many senior citizens.

The Internet is the best medium for bridging the digital divide. As a seasoned network equipment manufacturer with over a decade of experience, Alpha is glad to fulfill our responsibilities as a corporate citizen through our expertise in network communication. In the future, we will strive to uphold the philosophy of giving back to society in making contributions to the public via tangible actions. Furthermore, we will continue to exert our expertise in network communication and participate in education, culture, and social welfare-related activities in order to create a more wonderful life for the general public.





# Environmental protection is an important element of the Alpha business spirit

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# Environmental protection is an important element of the Alpha business spirit

Stringent measures are taken by Alpha to ensure that all products comply with the EU RoHS, WEEE and other directives. Product performance is also continuously being refined to comply with the requirements of the EU ErP directive. Life Cycle Thinking (LCT) is already introduced in the product development phase. The green design philosophy is also being progressively added with adjustments made as necessary based on changes in international environmental protection regulations.





In accordance with the EU WEEE product design principles, components are made from materials that can be recovered and reused where possible. Design that hampers disassembly such as paint coatings, welding and adhesives are avoided where possible. Technical documents such as product disassembly manuals and WEEE 3R report are also produced. The goal of achieving a high product recycling rate has now been achieved.



LCT is introduced at the product development phase in the hopes of identifying a product's key environmental considerations and minimizing its environmental impact during resource extraction, manufacturing, distribution and sale, use, disposal and recovery.



Product energy efficiency is based on the guidance of the EU ErP, the (EC) No.1275/2008 implementing directive for Parliament and of the Council with regard to Ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment, and (EC) No.278/2009 implementing directive for external power supplies.



In addition to the introduction of lead-free production processes through the green product management platform and strict internal controls, all parts manufactured by Alpha comply with the requirements of EU RoHS directive and REACH regulations.



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#### **Green product Management**

# Establishing a regulatory database and HS management platform to manage materials

#### **Green Purchasing**

To fulfill our environmental responsibility as a global citizen, practice sustainable development of green products, embrace green production and green consumption, as well as reduce the use of natural resources and toxic substances, Alpha has now adopted green purchasing and requires suppliers to sign the Non-use Guarantee Statement and comply with its regulations.

# Green purchasing RoHS REACH Mechanical materials Packaging materials REPORT SDS

#### **Green Regulation and Database Establish**

• International Green Regulations

Rules banning the use of hazardous substances and on waste recovery have been imposed by international regulations such as the "Waste Electrical and Electronic Equipment" (WEEE) directive and the "Restriction of the use of certain hazardous substances in electrical and electronic equipment" (RoHS). The use of ten kinds of hazardous substances was specifically banned from July, 2006 and the importation of non-compliant electronic, information and communication products was prohibited as well. With the Eco-design principles were therefore incorporated into the design and manufacture of products during manufacturing, recycling and export.





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#### International, regional, national and customer-defined green regulations:

Regulation	Content	Effective date
Restriction of Hazardous Substances Directive (RoHS)	The RoHS Directive is an environmental protection directive that took effect on July 1, 2006, in the EU restricting the use of six major chemical substances (Pb/Cd/Hg/Cr6+/PBB/PBDE) in electronic and electrical products in the EU market. The directive was updated on July 1, 2011 to formally include RoHS into the declarations for the CE Mark; On June 24, 2015, the (EU) 2015/863 amendment took effect adding four Pthalates (PAEs) (DEHP/BBP/DBP/DIBP) to the restricted list as well.	2002/95/EC: 2006.07.01 2011/65/EU:2011.07.21 2015/863/EU:2019.07.22
China-Restriction of Hazardous Substances (China RoHS)	The China-RoHS was formally issued on February 28 2006. All electronic IT products manufactured in or imported into China are now required to undergo CCC verification of hazardous substances based on the product list defined the "Key Management Catalogues."	2006.2.28
Bureau of Standards, Metrology and Inspection (BSMI)	The BSMI in Taiwan added electronic and electrical products in 91 IT and audio-visual categories to the CNS 16663 section 5 requirements on "Content labeling." RoHS was added to the "required commodity inspection" standard along with the CNS 15663 Section 4 "content labeling" testing requirements as well. Mandatory testing for RoHS took effect from July 1, 2017.	2017.7.01 BSMI Commodity Inspection Mark
Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE)	The EU 2002/96/EC "Waste Electrical and Electronic Equipment Directive" was officially issued in 2003. The purpose of the directive is to reduce the amount of waste electrical and electronic equipment, as well as encourage the recovery, reuse and recycle of electrical and electronic products. The goal of the directive is to promote sustainable production and consumption, and to improve the actual environmental performance of participating electrical and electronic equipment throughout their life cycle.	2003.2.13
California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)	The Safe Drinking Water and Toxic Enforcement Act of 1986 required all businesses selling goods within the boundaries of California to inform residents of the state the amount of chemicals that the home furnishings they purchase or the products in their workplace may contain or emit into the environment.	Implemented from 1986
Sweden offers tariff reductions or exemptions for restricting the use of certain chemical compounds in electrical and electronic products	The Swedish government offers tariff reductions and exemptions on the restricted use of Bromine, Chlorine and Phosphor compounds in some electrical and electronic products.	Took effect on April 1, 2017, and enforced from July 1, 2017
TÜV Green Product Mark	A voluntary standard for consumer products and their impact on the environment. A variety of related certification requirements and standards are compiled for different products. Products that pass testing are issued the green product mark to facilitate identification of eco-friendly products by the consumer.	Voluntary certification mark
Eco-design Requirements for Energy-related Products Directive (ErP)	The ErP Directive (2005/32/EC) of the European Council is aimed at reducing the environmental impact of energy-related products including total energy power consumption throughout the product life cycle. The directive sets out a framework for defining the energy- saving requirements for all energy-using products in homes, tertiary industries and the industrial sector.  Implementing Directive (EC) No.1275/2008 for standby and off mode electric power consumption of electrical and electronic household and office equipment Implementing Directive (EC) No.278/2009 for external power supplies  Implementing Directive (EC) No.107/2009 for simple set-top boxes  Amending Directive (EU) No.801/2013 for network communications equipment with power consumption in standby mode.	Implemented from 2008
California Energy Commission	Encompasses all products that use external power supplies (such as chargers and adapters) including mobile phones, home cordless phones, portable music players, hand-held gaming devices, and toys. These products were also required to make more efficient use of energy in standby mode and during use.	New mandatory testing method for battery charging systems introduced on November 16, 2016.
EU Code of Conduct on Energy Consumption of Broadband Communication Equipment	The eco-design objectives for broadband infrastructure must conform to the EU Code of Conduct on Energy Consumption of Broadband Communication Equipment	2017.2.10 Broadband Equipment Code of Conduct – Version 6.0
UL ECOLOGO®Certification UL2853,UL2710	ECOLOGO® is a multi-attribute, lifecycle-based environmental certification. All ECOLOGO® certified products must comply with or surpass each listed standard before affixing the logo. ECOLOGO® standards emphasize environmental protection, people's health, and safety, indicating a product has undergone rigorous scientific testing, exhaustive auditing, or both, to prove its compliance with stringent, third-party, environmental performance standards.	Voluntary certification logo



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GRI Standard Index Accuracy of Disclosure • Building a Regulatory Database

Alpha clearly defines hazardous substance usage standards for products able to and environment-related control requirements by regularly updating the green product control guidelines. Alpha is therefore fulfilling its commitment to social responsibility by ensuring product compliance with all the relevant requirements. A part from complying with existing standards on restricted, banned and controlled substances, Alpha monitors international regulations and requirements on Hazardous substances including regional or national laws and regulations restricting or banning the use hazardous substances. In keeping with Alpha's commitment to environmental protection, suppliers are asked to conform to and adhere to the relevant laws and regulations as well as their reporting obligations. To strengthen the enforcement of relevant regulations, a fast and detailed regulatory management database has been set up to improve company personnel's understanding of enforcement efforts and progress.

For substances whose use may be restricted or banned in the future, we will continue to evaluate our options where the technology does not impact product quality, safety reliability, human health and increase environmental impact. We will consider revising the timetable for restricted/banned substances, and look at alternatives or improvements that will reduce the level of environmental impact and effect in order to comply with customer requirements as well as international, regional, and national green regulations. An "Alpha Regulatory Database" has been set up for storage and queries to facilitate effective communication.

Environmental compliance by Alpha in 2018 resulted in no litigation or serious fines for violations of environmental laws and regulations.



#### **Hazardous Substance Management**

A Green Product Management System (GPM) has been implemented by Alpha in response to the international environmental regulations and customer. In addition to control procedures, suppliers are also required to sign written declarations and submit third-party test reports to ensure that products comply with the rules of the restricted substances list, avoid the effects of hazardous substances, and to ensure that the product adheres to the spirit of environmental friendliness from development through to after production.





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#### Restriction of Hazardous Substances

All Alpha products, semi-assemblies, raw materials, packaging and auxiliary materials conform to current EU RoHS directive and REACH international regulations. All chemical substances used in products, parts and components as well as during the production process are strictly managed in accordance with the usage, restricted use or banned use requirements for hazardous substances through the GPM system. The GPM system's management mechanism ensures that all products are in compliance.



Hazardous Substance Management System Certification

The Electrical and Electronic Components and Products Hazardous Substance Process Management System Requirements (HSPM) were issued by the International Electrotechnical Commission (IEC) in October 2005. Alpha has obtained the latest IEC QC 080000:2017 system certification.

#### XRF Inspection

To comply with the EU RoHS directive as well as each country's requirements on rapid testing of hazardous substance content in electronic and electrical products, Alpha uses XRF inspection to quickly and effectively test for substances such as Cd, Pb, Hg, Cr<sup>6+</sup> and Br. Products can be sold with assurance once their compliance with green products have been verified.

#### **Product Disassembly and Recovery Design**

Alpha consider the product disassembly and recovery design at the design stage. Product assembly design does not use complex tools and linking processes for production. Plastic components weight 25g or more should also marked .The use of more than two types of materials should also be avoided. Disassembly and recovery (3R) and EU WEEE directive (WEEE) all form the basis of green product design. Recyclable materials are therefore chosen by Alpha during system design to better comply with EU environmental requirements.

#### Product energy-saving design

Alpha in product design stage, consider energy efficiency and reduction of energy consumption. While product in standby and off modes, compliance EU related Product directive (EC) No.1275:2008 (Lot6) and (EU) No.801:2009 (Lot26) the networks equipment standby and off modes energy consumption requirement.





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#### **Environmental Management**

# Launching environmental protection activities to mitigate the environmental impact

Environmental Policy/HSF Policy

- Adhere and comply with environmental laws and the RoHS directive
- Develop green products with fully HSF products as the ultimate goal
- Promote recycling of resources and waste reduction
- Continue to improve processes to reduce their environmental impact
- Improve environmental awareness among employees and to participate directly in environmental protection initiatives.
- Conserve energy and improve energy efficiency.

There were no violations of local environmental laws or regulations by Alpha in 2018. Related items are outlined in the following section.

#### Wastewater Management

Wastewater produced by Alpha consists of domestic wastewater and kitchen wastewater. As the wastewater is not from the production process so voluntary disclosure covers only domestic wastewater.

Discharge Testing:

Each year, the company commissions an environmental testing laboratory approved by the EPA, Executive Yuan to conduct testing and compile a report. The effluent discharge system at the Hsinchu plant separates rainwater from sewage, where rainwater is collected from the rainwater discharge outlets throughout the factory and channeled to the rainwater drainage system, while household sewage is collected by sewer pipes and channeled to the sewage treatment plant in the plant before it is discharged. Discharges from the rainwater pipes and sewer pipes may not be mixed. The sewage discharge complies with the Regulation for the Use and Management of Wastewater Treatment and Sewage System in the Science Park, where the sampling well is cleaned and the flow meter is calibrated annually.

#### Flow meter calibration:

A calibration rule is used to measure and record the overflow height of the triangular weir conduit at the site. The flow rate shown on the display is then compared against the flow rate calculated using the formula.

■ Plant Wastewater Discharge, 2016 ~ 2018 (Tonnes)

Year	2016	2017	2018
Hsinchu	29,953	30,083	24,008
Changshu	111,999	116,656	100,704
Dongguan	93,817	70,694	45,511

Source-Hsinchu Factory – Meter readings reported to the Science Park Administration's sewage treatment factory each month.

Changshu Factory and Dongyuan Factory – Data is based on tap water consumption statistics (local regulations do not require the tracking of sewage volume so the sewage discharge figures are based on tap water consumption)



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GRI Standard Index Accuracy of Disclosure ■ 2018 Discharger water quality test result (depending on the test schedule of respective plants)

Test item	рН	BOD	COD	SS	Oil	Ammonia- Nitrogen	Phosphate
Hsinchu	7.9	215mg/L	396mg/L	124mg/L	8.9mg/L	-	-
Changshu	7.63	-	218 mg/L	38 mg/L	0.21 mg/L	41.4mg/L	3.55 mg/L
Dongguan	6.44	13.7mg/L	41mg/L	6mg/L	NDmg/L	0.264mg/L	0.04mg/L

Source - Discharge water test report

#### **Drinking Water Maintenance Management**

Alpha takes measures to ensure that the quality of drinking water is up to standard to protect the safety and hygiene of all employees' water supply. Water dispenser equipment is maintained in-house or by contractors every month. An environmental testing organization accredited by the EPA is retained to test the quality of the treated water for level of E.coli and total bacteria count every three months. Maintenance tasks and water quality test results are recorded in the "Water Dispenser Water Quality Testing and Equipment Maintenance Record Form" and posted prominently near the water dispensers.

Hsinchu plant: Drinking water quality standard, compliant with the Drinking Water Management Act Enforcement Rules: Coliform group ≤ 6 CFU/100mL)

Total bacterial count ≤ \* CFU/mL

Changshu plant: Compliant with GB 5749-2006 (Standards for drinking water quality)
Dongguang plant: Compliant with CJ 94-2005 (Water quality standards for fine drinking water)

■ 2018 Drinking water quality test results(Q4)

Test item	E.coli count (Unit: CFU/100mL)	Total bacteria count (Unit: CFU/mL)
Hsinchu	< 1	< 5
Changshu	Not detected	52
Dongguan	Not detected	-

Source - Alpha Networks drinking water quality test report

#### **Waste Management**

A waste management procedure has been formulated by Alpha to establish an effective internal waste management system to prevent the polluting of the environment through improper waste management. Waste is divided into general waste, hazardous industrial waste and general industrial waste. Hsinchu plant is equipped with a compliant waste storage area, and a waste disposal company approved by the government and with no fines over the past year is hired to dispose of Alpha's waste.

To meet the waste reduction target, Hsinchu Factory strengthened its awareness campaign on waste sorting and marking in 2017. According to statistics, the number of recyclables and general industrial waste generated in 2018 was significantly less than in 2017, demonstrating a reduction of 8,763kg and 1,750kg respectively.

The amount of hazardous industrial waste in 2018 increased by 1,926kg compared to 2017. This is attributed to the increase of waste PCBs by 1,926kg in 2018.

The company continues to strengthen the labeling of waste categories in order to achieve the goal of waste reduction.

■ Waste Output of Each Factory Between 2016 ~ 2018 year(Kg)

	'		,		,	( )/
(	Category	Factory	Year 2016	Year 2017	Year 2018	Method of disposal
		Hsinchu	43,382	32,381	23,618	Recycle
	Resource waste	Dongguan	278,675.39	304,074.65	208,711.82	Recycle
General		Changshu	226,949	337,571.8	731,242.6	Recycle
waste		Hsinchu	2,720	3,690	2,250	Incineration
	Domestic waste	Dongguan	36,000	36,000	36,000	Collected and processed by government
		Changshu	202,250	182,500	216,000	Incineration/Landfill
		Hsinchu	16,950.5	11,067	12,993	Incineration/Physical treatment
		Dongguan	600	600	600	Processed by EPA-accredited contractors
Hazardou	is industrial waste					Trimming (Recycle)
		Changshu	36,695.5	36,606.8	26,231.46	Waste organic solvent (Incineration)
						Waste oil rags (Incineration)
		Hsinchu	15,020	10,710	8,960	Incineration/Landfill
General in	ndustrial waste	Dongguan	200	200	180	Incineration
		Changshu	2,560	36,500	127,072.1	Recycled by contractor



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#### **Noise Control**

Noise control at Alpha (Hsinchu) is divided into a work area and surrounding environment in accordance with Occupational Safety & Health Act and Noise Control Act regulations.

For noise control in the surrounding environment, the Noise Control Zone Designation Guidelines require class 3 controls at the Alpha Hsinchu Plant site as it is located within a science-based industrial park. If a significant noise source is installed or moved around the site then the noise level must be measured by an outside contractor to ensure compliance with control standards.

There were no significant noise sources in the Hsinchu Plant's surrounding area. No protests were received from neighboring factories or residents either.

#### **Emission Control**

Industrial emissions can be divided into particulate emissions and gaseous emissions. To ensure the effective control and reduction of emissions from the production process, Alpha Hsinchu Plant retains an EPA-accredited environmental testing organization to measure the composition of emissions from the production process and reduce their environmental impact. All emissions must conform to the discharge standards set by law.

#### ■ 2018 Flue Exhaust Inspection Result

	l	Hsinchu	
Flue No. P002	Lead	Particulate pollutant	Total Hydrocarbons
Flue No. P002	ND(mg/Nm³)	2(mg/Nm³)	2(ppm)
Flue No. P003	Lead	Particulate pollutant	Total Hydrocarbons
Flue INO. POUS	ND(mg/Nm³)	2(mg/Nm³)	2(ppm)
Flue No. DOO4	Lead	Particulate pollutant	Total Hydrocarbons
Flue No. P004	ND(mg/Nm³)	2(mg/Nm³)	3(ppm)

Source-Alpha (Hsinchu Plant) flue exhaust test report

		Changshu	
	Item	Tin and its compounds	Non-methane hydrocarbon (counted as Methane)
Flue No #1 (First sampling)	Emission concentration (mg/ m³)	0.012	53.6
	Emission rate (kg/h)	0.0000884	0.394
	Item	Tin and its compounds	Non-methane hydrocarbon (counted as Methane)
Flue No #2 (First sampling)	Emission concentration (mg/ m³)	0.004	4.26
	Emission rate (kg/h)	0.000014	0.0149
	Item	Tin and its compounds	Non-methane hydrocarbon (counted as Methane)
Flue No #3 (Second sampling)	Emission concentration (mg/ m³)	0.005	2.34
	Emission rate (kg/h)	0.0000373	0.00175
	Item	Tin and its compounds	Non-methane hydrocarbon (counted as Methane)
Flue No #4 (First sampling)	Emission concentration (mg/ m³)	ND	2.25
	Emission rate (kg/h)	/	0.0148
	Item	Tin and its compounds	Non-methane hydrocarbon (counted as Methane)
Flue No #5 (First sampling)	Emission concentration (mg/ m³)	0.003	2.21
	Emission rate (kg/h)	0.00000926	0.00682

Source - Alpha Changshu Plant Emissions test report



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#### Fire Safety Equipment Inspection and Reporting

The three types of maintenance cycle for fire safety equipment at Alpha (Hsinchu Plant) are monthly maintenance, quarterly maintenance, and annual inspection/ registration. For monthly and quarterly inspections, the condition of the equipment is recorded by the inspection personnel in the inspection form. Annual inspections of fire safety equipment are contracted to fire safety companies and registered in accordance with the Operational Criteria for the Inspection and Registration of Fire Safety Equipment in All Premises.

#### **Building Public Safety Inspection, Certification and Registration**

Alpha is addition to the laws and regulations, and consider the work and living environment of our employees and strive to create safe, secure and safe working environment.

■ Fire Safety Equipment Inspection and Registration Results, 2018



■ Building public safety inspection, certification and registration results, 2017~2018

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#### **Energy Resource Management**

Alpha is committed to promoting energy conservation and carbon reduction, making improvements to energy-intensive equipment, as well as upgrading environmental safety and health facilities of the company. This will not only improve the software and hardware for energy conservation and carbon reduction at Alpha (Hsinchu Factory) but also achieve the goals of energy conservation, GHG reduction, and safety & health management.

Electricity accounts for the bulk of energy consumption at Alpha (Hsinchu Factory). Suitable energy conservation measures have been introduced to reduce the amount of power consumption: For example, timer-control of basement air circulation equipment, timer-control of air-conditioning equipment on each floor, timer-control of passenger and freight elevators, adjustments to the load of the chiller unit and attached equipment, and switching over to LED energy-saving lamps.

Energy-saving initiatives in recent years include the following:

Timer-control of basement air circulation equipment
 Purpose: Maintain packing area air circulation
 Method: Operations are now divided into three time slots: Morning, Lunch, and Evening. Running time now reduced from several hours to 30 minutes
 Benefits:

Underground air circulation equipm	Operating mode	Total operating hours per year (hrs.)	Estimated power consumption (kWh)	Energy savings (kWh/year)
(equipment estimate in the plant	) 1 hour	6,336	142,560	71 200laub
	30 minutes	3,168	71,280	71,280kwh

Source - Estimated from equipment rating plate







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• Timer-control of air-conditioning on each floor

Purpose: Maintain the air quality of working areas and reduce equipment workload Method:

Summer months - Operating time shortened due to high outdoor temperatures to reduce the load on chiller units. Operating time reduced from 8 hours to 2 hours

Non-summer months - Operating time extended due to low outdoor temperatures to reduce heat-exchange loss and reduce the load on the chiller units (left at 8 hours)

Benefits:

Air conditioning unit on various floors	Operating mode	Total operating hours per year (hrs.)	Estimated power consumption (kWh)	Energy savings (kwh/year)
(equipment estimate in the plant)	8 hours	28,160	157,696	118,272
	2 hours	7,040	39,424	110,272

Source - Estimated from equipment rating plate

Timer-control of passenger and freight elevators
 Purpose: Support energy conservation and carbon reduction, and encourage people to exercise.

Method: Passenger and freight elevators are switched off by security guards after office hours. All but one elevator in each lobby is switched off.

Benefits:

Controlling the usage of passenger and cargo elevators (equipment estimate in the factory)	Standby hours per year (hrs.)	Power consumption in standby (kw)	Energy savings (kwh/year)
7	39,312	0.25	9,828

Source - Estimated from equipment rating plate

 Adjusting the load of the chiller unit and attached equipment
 Purpose: Make automatic adjustments in response to ambient temperature to save energy and reduce carbon emissions

Method: The load of the chiller unit and attached equipment are automatically adjusted in response to the outside temperature and actual cooling requirements on-site to optimize system stability, maximize performance and minimize energy consumption.

Benefits:

Year Power Consumption(kWh)	January	February	March	April	May	June
Y2016	101,960	81,670	122,840	151,240	216,670	267,510
Y2017	106,200	88,060	121,570	134,580	184,530	223,790
Y2018	117,090	73,510	129,660	144,360	208,910	209,270
Year Power Consumption(kWh)	July	August	September	October	November	December
Year Power Consumption(kWh) Y2016	July 268,200	August 280,130	September 239,440	October 213,850	November 136,760	December 126,010

Source- Data from digital power meters

Remark- Actual Power Consumption of the Chiller Unit and Attached Equipment



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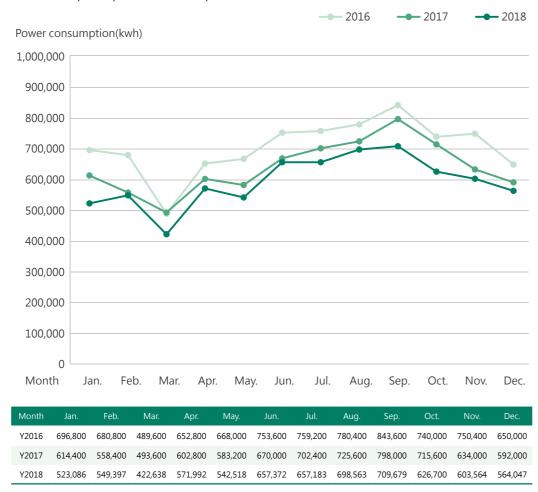
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#### ■ Hsinchu plant power consumption control chart



Source – Monthly power consumption statement and electricity bills throughout the year (including external units such as convenience stores and telecom companies)





#### ■ Actual Power Consumption Statistics(kwh)

Month	1	Já	an.			F	eb.			N	1ar.	
		Heating Power Consumption	Cooling Power Consumption	Steam Power Consumption	Power	Heating Power Consumption	Cooling Power Consumption	Steam Power Consumption		Heating Power Consumption	Cooling Power Consumption	Steam Power Consumption
Y2016	594,840	0	101,960	0	599,130	0	81,670	0	366,760	W0	122,840	0
Y2017	508,200	0	106,200	0	470,340	0	88,060	0	372,030	0	121,570	0
Y2018	415,310	0	117,090	0	482,890	0	73,510	0	301,940	0	129,660	0

Month	ı		Apr.			N	1ay.			Jı	un.	
	Power Consumption	Heating Power Consumptio	Cooling Power on Consumption	Steam Power Consumption	Power Consumption	Heating Power Consumption	Cooling Power Consumption	Steam Power Consumption	Power Consumption	Heating Power Consumption	Cooling Power Consumption	Steam Power Consumption
Y2016	501,560	0	151,240	0	451,330	0	216,670	0	486,090	0	267,510	0
Y2017	468,220	0	134,580	0	398,670	0	184,530	0	446,210	0	223,790	0
Y2018	436,440	0	144,360	0	343,890	0	208,910	0	456,730	0	209,270	0

Month	ı	J	lul.			А	ug.			S	Бер.	
	Power	Heating Power Consumption	Cooling Power n Consumption	Steam Power Consumption		Heating Power Consumption	Cooling Power Consumption	Steam Power Consumption		Heating Power Consumption	Cooling Power n Consumption	Steam Power Consumption
Y2016	491,000	0	268,200	0	500,270	0	280,130	0	604,160	0	239,440	0
Y2017	467,790	0	234,610	0	437,260	0	288,340	0	580,080	0	217,920	0
Y2018	399,570	0	268,830	0	486,680	0	221,320	0	529,290	0	189,110	0

Month	ı		Oct.			N	lov.			С	ec.	
	Power Consumption	Heating Power Consumption	Cooling Power on Consumption	Steam Power Consumption		Heating Power Consumption	Cooling Power Consumption	Steam Power Consumption		Heating Power Consumption	Cooling Power Consumption	Steam Power Consumption
Y2016	526,150	0	213,850	0	613,640	0	136,760	0	523,990	0	126,010	0
Y2017	520,770	0	194,830	0	497,850	0	136,150	0	477,040	0	114,960	0
Y2018	462,190	0	174,610	0	471,520	0	140,880	0	457,990	0	114,410	0

Source – Monthly power consumption statement and electricity bills throughout the year (including external units such as convenience stores and telecom companies)



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#### **Greenhouse Gas Inventory**

# Enforcing GHG emissions inventory to mitigate global warming

Alpha is keenly aware of the impacts that greenhouse gases (GHG) are making on the Earth's climate, ecology and environment. Due to global green policies, the green economy and to fulfill our corporate responsibility as a global citizen, GHG inventories are conducted by Alpha to help slow the pace of global warming, effectively track and manage GHG emissions, as well as promote voluntary GHG reduction plans.

The increasing severity of global climate change has led to a concerted international push on energy conservation and GHG reduction initiatives. In response to the impact of global climate change, Alpha has joined the Carbon Disclosure Project (CDP). We also engage in disclosure of enterprise emissions (ISO 14064-1) and product carbon footprint inventory (ISO 14067/PAS 2050) to track our GHG emissions and make reductions when appropriate.

#### Greenhouse Gas Inventory and Policy Statement

Climate anomalies caused by global warming is now threatening our living environment. As a leading network communications equipment maker, we fulfill our social responsibility by creating a toxin-free, healthy and sustainable living environment for future generations. To this end, we promise the following:

• Facilitate the tracking of internal carbon emissions by committing to the disclosure of enterprise carbon emissions.

- Work with our business partners to expand the scope of reduction initiatives.
- Provide our consumers and users with more low-carbon options.
- Increase transparency and reduce product carbon footprints.

#### Carbon disclosure

Since 2013, Alpha has participated in the Carbon Disclosure Project (CDP) by registering a GHG emissions audit on the project website (https://www.cdp.net/en) After completing the disclosure, CDP will announce the company's annual disclosure score and performance for the reference of our clients and related stakeholders. In 2017, the project consists of disclosure items such as climate change, water, and supplier engagement. Alpha will continue to monitor global climate change-related topics and strive to make improvements.



#### ■ Alpha disclosure and performance from 2012 to 2017

Year	2012	2013	2014	2015	2016	2017
Disclosure score	49	57		D	D	В-
Performance	С	D		D	D	D-

Source- CDP official website



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#### **Greenhouse Gas Emissions**

The operational boundaries of Alpha (Hsinchu Plant) encompass direct, energy-indirect and other indirect greenhouse gas emissions. Types of GHG identified by Alpha: Carbon dioxide (CO2), Methane (CH4), Nitrous oxide (N2O) and Hydrofluorocarbons (HFCs). In particular, PFCs, SF6, and biochar within scope 1 and 2 are not identified as sources of emissions.

Alpha (Hsinchu Plant) set the 2008 inventory as the baseline year. Our Scope 1 direction emissions of GHG in the baseline year amounted to 130.11 tons of CO2e and accounted for 1.68% of all Company emissions. Scope 2 indirect emissions came from electricity and in 2008 amounted to 7610.38 tons of CO2e, or 98.32% of all Company emissions. Total emissions (Scope 1 and Scope 2) were therefore 7740.49 tons of CO2e.

#### ■ 2008 GHG emissions ratio by category

Greenhouse Gas Category	CO2 (Tons of CO2e/ year)	CH4 (Tons of CO2e/ year)	N2O (Tons of CO2e/ year)	HFCs (Tons of CO2e/ year)	(Tons of CO2e/year)	Ratio (%)
scope 1	76.31	52.94	0.82	0.03	130.11	1.68%
scope 2	7610.38	0.00	0.00	0.00	7610.38	98.32%
 Total	7686.69	52.94	0.82	0.03	7740.49	100.00%
% of total emissions	99.30%	0.68%	0.01%	0.00%	100.00%	-

In 2017, Alpha (Hsinchu Plant's) GHG emissions from all sources (Scope 1 and Scope 2) totaled 4286.5 tons of CO2e. Scope 1 direct GHG emissions were 122.67 tons of CO2e and accounted for 2.86% of all Company emissions. Scope 2 indirect GHG emissions were 4163.83 tons of CO2e, or 97.14% of all Company emissions.

#### ■2017 GHG emissions ratio by category

Greenhouse Gas Category	$T_{\text{Onc}} \circ t CO2a/$	CH4 (Tons of CO2e/ year)	N2O (Tons of CO2e/ year)	HFCs (Tons of CO2e/ year)	(Tons of CO2e/ year)	Ratio (%)
scope 1	51.53	52.94	0.25	15.94	122.67	2.86%
scope 2	4163.83	0.00	0.00	0.00	4163.83	97.14%
Total	4215.36	54.95	0.25	15.94	4286.50	100.00%
% of total emissions	98.34%	1.28%	0.01%	0.37%	100.00%	-





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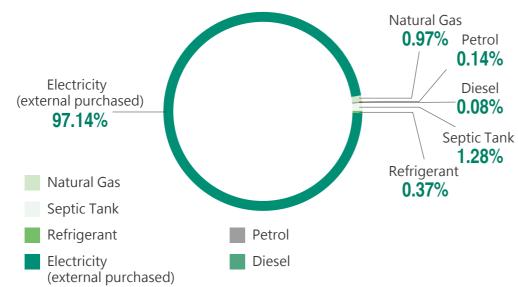
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External verification: The 2017 GHG report was verified by TÜV Rheinland Taiwan Ltd.Electricity (externally purchased) 97.14%, septic tank 1.28%, natural gas 0.97%, refrigerant 0.37%, petrol 0.14%, diesel 0.08%.

■ Distribution of GHG emissions from each source, 2017

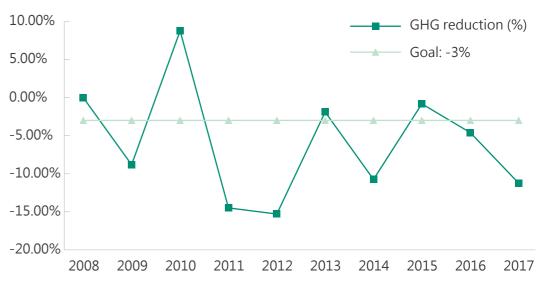




■ Greenhouse Gas Emissions between 2008 ~ 2017



■ Percentage of Reduction in Greenhouse Gases between 2008~2017





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#### Safety and Health

# Caring about safety and health — Providing employees with a sound working environment

Alpha Safety and Health Policy:

- All unit managers are committed to enforcing and participating in routine safety and health management activities.
- Protect the safety and health of all employees by preventing the occurrence of occupational disasters.
- Obey and comply with domestic safety & health laws as well as any other related regulations.
- Improve the effectiveness of safety and health management through continuous reviews and improvements.
- Safety, production and quality are all of equal importance.

The Alpha Safety and Health Committee is made up of workers' representatives in accordance with the "Safety and Health Committee Regulations." Workers make up 100% of the Committee including those involved in internal organizational administration.

Safety and health activities at Alpha (Hsinchu Plant) in 2018 focused on Voluntary inspection:

 Voluntary inspections were regularly conducted on the environment of each unit, facilities and special operations.

- Safety observation and audit: Random safety observations and audits were conducted to protect the safety of employees and prevent the occurrence of occupational disasters by reducing the number of unsafe environments and behaviors.
- Chemical control banding management: Chemical investigations are conducted in accordance with the Management Regulations Governing the Evaluation and Control Banding of Hazardous Chemicals, control banding is enforced for healthrelated hazardous chemicals. Hazard education courses are held to strengthen awareness on safe use of chemicals.
- Detection of Factory risk factors:To monitor the working environment of factory
  employees and assess their level of exposure to determine if it is in compliance
  with the law, Alpha commissions external measurement organizations to carry out
  environmental monitoring at the factory (including the offices and workshops).
   CO2, illumination, organic solvent concentrations and noise measurements are
  taken in accordance with the "Working Environment Measurement Management
  Procedure" to protect the safety and health of workers.
- Safety and Health training:
   Fire prevention training:
   Internal fire drills, response exercises and internal firefighting teams are organized every quarter. Classes and actual exercises are used to help prevent disasters.



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- Intruder and abnormal postal package exercise:
   Intruder and abnormal postal package exercises are held for security and receiving room personnel to improve their disaster prevention and response skills.
- Safety and Health training for new and current employees:
   Safety and health management regulations are enforced to strength the safety,
   hygiene and health awareness of new and current employees as well as prevent disasters. Occupational Safety and Health management knowledge and skills are also cultivated to support the company's occupational Safety and Health management program.
- Civil defense corps training:
   To strengthen the safety awareness of employees assigned to the response teams, emergency response and civil defense corps training are organized every year to improve their emergency response capabilities.
- Ionizing radiation in-service training:
   To strengthen the safety and protection awareness of employees working with ionizing radiation, in-service training for ionizing radiation is organized every year.
- Number of people that underwent safety and health training at Alpha (Hsinchu Plant) in 2018

Туре	No. of employees
New employee safety and health training	155
Current employee safety and health training	312
Fire training	78
Civil defense corps training	82
In-service training for ionizing radiation safety	17

### ■ Number of people that underwent safety and health training at overseas sites in 2018

Туре	Factory	No. of employees
Hazardous chemical operator training and spill drill	Dongguan	7
riazardous criefficai operator traiffing and spili diffi	Changshu	12
New employee occupational safety training	Dongguan	1,628
New employee occupational safety training	Changshu	112
Factory-wide fire evacuation drill	Dongguan	1,182
ractory-wide life evacuation uniii	Changshu	1,011











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#### **Occupational Injury Statistics**

Alpha has defined management regulations on incident reporting and investigation. Work-related injuries, ill health, disease and accidents are investigated through an effective investigation and response mechanism to trace the origin and potential causes. Mistakes in the Safety and Health management system are identified for effective corrective and preventive measures to be taken. This ensures that not happen the same issue.

■ The 2018 occupational injury statistics for each factory are tabled below

Factory	Hsir	ıchu	Dong	guan	Chan	gshu
Gender	Ť	*	Ť	*	Ť	*
Frequency of Disabling Injuries	0	1	0	0	0	1
Days lost due to disabling injuries	0	1	0	0	0	8
Disabling Injury Frequency Rate (I.R.)	0	0.19	0	0	0	0.32
Lost Days Rate (L.D.R.)	0	0.19	0	0	0	2.58
Occupational Disease Rate (O.D.R)	0	0	0	0	0	0
Absentee Rate (A.R.)	0.78	1.3	0.05	0.05	6.36	5.87
Work-related Fatalities	0	0	0	0	0	0

Note 1: Occupational injury records cover occupational injuries that occur on-site while working. It does not include injuries from traffic accidents while commuting to and from work.

Note 2: Disabling Injury Frequency Rate (I.R.) = Frequency of Disabling Injuries / Total work hours x 200,000

Note 3: Lost Days Rate (L.D.R.) = Days lost due to disabling injuries / Total work hours x 200,000

Note 4: Occupational Disease Rate (O.D.R) = Incidence of Occupational Diseases / Total work hours x 200,000

Note 5: Absentee Rate (A.R.) = Total Absentee Hours (Sick leave and special leave) / Total work hours x 100%

#### **Contractor Safety and Health Management**

In 2018, The outcomes of contractor safety and health management at Alpha (Hsinchu Plant) are compiled below:

A total of 152 applications for construction work were made including 111 cases related to special high-risk operations on-site. A total of 165 people entering the site for the first time received hazard warnings and safety & health training. No occupational injuries resulting in more than one day of lost work occurred at Alpha (Hsinchu Factory) during the course of 2018.

■ Management statistics for contractor carrying out work on-site at Alpha (Hsinchu Plant) in 2018

Control type	Work application	Industrial safety training for on-site contractors	Special operations applications
Number	152 cases	165 people	111 cases

#### Food Safety and Hygiene

Food safety management measures have been implemented at all Alpha sites to provide employees with safe, hygienic and health group catering investigate employee satisfaction and Improvement:

A "Catering Committee" was set up to review group catering, make improvements, and ensure food safety/hygiene for all employees.

Catering contracts were defined with clearly defined management responsibilities and measures for incoming ingredients, ingredients processing, utensil safety, caterer management, and environment/equipment maintenance management.

Qualified catering contractors are chosen through a strict selection process. Catering conditions are inspected daily, and caterers are required to comply with food safety and hygiene related laws.



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#### **Health Promotion**

**Employee Health Care** 

- 1. A dispensary staffed with two occupational health nurses have been set up.

  Contract specialists also hold clinics on-site three times each month to promote health care, health promotion and special protection.
- 2. On-site health exams that exceed statutory requirements are provided every year. The results of the health exams are categorized for management. Full-time factory health instructors and on-site physicians provide management measures such as one-on-one interviews, re-exams and follow-ups. Data from the past three years are provided in the health report to help employees manage their health over time. In 2018, the annual health exam participation rate was 97.6%.
- 3. A list of personnel assigned to special hazardous operations such as noise and ionizing radiation is compiled by industrial safety personnel every year and provided with physical and health exams appropriate to their workplace. The examination rate in 2018 was 100%.

Two key management initiatives "Prevention of Work-triggered Cerebrovascular Disease" and "Maternal Health Protection" were developed in accordance with the law. One-on-one follow-up measures such as risk assessment and tiered management are used to prevent the occurrence of cerebrovascular disease and to ensure the maternal health of female employees. To take care of mothers, a reporting system lets the company occupational health nurse keep track of pregnant employees. Protective care and interviews can then be conducted to e liminate potential hazards at work and provide related consultation/care during and after the pregnancy. A warm and comfortable expressing environment is provided for the use of female employees.

- 4. A "Musculoskeletal Symptoms Survey Form" is filled out by employees during their annual health exam. The data is analyzed so that suitable health education, physician interviews, and follow-up preventive/corrective actions can be provided. A "Preventive Human Factor Engineering in the Office" seminar is hosted every month when the physician is on-site. All employees are required to attend.
- 5. In order to help employees discover potential health problems in advance, Alpha regularly organizes cancer screening services (including abdominal ultrasound and women's healthcare), hoping to achieve "early detection and early treatment", and thereby lowering the severity of the illness and its impact on personal life. The overall satisfaction of women's healthcare activity is 83%.
- 6. Organizes preventive services from time to time, such as influenza vaccination at their own expense. A total of 124 persons signed up for the service.
- 7. Holds health promotion lectures from time to time; in 2018, 5 lectures were held and attended by 193 colleagues, achieving an overall satisfaction level of 87%.
- 8. Hosts 2 blood drives annually that saw participation from 174 colleagues, donating a total of 258 bags of blood.





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#### Safe factory certification

Alpha (Changshu Plant) complies with the basic norms for work safety standardization of enterprises (AQ/T 9006-2010) to establish safety management systems and SOPs for managing and monitoring major hazard sources. Furthermore, the preventive mechanism and regulated production behavior ensure that the production processes comply with safety regulations and standards. With favorable personnel, machinery, equipment, raw materials, and environmental conditions for production, Alpha will continue to facilitate the establishment of work safety standardization of enterprises. In July 2018, Alpha obtained a level-2 certificate for the work safety standardization of enterprises from the Administration of Work Safety of Jiangsu Province in China.

The meaning of work safety standardization

- Reinforce the groundwork of work safety standardization for enterprises.
- Facilitate the standardization of safety management.
- Increase the safety awareness of employees and management and regulate the safety behavior of employees.
- Improve the level of mechanization, automation, and informatization within the company.
- Discover potential risks in time and implement effective governance.
- Effectively prevent accidents from occurring and generate intangible economic benefits.
- Ensure the production process complies with protocol in order to facilitate smooth production.
- Improve employees' safety, comfort and sense of belonging.
- Priority consideration during government evaluation.
- Establish good corporate image and increase corporate competitiveness.

 Work safety standardization is an important basis for implementing production safety category guidance and category monitoring and management by the government.

#### Certification level:

- Level 1: Safety quality standardization score may not be lower than 900 points (including 900 points).
- Level 2: Safety quality standardization score may not be lower than 800 points (including 800 points).
- Level 3: Safety quality standardization score may not be lower than 600 points (including 600 points).

#### System implementation

Alpha (Changshu Plant) recognizes that a safe production environment is the most effective protection for our employees at work, therefore the company has complied with the basic norms for work safety standardization of enterprises (AQ/T 9006-2010) to establish the safety quality standardization management system in an effort to fortify the foundation of production safety, increase our employees' safety awareness, and prevent accidents from occurring.

#### ■ Certificate



■ Personnel training for system implementation and system certification evaluation meeting





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#### **Supply Chain Management and Social Relations**

# Implement supplier management to fulfill corporate social responsibilities

#### **Supplier Management**

Alpha requires all local suppliers to comply completely with all relevant laws and regulations. Alpha also takes a close interest in the management of labor rights, environmental protection, safety and health risks by the supply chain.

Alpha using on RBA rule (Code of Conduct-Responsible Business Alliance, RBA, old name is EICC) conducted annual audits and introduced new suppliers in 2018. A total of 10 companies were found to be compliant with the standards on labor rights, health and safety, environmental protection, ethics, management systems and social impact.

Suppliers are not only required to conduct quality, cost, delivery, service and technical assessments but to also practice purchasing management based on the Green Supply Chain. Hazardous substance controls have also been incorporated into the incoming material verification procedure. For raw materials that violate the controlled substance rules, suppliers are required to propose corrective and preventive measures right away.

#### Supplier order management

Alpha has developed its own supplier transaction platform. We adhere rigorously to privacy laws and confidentiality agreements in order to create a secure and smooth-running platform environment.

#### **Supplier Management**

Supplier Selection/Evaluation/Reward and Punishment

The selection of suppliers is based on set criteria. Qualified suppliers must also undergo on-site audits or host review meetings to examine their performance. A high-priority supplier management list is maintained by Alpha based on each department's evaluation of vendor performance in five domains: quality, cost, delivery, service and technical. The evaluation outcomes are used as the basis for adoption of key parts and to motivate suppliers.

Monthly/Quarterly Supplier Evaluations

 Supplier Quality Performance Evaluation
 Evaluation time: An evaluation of supplier performance during the preceding month is provided by the 15th day of each month.

Supplier evaluation standard: Supplier quality is graded in the following manner as defined in the "Incoming Material Management Procedure":

Excellent (Grade A): ≥ 95,

Good (Grade B): 94~90,

Acceptable (Grade C): 89~85,

Inferior (Grade D): 84~80,

Poor (Grade E): < 80.

A supplier quality evaluation score of 80 is required for a qualified supplier.

In 2018, the excellent (A), good (B) grade suppliers accounted for 99.06% of total suppliers, and there were 4 poor (E) grade suppliers.



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Alpha offered guidance to these poor (E) grade suppliers and demanded them to make improvements, while ongoing guidance was also provided to acceptable (C) and inferior (D) grade suppliers to address their problems in order to improve the overall quality of delivered products.

#### Supplier Rating

The Supplier Evaluation Operation Guidelines set the quarter as the statistical interval. The evaluation results are reported in the following month of each quarter. All key Alpha suppliers (involving large quantities and transaction amounts) are evaluated by the Purchasing, Engineering, and QA units in terms of quality, cost, delivery time, service, and technical capability (see table below). Those with a score below 60 are designated as non-preferred suppliers.

In 2018, 639 suppliers were evaluated, resulting in one "not commended" supplier. Alpha has ceased all transactions with the supplier in accordance with the Supplier Evaluation Operation Guidelines.

#### ■ Supplier Quality Performance Assessment form

Content	cqc	Supply Chain Management Center	Engineering Units	Total score
Quality	45			45
Cost		20		20
Delivery		10		10
Service	5	5	5	15
Technical			10	10
Total score	50	35	15	100

Supplier Education and Training
 In order to let the suppliers accurately deliver the green Material Composition
 Declaration (MCD) information, quarterly supplier training course "GPM Green
 Product Management Information Platform: Completing and Uploading the
 Declaration Form, Test Report, and Material Composition Form" is conducted
 at Alpha (Hsinchu plant), Alpha (Dongguan plant), Alpha (Changshu plant).

 The supplier is expected to upload the MCD with Alpha in order to comply with
 international regulations.

#### ■ Supplier Education and Training Timetable, 2018

Class location/time	Q1	Q2	Q3	Q4
Alpha Networks (Hsinchu) No. 8 Li-hsing 7th Rd., Science-based Industrial Park, Hsinchu City	3/14(Wed.)	6/13(Wed.)	9/12(Wed.)	12/12(Wed.)
Alpha Networks (Dongguan) Xingang Road, Xin'an Area, Chang An, Dongguan City Guangdong Province	3/23(Fri.)	5/29(Tue.)	9/21(Fri.)	12/21(Fri.)
Alpha Networks (Changshu) No. 6, Yintong Road, New 8 Hi-tech Industrial Development Zone, Changshu	3/21(Wed.)	6/1(Fri.)	9/19(Wed.)	12/19(Wed.)

#### • Supplier Purchasing Contract

To build a green supply chain, Alpha suppliers are required to adhere strictly to our "Hazardous Substance Guidelines." Test report from independent third-party bodies must be submitted where necessary. Source management is practiced for supplier production processes, green product design and hazardous substances. Green management principles have also been incorporated into the supplier management system. "Supplier Purchasing Contracts" were signed with a total of 10 material suppliers in 2018. In the future, Alpha will continue to sign purchasing contract guarantees with the suppliers that we deal with to ensure the products we design and manufacture can also comply with customers' RoHS-related international regulatory requirements and fulfill the goal of building a Green Supply Chain.



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#### Corporate Social Responsibility Audit

As CSR has become an important topic in corporate sustainability, Alpha hopes that suppliers can contribute to the fulfillment of CSR and establish stable, long-term partnerships.

Alpha using the Code of Conduct - Responsible Business Alliance (RBA) as a guide. A "Supplier EICC Self-Evaluation Form" is also used to learn about a supplier's accomplishments in labor, safety and health, environmental protection, management system and business ethics. All new suppliers are now required to sign the "EICC Code of Conduct Responsibility Statement" and explicitly commit to the fulfillment of their CSR.

466 suppliers were investigated in 2018 and the results of the investigation are tabled below.

Plant	No. of Systems	Number Issued	Completed	Not Completed	No Transaction	Not Available due to Other Reasons	Completion Rate
Hsinchu	114	114	114	0	0	-	100%
Dongguan	145	145	145	0	0	-	100%
Changshu	207	207	207	0	0	-	100%

#### **Supplier Partnerships**

Alpha values our interactions with suppliers and learning from each other. In addition to routine business reviews, awards are also presented during the annual supplier convention to outstanding suppliers or those that made a special contribution to thank them for their support. The quality of products and services are also reviewed and goals set with suppliers during the convention. Alpha and our partners also update each other on the latest industry developments so that we can jointly provide products and services that meet the needs of that market.

In 2018, Alpha convened a supplier convention for Lan Transformer to commend its extraordinary improvement in the yield rate.





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#### **Conflict Minerals Due Diligence**

# Demanding suppliers to disclose the source of raw materials — Banning the use of conflict minerals

#### **Conflict Minerals Policy**

Alpha is committed to monitoring the issue of conflict minerals, and to investigate the sources of gold (Au), tin (Sn), tantalum (Ta), Tungsten (W) and Cobalt (Co) minerals to ensure they are "conflict-free." We promise to form long-term partnerships for mutual success with our suppliers. We expect and require suppliers to disclose the refineries and mines they work with. Suppliers are also asked to comply with the RBA Code of Conduct in fulfilling their corporate environmental and social responsibilities together.

Suppliers have been required to sign the "Declaration on Non-use of Conflict Minerals" since 2013. CMRT conflict mineral investigations are also regularly conducted. As of the end of 2018, 465 suppliers have signed the declaration and responded to the CMRT survey.





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#### **Green Production and Continuous Improvement**

# Investing in the R&D and manufacturing of green products and implementing ongoing improvement

#### **Green Commitment**

Alpha is actively investing in the green product R&D and manufacturing processes. We are also promoting environmental awareness among all employees. ISO9001, TL9000, QC080000, ISO14001, AEO and ISO14064-1 management systems are strictly enforced during all production activities. The goal of achieving IATF 16949 certification in 2018 has been set to maximize the benefits of green activism.











- · Il employees and suppliers must adhere to the policy to ensure the safety of Alpha and related business partners' assets.
- · Practice risk management Policy statement: Strengthen supply chain security management through the identification of threats to security, risk assessment and risk management process so that the necessary risk reduction and control measures can be implemented.
- Supply chain security performance Policy statement: Improve employee abilities and understanding through education and training. Enforce management reviews and continuous improvement to ensure the applicability and validity of the supply chain security system.

#### ISO 14064-1 Greenhouse Gas Inventory and **Policy Statement**



Everyone at Alpha is committed to fulfilling our corporate environmental and social responsibility as a quality contract manufacturing enterprise for networking products against a backdrop of global warming. For this reason, we hereby declare that we will:

- · Committed to make Carbon Disclosure, in order to facilitate the corporate really grasp the situation.
- Facilitate the tracking of internal carbon emissions by committing to the disclosure of enterprise carbon emissions.
- · Work with our business partners to expand the scope of reduction initiatives. Provide our consumers and users with more lowcarbon options. Increase transparency and reduce product carbon footprints.

Greenhouse Gases (GHG) ISO 14064-1 Guidelines for the quantification and reporting of GHG emissions and reductions at the organizational



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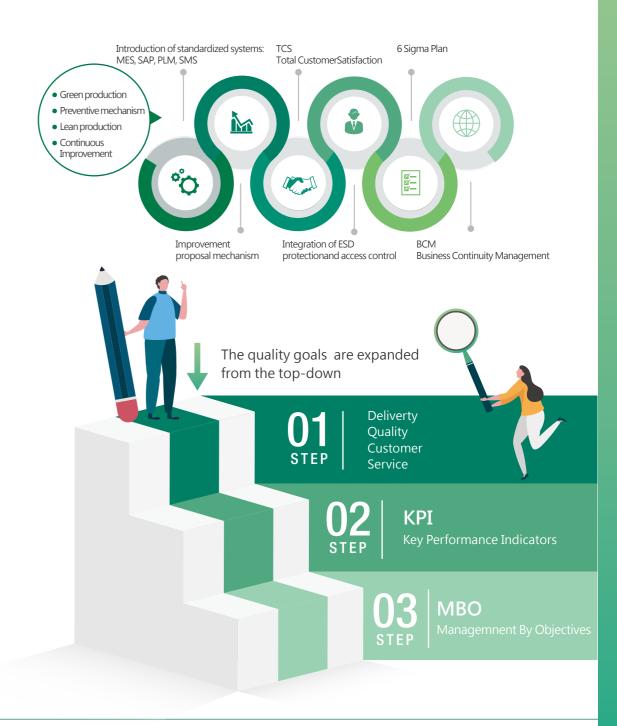
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To meet our Delivery, Quality, Customer and Service goals, Alpha develops our corporate vision, unit organizational goals (KPI, MBO) and employees' individual performance goals from the top to down every year. Different quality techniques, tools and systems are introduced around our corporate values of "Integrity", "Customer Value", "Agility" and "Collaboration" to ensure compliance with the quality management standards of green production from product development through to production and manufacturing.

The same set of manufacturing system and quality management standards are used at all Alpha production sites, including Manufacturing Execution System (MES), SAP, PLM, e-JIT (Just-in-Time) and Supplier Management System (SMS). Each production site collaborates with the Quality Center on the promotion of continuous improvement projects and the introduction of performance management such as Total Productive Management (TPM), Total Customer Satisfaction (TCS), 6 Sigma, Quality Control Cycle Circle (QCC), Quality Improvement Team (QIT) and the improvement proposal mechanisms. Everyone participates in the analysis and discussion to prevent the same problems from happening again. The registration and tracking of the Key Performance Indicators (KPI) and Management by Objective (MBO) set by each unit each year is also used to predict potential risks so that preventive mechanisms can be planned in advance. Continuous improvement through the PDCA cycle is used to do our part in corporate responsibility.

To ensure proper anti-static protection measures and mechanisms are in place for all parts and products during the manufacturing process, all sites including Alpha (Hsinchu Plant), Alpha (Dongguan Plant), and Alpha (Changshu Plant) follow the ANSI/ESD 20.20 electro-static discharge protection certification standard. An access control system also permits only authorized personnel to enter the site after passing ESD measurement to ensure that ESD protection is fully enforced.





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#### **Business Continuity Management**

To ensure the continuity of operations and reduce the issue of major faults or disasters on critical business processes, Alpha introduced the Business Continuity Management (BCM) in 2014. Two disaster drills (including power outage, natural disaster, infectious diseases, IT failure, supply chain interruption and major accident on production line, etc.) are conducted at different times each year to contain operational impact of any disasters.

Business continuity management policy: Alpha Networks Inc. strives to provide quality networking products and to form partnerships for mutual growth with our customers.

The top priority in our business continuity management is to provide customers with diverse, high-quality and uninterrupted manufacturing services for networking products.

- Conduct business impact analysis and risk assessment. Formulate business continuity strategy and restore operations to normal as quickly as possible.
- Allocate and invest the necessary resources in the event of a disaster or impact.
   Continue to review further improvements.
- Protect the interests of customers and stakeholders as much as possible.



#### **Continuous Improvement Activities**

Alpha (Changshu Plant) 6σ Promotion Plan Purpose:

- Improve business management capabilities
- Reduce business operating costs
- Increase customer value
- Improve service standards
- Build corporate culture

6-Sigma is a technique for improving business quality process management. The business goal of "zero defect" is used to drive large decreases in cost of quality. Improvements in financial performance and breakthroughs in business competitiveness can then be ultimately realized.

#### 2018 $6\sigma$ activity outcomes:

Cost savings achieved by the 7 project activities in 2018: 1,208,697 RMB

Year	Circle	Presentation Time	Participating Units
2013	6	2013/12/26	SMT, WS, PE, MD2, SQE, IPQC
2014	8	2015/1/14	SMT, IPQC, SQE, RMA, Label Room, PTH, Assy & PK
2015	6	2016/1/16	IPQC, PTH, SQE, CE, Assy & PK, Testing
2016	7	2016/12/13	IE, PE, SMT, CQC, Assy & PK, Testing
2017	12	2017/12/20	IT/IE/TDD/Labor Safety/HR, MD1, SCM, MTD, MD2, IPQC, RMA, CQC, PM/Finance, MDD
2018	7	2018/12/28	IE · TDD · MD1 · SCM · MTD · MD2 · IQC · RMA · SQE · MDD · PM



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#### **Customer Satisfaction Survey Analysis**

# Listening to the voices of the customers through the customer satisfaction survey

Alpha conducts customer satisfaction surveys to establish a customer need oriented quality system, where objective techniques are applied to evaluate the level of customer satisfaction towards the company's products or services. The aim is to ascertain the gap between customer needs and expectations in order to use it as the basis for improving the quality system, ultimately achieving the objective of sustainability.

# Analysis of variance conducted for the satisfaction levels of different customer groups

The average scores of Alpha's survey conducted on various customer groups are illustrated below:

Satisfaction questionnaire score reveals that the customers' satisfaction levels of Engineering Support and Customer Service are more consistent, but the satisfaction levels of Quality Measurements are significantly different between different customers.

■ Comparison chart of average satisfaction level of BU customer groups towards 5 major themes



	Quality Measurements	Delivery Performance	Engineering Support	Customer Service	Green Product Implementation
LAN/MAN	86	85	84	85	85
■ DM	88	89	88	88	92
■ WB	76	83	87	85	88





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GRI Standard Index Accuracy of Disclosure According to the result of the customer satisfaction level questionnaire conducted by the BU, the customers of DM BU and MAN/MAN BU do not exhibit significant differences in the satisfaction level towards various themes On the contrary, the customers of WB BU exhibit significantly greater differences in the satisfaction level towards the service provided.

■ Comparison chart of average satisfaction level towards 5 major themes among BU customers



BU	LAM/MAN	DM	WB
Quality Measurements	86	88	76
■ Delivery Performance	85	89	83
Engineering Support	85	89	83
Customer Service	84	88	87
■ Green Product Implementation	85	88	85

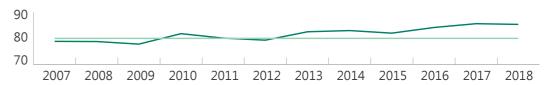
#### The goals and outcome of annual satisfaction levels over the years

Alpha has reached the designated target 80 points in terms of satisfaction level surveys since 2013.

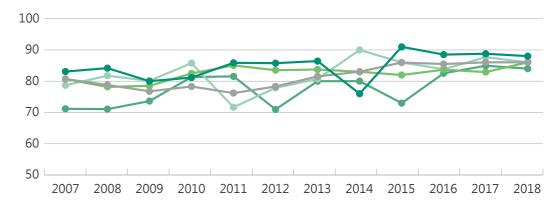
The satisfaction level outcome in 2018 reveals that the customers' levels of satisfaction towards our services have declined slightly. The responsible unit will propose improvement strategies for areas regarded as unsatisfactory by the customers in order to resolve the problem completely.

The unsatisfactory item in 2017 "Engineering support" has demonstrated remarkable improvement in satisfaction level score in 2018 after improvement measures were implemented.

#### Customer satisfaction trend chart



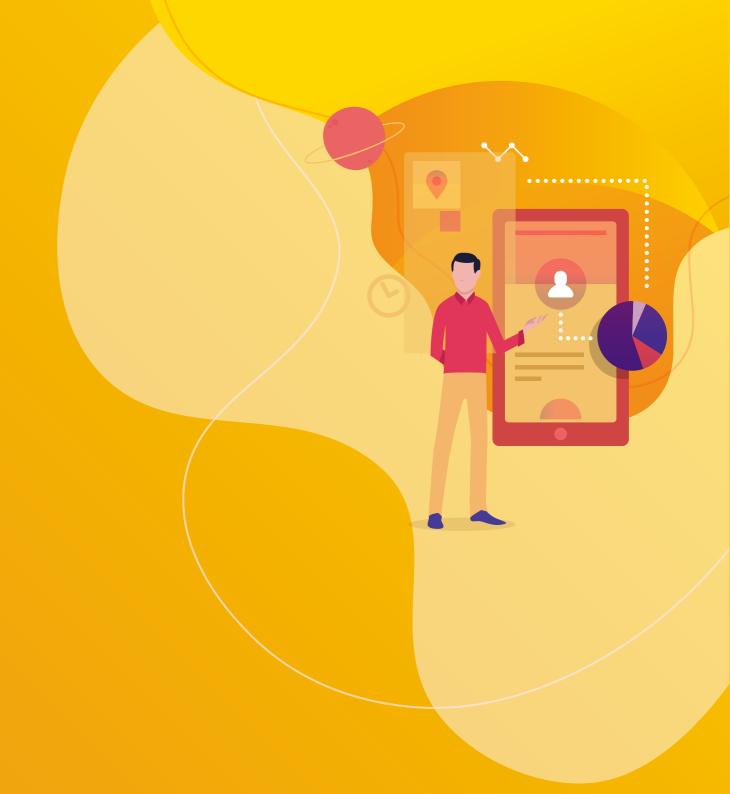
#### ■ Satisfaction investigate annual run chart of various themes



Year	2013	2014	2015	2016	2017	2018
Quality Measurements	80	80	73	83	85	84
— Delivery Performance	81	90	86	84	88	86
Engineering Support	84	83	82	84	83	86
Customer Service	82	83	86	86	86	86
Green Product	86	76	91	89	89	88

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#### **General Disclosure**

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	102-1	Name of the organization	About Alpha	12	
	102-2	Activity, brand, product and service	About Alpha	12	Alpha products and services have not been barred from certain markets
	102-3	Location of headquarters	About Alpha	12	
	102-4	Location of operations	About Alpha	12	
	102-5	Ownership and legal form	About Alpha	12	
	102-6	Market served	About Alpha	12	
	102-7	Scale of organization	About Alpha	12	
	102-8	Information on employees and other workers	Recruitment	27	
GRI 102: 2018 General Disclosure	102-9	Supply chain	Supply Chain Management and Social Relations	56	
	102-10	Significant changes to the organization and its supply chain	No significant changes	N/A	
	102-11	Precautionary Principles or approach	Risk Analysis and Management	25	
	102-12	External initiatives	Alpha Policies	5	
	102-13	Membership of associations	About Alpha	12	
	102-14	Statement from the senior decision-maker	From the Chairman	4	
	102-16	Values, principles, standards and norms of behavior	Alpha Policies	5	
	102-18	Governance structure	Corporate Governance	22	
	102-40	List of stakeholder groups	Stakeholder Communication and Identification	7	



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GRI Content Index		Disclosure	Chapter	Page	Exclusion
	102-41	Collective bargaining agreements	No union organization at present	N/A	
	102-42	Identifying and selecting stakeholders	Stakeholder Communication and Identification	7	
	102-43	Approach to stakeholder engagement	Stakeholder Communication Mechanism	10	
	102-44	Key topics and concerns raised	Stakeholder Issues of Concern Survey	8	
	102-45	Entities included in the consolidated financial statements	Operating Performance	15	
	102-46	Defining report content and topic boundaries	About this Report Stakeholder Communication and Identification	3 7	
	102-47	List of material topics	Identification and Sorting of Material Issues	9	
GRI 102: 2018 General Disclosure	102-48	Restatements of information	None	N/A	There is no restatements of information to previous reports
	102-49	Changes in reporting	Stakeholder Communication and Identification	7	
	102-50	Reporting period	About this Report	3	
	102-51	Date of the most recent report	About this Report	3	
	102-52	Reporting cycle	About this Report	3	
	102-53	Contact point for questions regarding this report	About this Report	3	
	102-54	Claims of reporting in accordance with GRI Standards	About this Report	3	
	102-55	GRI Content Index	GRI Content Index	66	
	102-56	External assurance	Accuracy of Disclosure	71	



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#### **Material Topics**

#### Operating performance

GRI Content Index		Disclosure	Chapter	Page
GRI 103: 2018 Management Approach	103-1	Explanation of the material topic and its boundary	Operating Performance	15
GRI 103: 2018 Management Approach	103-2	The management approach and its components	Operating Performance Operating Performance and Financial Information Project Grants	15 16
GRI 201: Economic Performance	201-1	Direct economic value generated and distributed	Operating Performance Operating Performance and Financial Information Project Grants	15 16

#### Research and Development

GRI Content Index		Disclosure	Chapter	Page
Explanation of the material topic and its boundary	103-1 E	explanation of the material topic and its boundary	Sustainable Products and Services	17
Explanation of the material topic and its boundary	103-2 T	The management approach and its components	Product development trends Research and development focus	19 20
	trends	Product development trends	19	
	Research and development focus	20		

#### **Supply Chain Management**

GRI Content Index		Disclosure	Chapter	Page
GRI 103: 2018 Management Approach	103-1	Explanation of the material topic and its boundary	Supply Chain Management and Social Relations	56
GRI 103: 2018 Management Approach	103-2	The management approach and its components	Supply Chain Management and Social Relations	56
GRI 308: Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	Supply Chain Management and Social Relations	56
GRI 308: Supplier Environmental Assessment	308-2	Negative environmental impacts in the supply chain and actions taken	Supply Chain Management and Social Relations	56



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#### **Environmental Compliance**

GRI Content Index		Disclosure	Chapter	Page
GRI 103: 2018 Management Approach	103-1	Explanation of the material topic and its Boundary	Green product Management	38
GRI 103: 2018 Management Approach	103-2	The management approach and its components	Green product Management	38
GRI 307: Environmental Compliance	307-1	Non-compliance with environmental laws and regulations	Green Regulation and Database Establish Environmental Management Hazardous Substance Management	38 42 40

#### Occupational Safety and Health

GRI Content Index		Disclosure	Chapter	Page
GRI 103: 2018 Management Approach	103-1	Explanation of the material topic and its Boundary	Safety and Health	51
GRI 103: 2018 Management Approach	103-2	The management approach and its components	Safety and Health	51
GRI 403: Occupational health and safety	403-1	Workers representation in formal joint worker-management health and safety committees	Safety and Health	51
GRI 403: Occupational health and safety	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Occupational Injury Statistics	53

#### **Information Security Management**

GRI Content Index	Disclosure	Chapter	Page
GRI 103: 2018 Management Approach	103-1 Explanation of the material topic and its Boundary	Information security management policy	24
GRI 103: 2018 Management Approach	103-2 The management approach and its components	Information security management policy	24
Ir	Information security management policy	24	



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#### **Business Continuity Management**

GRI Content Index		Disclosure	Chapter	Page
GRI 103: 2018 Management Approach	103-1	Explanation of the material topic and its Boundary	Risk analysis and management	25
GRI 103: 2018 Management Approach	103-2	The management approach and its components	Risk analysis and management	25
Risk analysis and management		Risk analysis and management	25	



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#### Accuracy of Disclosure

This Report was prepared in accordance with the GRI Standard issued by the Global Reporting Initiative. Independent verification was conducted by TÜV Rheinland Taiwan Ltd. in accordance with the AA1000 Account Ability Assurance Standard and GRI Standard. The report has been certified to AA1000 Type 1 with a moderate level of assurance. The Assurance Statement is included in the Appendix for reference.



#### Independent Assurance Statement

#### Introduction:

TÜV Rheinland (Guangdong) Ltd., member of TÜV Rheinland Group, Germany (TÜV, We) has been entrusted by the management of Alpha Networks Inc. (Alpha, the Company) to conduct independent assurance of Alpha Corporate Social Responsibility Report 2018 (the Report). All contractual contents for this assurance engagement rest entirely within the responsibility of Alpha. Our task was to give a fair and adequate judgment on the Alpha Report 2018.

The intended users of this assurance statement are stakeholders having relevance to the Alpha overall Sustainability Performance and impacts of its business activities during 2018/January 2018 – December 2018). TUV Rheinland is a global service provider of CSR & Sustainability Services in over 65 countries, having qualified professionals in the field of Corporate Sustainability Assurance, Environment, Social and Stakeholder Engagement. We have maintained complete impartiality and independence during the assurance engagement and were not involved in the preparation of report contents.

#### Assurance Standard:

The Independent Assurance was carried out in accordance with AccountAbility, U. K Standard AA 1000 AS (2008) and related standards AA 1000 APS(2008), AA 1000 SES (2015), Principles of Inclusivity, Materiality & Responsiveness, Global Reporting Initiative (GRI), 'In accordance'-Core' reporting guidelines as per GRI-Standards.

#### Scope & Type of Assurance:

Our Assurance engagement covers the following:

- Alpha Corporate Sustainability performance as described in the report 2018 in accordance with GRI reporting
  guidelines and performance indicators and according disclosure on management approach (DMAs) from Economic.
  Environment & Social category, also defined in Reporting boundaries.
- · Evaluation of disclosed information in the report as per the Assurance Standards.
- Type-1,Moderate as per AA 1000 AS (2008)

Limitation: The assurance engagement was carried out at Alpha Hsinchu Campus at Hsinchu Science Park, Hsinchu City, Taiwan. The consultations with external stakeholder were not carried out. We have not observed any significant situations to limit our assurance activity. The verification is carried out based on the data and information provided by Alpha, assuming they are complete and true. We did not verify the reported financial data as same is verified by another third party in annual report.

#### Assurance Methodology:

TÜV has challenged the report contents and assess the process undertaken by Alpha from source to aggregate in disclosure of information/data related to Sustainability performance. Our judgment is based on the objective review of reported information as per criteria defined under Assurance standards.

Analytical methods and the performance of interviews as well as verification of data, done as random sampling, to verify and validate the correctness of reported data and contents in light of contractual agreement and the factual Alpha Corporate Social Responsibility strategy (CSR) as mentioned in the report. Our work included consultation with over 20 Alpha representatives including senior management and relevant employees. The approach deemed to be appropriate for the purpose of assurance of the report since all data therein could be verified through original proofs, verified database entries.

The Assurance was performed by our multidisciplinary team of experienced professionals in the field of Corporate Sustainability, Environment, Social and Stakeholder Engagement. We are of the opinion that our work offers a sufficient and substantiated basis to enable us to come to a conclusion mentioned below and based on the content of our contract.

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#### Adherence to AA 1000 principles:

Inclusivity: Alpha has established the Stakeholder Engagement Management Process to identify and understand thei stakeholder, and to use the communication mechanism to identify the material issues.

#### Materiality:

Alpha has implemented the material issues identification processing. The identification was based on the requirements and focus of attention of the stakeholder, the consideration of the company internal policy, shareholders meeting, questionnaires and the understanding and communication on the sustainable development content. In response to the materiality principle, TÜV proposed two recommendations:

Alpha should enhance the analytical capacity of survey information on concerned issues of the stakeholder, to more clearly
and effectively evaluate and identify the material issues.

Alpha should continuously improve the identification processing of the material issues, to better promote the company comprehensively and objective understanding the material issues and its priority of the sustainable development.

#### Responsiveness:

Alpha has implemented the policy including environment and safety, hazardous substances, quality and intelligent property management, and new established corporation social responsibility policy. The report disclosed the management system of the company, such as energy management and its performance, stakeholder engagement, responding to their stakeholders against material issues of the sustainable development.

#### Conclusion:

In conclusion, we can mention that no instances or information came to our attention that would be to the contrary of the statement made below:

- Alpha Corporate Social Responsibility Report 2018 meets the requirement of Type-1, Moderate Assurance according to AA1000AS(2008) and Global Reporting Initiative (GRI), 'In accordance'-Core' reporting guidelines as per GRI-Standards'.
- The Report includes statements and claims that reflects Alpha achievements and challenges supported by documentary
  evidences and internal records
- The performance data we found in the report are collected, stored and analyzed in a systematic and professional manne and were plausible.
- TÜV Rheinland shall not bear any liability or responsibility to a third party for perception and decision about Alpha based on this Assurance Statement.



For TÜV Rheinland Group

Vito Lin

Vito C. C. Lin Lead Verifier

Taipei, 2th May 2019

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