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ECO-FRIENDLY DRAM PROVIDER

2017 Corporate Social Responsibility Report



NANYA

ECO-FRIENDLY DRAM PROVIDER

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About This Report

Report Overview

This report is the eighth Corporate Social Responsibility Report issued by Nanya Technology Corporation(NTC), and contains information regarding the Company's profile, corporate governance, environmental sustainability practices, employee care and social welfare practices from January 1 to December 31, 2017. The scope of this report covers NTC., and its subsidiaries. Inconsistencies, if any, are explained separately. The statistics provided in this report have been obtained from NTC's audited financial statements.

The main subject of this report and the significance of sustainability to NTC

Since publication of the first Corporate Social Responsibility Report in 2010, NTC has fully disclosed the Company's business operations pertaining to ethical practices, sufficiently communicated with stakeholders, placed emphasis on environmental well-being, care for our employees' rights and interests and actively participate in the society. This Corporate Social Responsibility Report has been prepared and published in accordance with the Global Reporting Initiative (GRI) standards. The full content of this Report is also disclosed on the corporate social responsibility page of the Nanya Technology Website: <http://www.nanya.com/tw/Csr>, which illustrates the Company's sustainable goals and achievements in the three major aspects - economy, environment and society.

The content of this Report is based on the analysis of a questionnaire survey and interviews implemented at Nanya Technology, which aimed to identify the material issues, understand the concerns of the stakeholders in corporate sustainability issues and the major issues in operations. "Together as we work towards environmental sustainability" is our Corporate Social Responsibility Report theme of the year, aiming to strengthen our capabilities in sustainability and do our utmost to realize a prosperous future.

Publication

NTC CSR report is published annually.

- Current edition: June 2018
- Last edition: June 2017
- Next edition: June 2019

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Time period of information disclosure

From January 1 to December 31, 2017

Scope of information disclosure

NTC and its subsidiaries.

Data Quality Management

Financial Data: KPMG

Quality Management ISO 9001, ISO/TS 16949:LRQA

Environmental Management ISO 14001:LRQA, ISO 14064:SGS

EHS OHSAS 18001/TOSHMS:LRQA

Electronic Industry Code of Conduct RBA VAP (V5.1):TUV

Sustainable Information AA 1000AS(2008):BSI

Compilation Guideline and Principles

Global Reporting Initiative (GRI) Standards

Assurance Level

AA 1000 Type II High Assurance Level

Report Management

Review of annual achievements

Confirmation of the direction of reporting

Data collection

Compilation of the report

Third party assurance

CSR Committee confirmation

Submission to the Company's Board of Directors

This Report is published on the corporate social responsibility section of the Company's website.

Message from President



President of Nanya Technology Corporation

A handwritten signature in black ink, appearing to read "Rudy Lee" followed by Chinese characters.

Nanya Technology Corporation ("NTC") focused its core business on DRAM memory and committed to comply with the spirit of diligence and pragmatism. We will continue our efforts in advanced technology development and diversify products to meet various demand from customers worldwide. We implement our five major mission through our business operations, which are "continuous profits and sustainable operations; risk forecast and precautionary measures; employee welfare and profit sharing; raise the awareness of environmental protection; and supporting local communities." We believe they play an important role as we devoted to fulfill corporate social responsibility and pursue future sustainable development.

In 2017, NTC participated for the first time in "Taiwan Corporate Sustainability Awards" (TCSA), which was held by Taiwan Institute for Sustainable Energy (TAISE), and won awards for the "Top 50 Corporate Sustainability", "Corporate Sustainability Report Golden", and "Best Performance on Specific Category for Innovative Growth Awards". These important awards symbolize our effort in sustainable development over the years. In 2018, we officially established a designated department for sustainable development, which plans sustainable development, formulates performance indicators, reports regularly to the Board of Directors with strategy, vision, goals, guidelines, and results, as we continue to practice corporate responsibilities.

The United Nations' Sustainable Development Goals (SDGs) and the Paris Agreement are the main driving forces behind global sustainable development and the common language among the governments, industries, and academia worldwide. In 2017, we identified 6 major SDGs as NTC associated activities includes, Good Health and Well-being, Quality Education, Clean Water and Sanitation, Decent Work and Economic Growth, Responsible Consumption and Production, and Climate Action. We value our employees' health and create a safety workplace environment. We carry out industry-academia cooperation and cultivate talents in the semiconductor field in Taiwan. We increase the efficiency of water usage. We provide equal employment opportunities and cultivate talents to enhance industry competitiveness. We exploit the usage of chemicals in product life cycle for environmental protection and to reduce waste and harmful substances. Moreover, NTC closely observes the impact and influence of climate change on the company and supply chain partners to appropriately formulate responding strategies and objectives. We will continue to respond to the United Nations' sustainable development goals, and fulfill our corporate social responsibility.

The four core values of Nanya Technology Corporation are innovation, integrity, accountability, and efficiency. Innovation is the driving force behind the company's growth in technology and competitiveness. We treat customers, suppliers, and partners with integrity. Executives and employees are held accountable for meeting these company-wide goals with efficiency. We believe that corporate sustainable development can only be truly implemented to address social expectations through the establishment of core values.

"Together as we work towards environmental sustainability" is our Corporate Social Responsibility Report theme of the year, which represents our determination to value natural resource and friendly environment. We continue to practice environmental sustainable management through pollution preventions, energy resources reduction, green products, and green productions. The Headquarters building located in Taishan District, New Taipei City is built in accordance with the EEEWH standards of Green Building in Taiwan, which rewarded the highest rating of Silver level, in terms of ecological, energy saving, waste reduction, and health indicators. Nanya Technology Corporation is committed to continue to practice corporate sustainable responsibility with our client and suppliers for a better society.

Performance Highlight in 2017

Governance Convergence

Ranked in the Top 5% of Corporate Governance Evaluation

Ranked in the top 5% of the Fourth Corporate Governance Evaluation in 2017

**Net Profit
NT\$ 40.3 Billion**

Profited for 5 consecutive years and net profit after tax was NT\$40.3 billion in 2017

EPS NT\$ 14.36

The Earnings Per Share (EPS) was greater than NT\$7 for 4 consecutive years and reached NT\$14.36 in 2017

**Debt-to-Asset
ratio < 15%**

Debt-to-Asset ratio decreased from 37.5% in 2016 to 12.4% in 2017

Society Society

56,316 Hours

981 training courses held in 2017 with a total of 56,316 training hours

4.51 Points

The pass rate for the annual main training courses in 2017 was 90.6%, and the satisfaction rate for internal courses was 4.51 points (out of 5)

70%

Employee Engagement Survey conducted on all employees, and the average employee recognition rate was 70% (recognition is defined as obtaining 7 points or more).

90.9%

The 2017 reinstatement rate of employees who took parental leaves and resumed posts for more than one year was 90.91%



Awarded "Health Initiative Mark" by HPA, MOHW

Performance Highlight in 2017

Environment

Green Buildings

Silver Medal in Taiwan Green Building EEWH Rating



Gold Medal in EIA

Gold Medal for 2017 New Taipei City Environmental Impact Assessment

98,000 KG/month

Addition of sludge drying equipment to reduce the moisture content of sludge and the output of organic sludge decreased by 98,000 KG/month in 2017 compared to 2016

0 KG

In 2016, the processing of copper sulphate liquid waste 24,693 KG/month needed to be outsourced. Since the addition of copper electrolysis equipment, the liquid waste has been electrolyzed into copper foil. There has been 0 KG/month for outsourced processing since after June 2017

56,683 Tons

The low-power and 20-nm consumer DRAM products sold in 2017 can reduce the CO₂ emissions by 56,683 tons every year, equivalent to the CO₂ intake of 146 Daan Park.

966 Parks

The CO₂ emissions of perfluorochemicals used in 2017 was reduced by 375,722 tons, equivalent to the CO₂ intake of 966 Daan Park.

88.6%

The average annual process water recovery rate is 88.6%.
Water Conservation 1,788 M3/Day

39%

The expenditures of environmental safety increased by 39% in 2017 compared to 2016

Sustainable Communication and Governance

- 1.1 Identification of Material Issues
- 1.2 Sustainable Management
- 1.3 Communications with stakeholders
- 1.4 Corporate Governance
- 1.5 Risk Management
- 1.6 Corporate Social Responsibility Awards



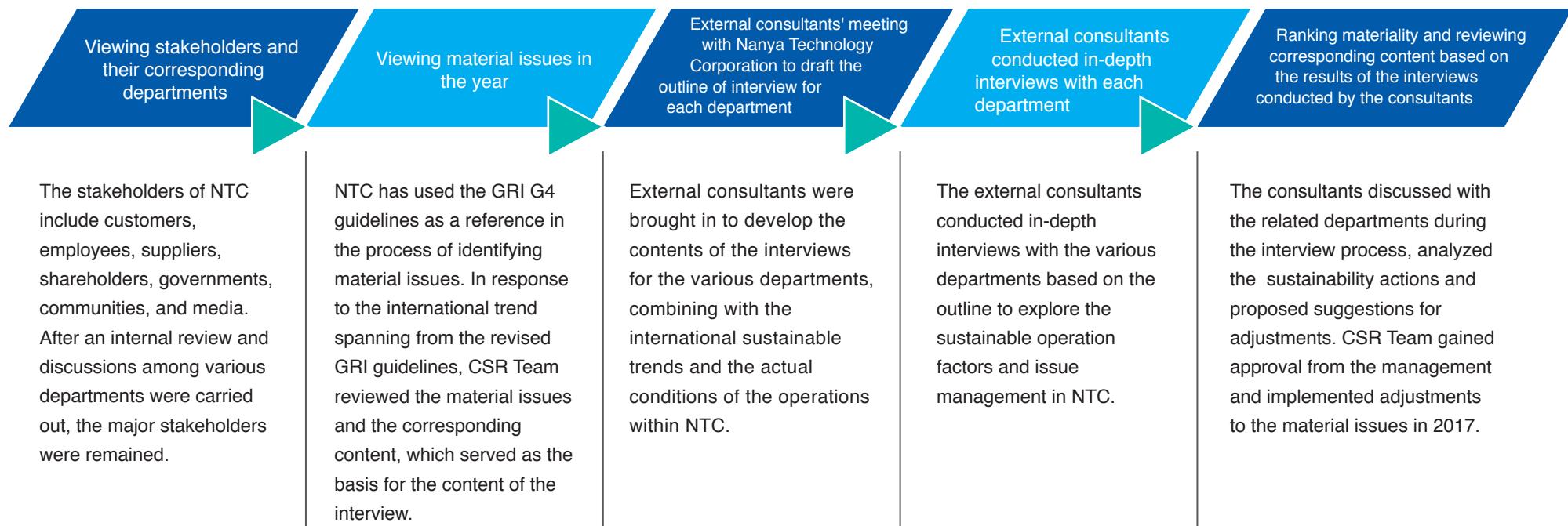
Sustainable Development Goals and Key Performances

Material Issues	2017 Targets	2017 Achievements	2018 Targets	2021 Targets
Sustainable Management	Achieve annual targets of the material issues	<ol style="list-style-type: none"> 1. Convened CSR Committee Meeting quarterly to review execution process relating to the material issues 2. Achieved annual targets of the material issues 	<ul style="list-style-type: none"> • Set up the Sustainable Development Committee • Set up a dedicated organization responsible for planning and implementation • Update the sustainable development operation SOP, including organizational structure, management and operation mode • Report to the Board of Directors annually on the implementation of the sustainability policies • Participate in Corporate Sustainability Assessment of DJSI and win bronze medal.(80 points or more) 	<ul style="list-style-type: none"> • Achieve annual targets of the material issues • Actively respond to the United Nations Sustainable Development Goals (SDGs) • Be selected as an index component of the Dow Jones Sustainability Index(DJSI)
Business integrity	<ol style="list-style-type: none"> 1. No material violations 2. No corruption cases 3. Completion rate for labor ethics and antitrust education and training - 100% 4. Obtain the validation of Responsible Business Alliance (RBA, formerly known as Electronic Industry Citizenship Alliance, EICC) 	<ol style="list-style-type: none"> 1. No Material material violations 2. No corruption cases 3. Completion rate for labor ethics and antitrust education and training-100%. 4. Responsible Business Alliance validity certification score : 174.3 (Total Maximum score is 200) 	<ul style="list-style-type: none"> • No material violations • No corruption cases • Completion rate for labor ethics and antitrust education and training - 100% 	<ul style="list-style-type: none"> • No major violations • No corruption cases • Labor ethics and antitrust education and training completion rate 100%

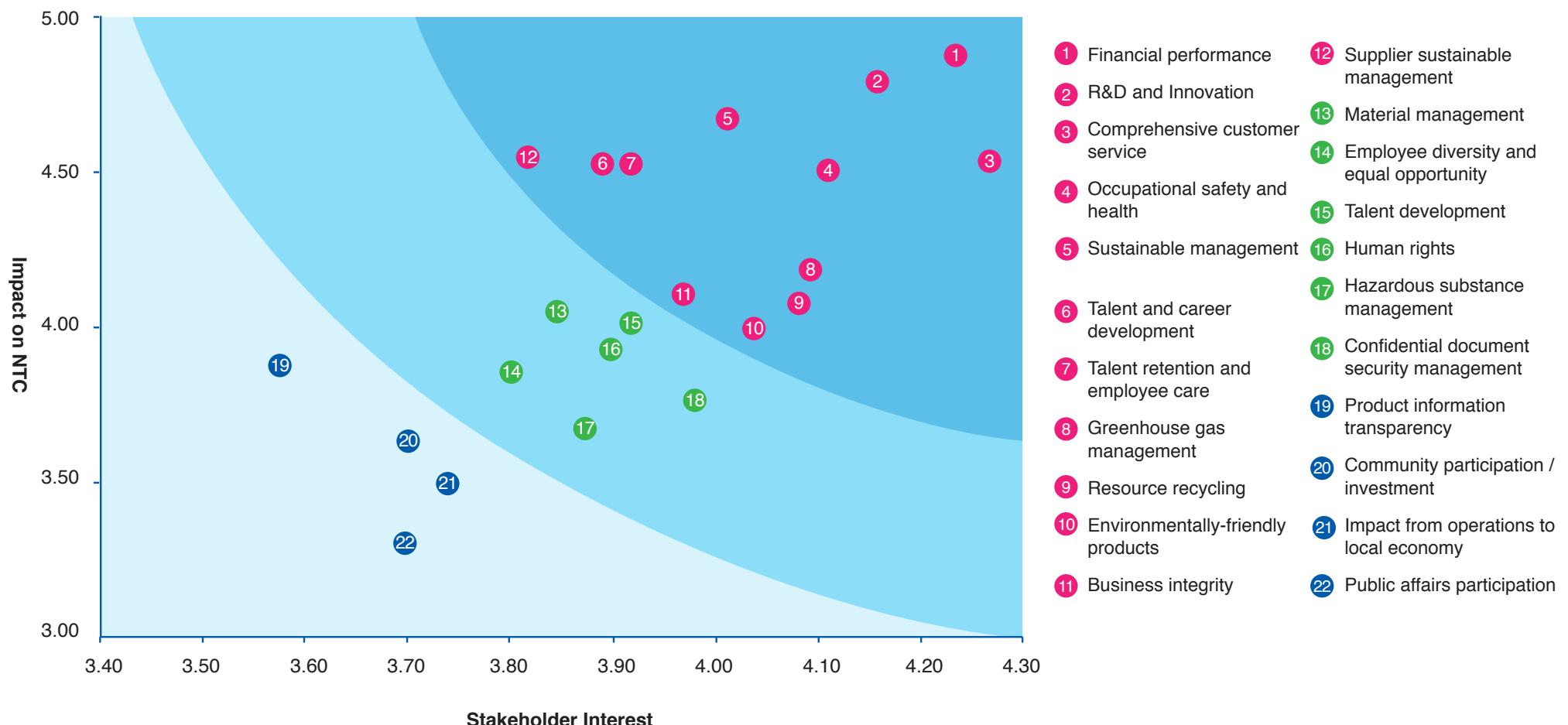
1.1 Identification of Material Issues

NTC analyzed the result of the questionnaires based on the concerned issues from the stakeholders and identified the material issues in the past years. To reinforce study on the impact of the material issues to NTC in 2017, external consultants were engaged to implement interviews on the related departments, who were expected to identify the material issues and propose suggestions for improvement. Internal communication was carried out to gain approval from the management and the improvement plans were implemented, aiming to meet the expectations of the stakeholders.

Material Issue Identification Process



Materiality Matrix



The Significance of Material Issues on NTC

Material Issues	Significance to NTC	Meaning in Value Chain	Referenced GRI Guideline	Relevant Action	Referenced Section
Financial performance	Financial performance is of great significance to the shareholders of Nanya Technology. In the pursuit of growth potential, enhanced profitability, reinforced long-term competitiveness and stable dividend policies, NTC strives to maximize the value of the Company through achieving maximum financial performance.	Nanya Technology links up every stage in the value chain. Our products are competitive and meet the needs of our customers in order to increase the speed and effectiveness of customers' products and create financial performance for the Company. At the same time, good financial performance drives continuous innovation in the value chain and production.	201-1	<ul style="list-style-type: none"> Develop advanced technologies to maintain competitiveness. Continuously deepen and widen in specialty DRAM business. 	2.2 Main Products and Operating Performance
R&D and Innovation	R&D and innovation are the key indicators of competitiveness in the semiconductor industry. On a solid foundation built with our partners over the years, NTC has the capabilities for proprietary R&D and advanced manufacturing processes. Under the core value of innovation, we continue to implement updates and improvements to the areas of product development, production and manufacturing, quality control and customer service to secure our position in the market as a leader in key semiconductor supply.	Under NTC strategies for technology development, "R&D and Innovation" is an area where we must work closely with our external resources and customers to achieve the goal of mutual growth.	102-2 201-1	<ul style="list-style-type: none"> Form strategic alliances with wafer distributors and customers to meet diverse needs. Increase the number of patents obtained, which can be flexibly used for cross delegation of authority and counter patent attack 	2.2 Main Products and Operating Performance
Comprehensive customer service	Customers are the best strategic partners of NTC. Through frequent customer contacts and visits, we survey our customers' feedback on our products and services. Their opinions provide us valuable information on their needs and subsequently help us improve customer satisfaction rate and our market presences.	With customer satisfaction comes loyalty. So, we offer our customers comprehensive services. Our product services starts from design and testing and expands into production and marketing, as well as after-sale service. Only customers satisfied with our products and services will become loyal customers, and only with loyalty customers Nanya Technology becomes a significant link in the value chain.	102-44	<ul style="list-style-type: none"> Comprehensive customer service processes covering product design, production and marketing and after-sale service. Implement annual customer satisfaction survey and continue to improve customer service. 	2.3 Customer Relationship

The Significance of Material Issues on NTC

Material Issues	Significance to NTC	Meaning in Value Chain	Referenced GRI Guideline	Relevant Action	Referenced Section
Occupational safety and health	We are committed to providing our employees a safe and healthy workplace where occupational hazards are minimized with adequate preventive measures.	Employees are the most precious assets of the Company, and help boost the Company's competitiveness, playing a key role in value chain innovation and development.	403-1 403-2 403-3	<ul style="list-style-type: none"> Carried out communication with the EHS Committee in a frequency higher than the statutory requirement. Introduced the occupational safety and health management system. Instilled a corporate culture of safety through education, training and emergency response drills. 	5.3 Safe Workplace
Sustainable management	Establishment of the Sustainability Committee and a dedicated organization will enable the Company to gain consensus internally and help achieve the vision and goal of sustainable development. This will also encourage our employees to pay attention to pay attention to the economic, environmental and social aspects of sustainability issues, as well as get involved in the planning and implementation of sustainability actions.	Nanya Technology is committed to maintaining good communication with our stakeholders, including our employees, shareholders, suppliers, customers and external public and private organizations and planning sustainable development strategies to achieve the goal of mutual prosperity between the environment and the society.	102-18	<ul style="list-style-type: none"> Established the Sustainability Committee, which engages all departments of Nanya Technology. The Board of Directors participates in the Company's sustainable development strategy and implementation decision-making process. 	1.2 Sustainable Management Mechanism
Talent and career development	Employees (people) are the most important asset of Nanya Technology. Therefore, our education and training programs are people-centered with an aim to develop an advantageous talent development system tailored for the semiconductor industry. This system provides our employees effective training for development of core technical abilities, enhance our employees' quality, improve their quality of life and set them on the right path to personal development. Capable employees will in turn boost the Company's competitiveness and contribute to the society as they excel as top-notch high-tech semiconductor talents.	As the quality of our employees improves and their technical abilities are reinforced, they become the key to achieving the corporate's strategic goal of product diversification. We are actively developing the niche market of dynamic memory, focusing on the R&D and development of advanced manufacturing process for the core low power and customization product lines. High quality employees will further enhance Nanya Technology's overall competitiveness, marking our achievements in talent development for the high-tech semiconductor industry and setting our core values.	404-1 404-2	<ul style="list-style-type: none"> comprehensive occupational training system and training/development management Diversified on-job training and learning channels 	5.4 Talent Cultivation and Development

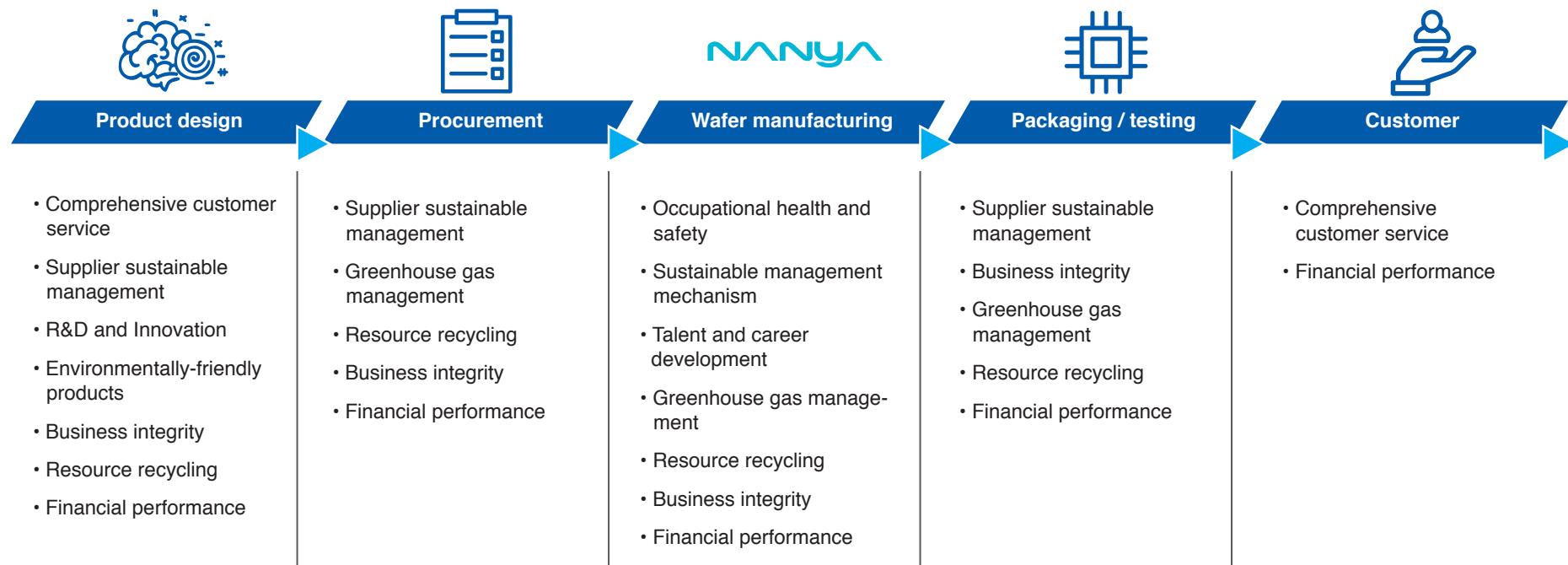
The Significance of Material Issues on NTC

Material Issues	Significance to NTC	Meaning in Value Chain	Referenced GRI Guideline	Relevant Action	Referenced Section
Talent retention and employee care	Nanya Technology considers its employees as the most important asset and the key to the company's sustainable development. To achieve stability of manpower and retain talents, we provide our employees competitive salary and benefits, as well as welfare programs that help them balance their work and life. Employee Bonus and compensations are given based on the Company's operational goals and our employees' personal performance to encourage continuous input and share the fruit of our business operation.	We provide comprehensive work protections and competitive remunerations, so that our employees can focus on their work and maximize their talents without worries. We developed a stable workplace to continuously motivate our employees and in turn retain high-tech human resources in Taiwan.	401-2 401-3 405-2	<ul style="list-style-type: none"> Set up a competitive compensation and bonus system. Set up the Employee Welfare Committee to provide our employees diverse benefits programs and activities. 	5.2 Employee Remuneration and Benefits
Greenhouse gas management	Global climate change has been affecting people's lives in the various economic and social activities. Nanya Technology is committed to continuously developing energy-saving products and manufacturing processes through innovation. We start from our own carbon reduction practices and expand our influence to our suppliers, joining their forces to mitigate the risks brought by climate change and respond to the call of the international society on the issues of climate change.	We are expecting to involve our supplies in our venture to mitigate the impact from climate change and meet our stakeholders' expectations on reducing greenhouse gas emission. Together, we will march towards green sustainability.	305-1 305-2 305-4 305-5 305-7	<ul style="list-style-type: none"> Set up Climate Change Management Taskforce. Promoted reduction of per- and polyfluorinated chemicals (PFCs) in the manufacturing processes. Completed product environmental footprint inventory. 	4.4 Climate Change Management
Resource recycling	<ul style="list-style-type: none"> Recycling of water: effective wastewater classification and recycle, instilling the mindset of recycle and reuse to increase the rate of water recycle and reduce the risks brought by depletion of water resources and the impact on the environment. Waste and reusable resources: Identify reusable resources and maximize the value of resources through developing a model of waste reduction and minimization to keep the impact of pollution on the environment at the minimum. 	Resource recycle and reuse implemented to meet legal compliance and fulfill the pledges we made to protect the environment help to cut down depletion of resources at every link of the value chain.	302-3 306-2	<ul style="list-style-type: none"> Set up acid/alkaline wastewater and organic wastewater recycle system, along with various water-saving practices. Continuously implement waste reduction practices and increase recycle volume. 	4.3 Environmental sustainability management

The Significance of Material Issues on NTC

Material Issues	Significance to NTC	Meaning in Value Chain	Referenced GRI Guideline	Relevant Action	Referenced Section
Eco-friendly products	We evaluate the impact of our operational activities on the environment, giving consideration to the full product life cycle and take necessary measures to maximize the friendliness of our products to the environment.	By providing our customers toxic-free and low power consumption products, we effectively lower the impact on the health of the environment and the end consumers.	302-5	<ul style="list-style-type: none"> Continuous input into R&D of low power consumption product designs. Implemented hazardous substance free (HSF) management in response to the trend of environmental protection advocated by the international community. 	4.2 Environmentally-friendly products
Business integrity	Under the management model of integrity, transparency and responsibility, NTC set up its policies based on corporate integrity and established sound mechanisms for corporate governance and risk control, striving to create a business environment that facilitates sustainable development.	Under NTC's corporate culture of industriousness and honesty, we established a sound governance system and implemented mechanisms to manage business integrity policies and control risks associated with our suppliers, customers and stakeholders. Our business integrity and risk control measures form the keystone that maintains the stability of our business and supports us through sustainable development and value creation.	102-16	<ul style="list-style-type: none"> Set up the code of conduct, supplier e-platform and audit system to prevent legal violations. Set up the Employee Grievance Procedure to provide our employees a channel for reporting illegal or unethical conducts. 	1.4 Corporate Governance
Supplier sustainable management	Our suppliers are indispensable partners on our path to sustainable development. Therefore, to develop a mutually-beneficent model, we must work closely with our suppliers and establish a tightly-connected strategic alliance.	Establishing long-term partnership with our suppliers helps us to provide quality products and services to the downstream customers and develop trust towards the brand of NTC.	308-1 308-2 414-1	<ul style="list-style-type: none"> Introduced sustainability indicators into the supplier evaluation system, covering aspects of green environment and social obligations. Carried out supplier audit, following Responsible Business Alliance (RBA) and implemented continuous improvement. 	3.1 Supply Chain Management

NTC Material Issues and Their Relevance to the Value Chain



1.2 Sustainable Management

Strategy	2021 Vision	
<p>Under the principle of continuous profitability, we engage our employees, customers, suppliers, shareholders and stakeholders in positive interaction, seeking a balance in economic, environmental and social development and fulfilling the social responsibility as a corporate citizen in our pursuit of continuous development.</p>	<ol style="list-style-type: none"> 1. Achieve annual targets of the material issues 2. Actively respond to the United Nations Sustainable Development Goals (SDGs). 3. Be selected as an index component of the Dow Jones Sustainability Index(DJSI) 	
2017 Targets	2017 Achievements	2018 Targets
<ol style="list-style-type: none"> 1. Achieve annual targets of the material issues 2. Comply with government regulations; no violation cases. 	<ol style="list-style-type: none"> 1. Convened CSR Committee meeting quarterly to review the status of each project. 2. Achieved the annual targets relating to the material issues. 	<ol style="list-style-type: none"> 1. Set up a Sustainable Development Committee (chaired by the President). 2. Set up a dedicated team responsible for planning and implementation of sustainable development. 3. Update the sustainable development operation SOP, including organizational structure, management and operation mode. 4. Report to the Board of Directors regularly on the execution process of the sustainability policies. 5. Comply with government regulations; no violation cases. 6. Participate in the Corporate Sustainability Assessment of DJSI and win bronze medal (80 points or more)

Sustainable Development Organization

To ensure full implementation of the company's sustainable strategies and the management guidelines and targets relating to the material issues identified annually, Nanya Technology set up the Sustainable Development Committee in 2018, which will be the highest guiding unit for implementation of policies and strategies relating to sustainability. The committee, chaired by the President with senior management ranking assistant VP and higher as committee members, will coordinate with the company's operational strategies to ensure smooth communication laterally and vertically. Every year, the Committee will report to the Board of Directors on the strategies, visions, goals, policies and achievements relating to sustainable development.

The Sustainable Development Committee will plan and implement relevant sustainability policies and actions for the economic, social and environmental aspects and each aspect will be led by the head of finance department, human resources department and EHs respectively as they take the position as chief executive. The Chief Executive of each work team will then report to the sustainable Development Committee quarterly on the status and effectiveness of the execution process.



In addition, to push forward the tasks relating to the material issues, we set up five work teams for corporate governance, environmental sustainability, social engagement, supply chain management and customer relations. Each team is responsible for continuous review and implementation of the key projects and set up performance indicators for evaluation against the sustainable development targets.

The President's Office also set up a dedicated organization in charge of sustainable development related affairs, including

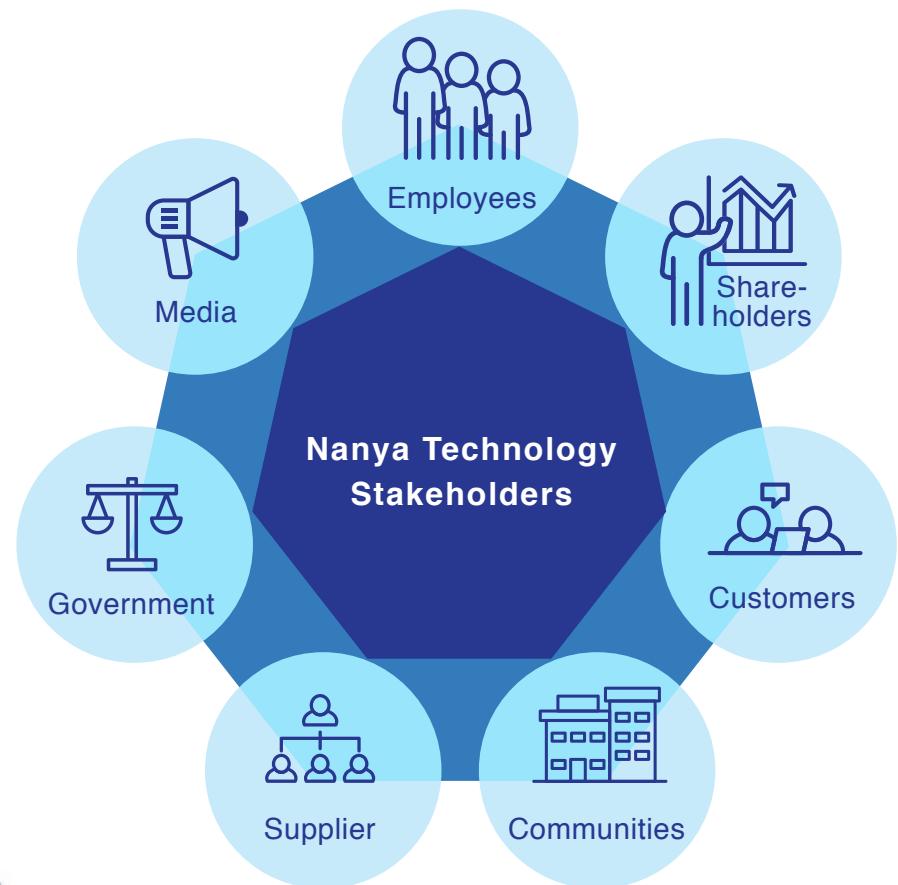
- (1) Convening the Sustainable Development Committee meeting quarterly and propose sustainable development strategies, visions, goals, management policies and relevant systems.
- (2) Planning and implementing various action plans for sustainable development and monitor the progress and performance evaluation.
- (3) Assisting the work teams to plan sustainable development related practices, track implementation and performance evaluation on the material issues, and report implementation results to the “Sustainable Development Committee” .

The table below shows the key topics discussed in the Sustainable Development Committee in 2017:

CSR Work Plan	Risk Management Assessment	Regulatory Compliance Review and Response
Key topics discussed in 2017		
Evaluation on the wastewater recycle rate Reevaluation on the improvement of noise Optimization of corporate governance DJSI questionnaire survey	Sales and marketing risks / Risks in post-wafer manufacturing packaging and testing process Risks in operational support / Risks in human resources / Risks in quality / Risks in EHS Risks in corporate strategy and financial administration	Review known regulatory compliance issues New regulations and response strategies

1.3 Communication with stakeholders

NTC believes that “opinions of our stakeholders are the driving force pushing us to continuously grow and improve.” To ensure that the Company's development does not deviate from the expectations of the stakeholders, we carried out active communication through each unit to understand the issues of our stakeholders' concerns and set up work teams to push forward corporate social responsibility related works. We work closely with internal and external stakeholders to exchange opinions and ideas at anytime. The members of CSR Committee are gathered from different departments and take different responsibilities, such as investor relations, public relations, employee relations, and environment security and quality control regarding any issues of investors, shareholders, employees, customers, suppliers, government, and the community. NTC creates a strategic plan based on what stakeholders concern, and then applies it to all business activities in order to achieve the goal of corporate sustainable development.



Stakeholder Communication Channels and Mechanisms

Stakeholder	Significance to Nanya Technology	Modes of Communication	Frequency of Communication	Concerned Issues	Referenced Section
 Employees	Employees are the most important assets of Nanya Technology. Employees' happiness is our responsibility. Through comprehensive pay and benefits, education and training, and two-way communication system, we work together with our employees to build a healthy and happy workplace.	<ol style="list-style-type: none"> 1. Public announcement 2. Human resources service representative 3. Regular meetings, such as lunch with the President (once in every two weeks)/ employee meeting (quarterly)/ production department TA quarterly meeting (quarterly)/ various education and training courses 4. Unscheduled communication meetings 5. Employee Relations Department provides various channels for feedback and communication, suggestion box and health center with medical staff to provide emergency assistance. 6. Company publications, e-platform and questionnaire survey (e.g. education and training satisfaction survey and food and beverage satisfaction survey). 	Except the production quarterly meeting, the rest of the meetings are held on non-fixed schedules.	Occupational Health and Safety	5.3 Safe Workplace
				Employee growth and career development	5.4 Talent Cultivation and Development
				Talent retention and employee care	5.2 Employee Remuneration and Benefits
 Shareholders	Investment holding is a form of trust and support projected from the shareholders of Nanya Technology. The Company set up a dedicated unit for investor relations. Through providing transparent information on the Company's operations and management strategies and financial policies to our investors, we achieve the goal of increasing the value of our shareholders' investment.	Regular shareholders <ol style="list-style-type: none"> 1. Annual general meeting is held annually 2. An annual financial report is distributed at the annual general meeting as required. 3. Shareholders can inquire by phone or e-mail. 	<ol style="list-style-type: none"> 1. Market Observation Post System (MOPS)Information updated in 2017: over 400 items/times 2. General shareholders' meeting -at least once a year 	Financial Performance	2.2 Main Products and Operating Performance
		Institutional shareholders <ol style="list-style-type: none"> 1. Investor conference for local and global investors. 2. Participation in seminars held by investment institutions. 3. Participation in investor forums. 4. Investors meeting by request 	<ol style="list-style-type: none"> 1. Quarterly investor conference 2. Participate in forums and conferences at least twice every quarter. 3. Investors one on one meeting onsite or by phone by request 		
 Customers	Customers are the best strategic partners of Nanya Technology. Through joint efforts to create new thinking and technology, we lead the industry in the trends of application and enhance the value of our products.	<ol style="list-style-type: none"> 1. Repairs and maintenance Service 2. Customer conference, distributor conference 3. Regular technical support 4. Annual customer satisfaction survey 5. Customer education and training 	<ol style="list-style-type: none"> 1. Customer-Oriented 2. Once in 1 to 2 months per customer 3. Once in 1 to 3 months per customer 4. once a year 5. As required by customer 	Innovation and R&D	2.2 Main Products and Operating Performance
				Business Integrity	1.4 Corporate Governance
				Comprehensive customer service	2.3 Customer Relationship
				Confidential document security management	2.3 Customer Relationship

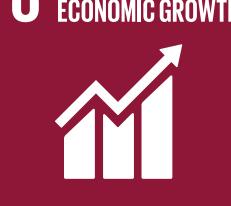
Stakeholder Communication Channels and Mechanisms

Stakeholder	Significance to Nanya Technology	Modes of Communication	Frequency of Communication	Concerned Issues	Referenced Section
 Suppliers	Suppliers form a significant link in the production of Nanya Technology's products. Through mutual trust and cooperative relationship and a sound supplier management system, Nanya Technology work with our suppliers to build a sustainable value chain.	1. Real-time supplier information platform 2. Regular face-to-face review reports or meetings 3. Supplier surveys, audits, and consultation are held in January, April, July and October every year. 4. Annual supplier delivery stability and quality evaluation	Except the regular audits in January, April, July and October every year, the rest are held on an as-needed basis.	Supplier Sustainability Management	1.4 Corporate Governance
 Government	Nanya Technology keeps up-to-date to the government regulations. We expect ourselves to meet government regulations with higher standards and actively respond to government policies beyond legal compliance.	1. Documents 2. Regulatory briefings 3. Financial reports 4. Submit reports or responses as required by the competent authorities and regulations. 5. Communicate with the competent authorities through the industrial park, computer trade association, etc.	Submit reports to the competent authorities as required, basically around once per month	Business Integrity GHG Management	1.4 Corporate Governance 4.4 Climate Change Management
 Communities	A happy society is the cornerstone of sustainable development for Nanya Technology. Nanya Technology expects ourselves to actively participate in public affairs, develop talents for the industry and build a beautiful home with our neighboring communities, while we gain a firm foothold in business operation.	1. Inform the communities through announcements in our corporate website 2. A charity club is set up in the Company to participate in community volunteer activities. 3. Organize charity drive activities and participate in the relief missions for the major natural disasters. 4. An email box (audit@ntc.com.tw) is provided to the community residents for communication. 5. A management office was set up at the plant to handle communications with the community.	Around once per month	GHG Management Environmentally-friendly products Resource recycling and reuse	4.4 Climate Change Management 4.2 Environmentally-friendly products 4.3 Environmental sustainability management
 Media	Media is an important external communication for NTC. Our spokesperson and public relation representatives are the main liaison between NTC and media partners; multiple communication channels are delivered to convey our latest messages to media.	1. Press release 2. Quarterly press conference 3. Nanya Technology official website 4. Interview with the spokesperson	Around once per month	Financial Performance Business Integrity	2.2 Main Products and Operating Performance 1.4 Corporate Governance

In Response to the United Nations Sustainable Development Goals (SDGs)

SDGs	Value link to Nanya Technology	Action and Goal	Corresponding Section
3 GOOD HEALTH AND WELL-BEING 	<p>1. Reduce the rate of employees involving in contingency. 2. Reduce the number of deaths and illnesses caused by hazardous chemicals, water pollution and other pollution.</p>	<p>Actions:</p> <ol style="list-style-type: none"> Two road safety seminars will be held with 200 participants in each session to raise employees' awareness. Employees will be required to undergo training on handling organic solvents and special chemical substances. Employees will receive regular health checkups. Operating environment testing is implemented once every six months. <p>Targets:</p> <p>2018 : Employee disabling injury frequency rate<0.54 Employee disabling injury severity rate<11 2021 : Employee disabling injury frequency rate<0.4 Employee disabling injury severity rate<8</p>	5.3 Safe Workplace
4 QUALITY EDUCATION 	<p>Nanya Technology's human-centered education and training advocates sustainable development and lifelong learning. We provide our employees adequate support for career development, aiming to build an advantageous training system specifically catered to the semiconductor industry. Through the well-designed training system, we offer high-quality and diverse courses to enhance the quality of our employees, improve the quality of life for our employees and develop a positive corporate culture. Our programs are geared towards achieving product diversification and the Company's strategic goals, helping the Company to identify the core values and making contributions to the high-tech semiconductor industry through talent development.</p>	<p>Actions:</p> <ol style="list-style-type: none"> Expand the training and development system, launch the operation attestation training online and implement training courses for the skills, knowledge and attitude needed for efficient work. Improve management competency through completion of management training courses. Up to date, a total of 696 employees obtained degrees through on-job training. <p>Targets:</p> <p>Annual training plan completion rate: 2018: ≥ 92%; 2021: ≥ 96% Rate of internal employee replacement designed for employee development: 2018: ≥ 50%; 2021: ≥ 60%</p>	5.1 Human Resources 5.4 Talent Cultivation and Development
6 CLEAN WATER AND SANITATION 	<p>Significantly increase the efficiency of water use in various industries to ensure sustainable freshwater supply.</p>	<p>Actions:</p> <ol style="list-style-type: none"> Implement water saving and recycling practices. Process water recycle rate reach 81.1%, better than the commitment made in the environmental impact assessment; <p>Targets:</p> <p>Implement water resources management to minimize the risk of water shortage and the impact on the environment. The average annual process water recovery rate : 2018 : ≥ 90% , 2021 : ≥ 94% . Water saving plan in 2018 : target saving of 500 CMD. Water consumption per unit area of production decreased by 25% compared to 2017 in 2021.</p>	4.3 Environmental sustainability management

In Response to the United Nations Sustainable Development Goals (SDGs)

SDGs	Value link to Nanya Technology	Action and Goal	Corresponding Section
8 DECENT WORK AND ECONOMIC GROWTH 	<p>1. Our recruitment policies comply with the requirements set in Taiwan's Labor Standards Act and the Company's labor ethics policy; we provide an equal opportunity workplace.</p> <p>2. In pursuit of business sustainability, our management have won the trust and approval of our employees through providing a good work environment and job security.</p>	<p>Actions:</p> <ol style="list-style-type: none"> 1. Actively promote industrial-academic cooperation, offer internship opportunities and create post-graduation employment opportunities. 2. Offer remuneration and benefits that are highly competitive in the industry and internal equity. Through the compensation and bonus system, we aim to enhance the performance of the departments, as well as the organization, and achieve the goal of talent retention. <p>Targets:</p> <p>In 2018, we offered :</p> <ol style="list-style-type: none"> 1. 20 internship opportunities. 2. 3 campus seminars. <p>In 2021, we plan to offer:</p> <ol style="list-style-type: none"> 1. 50 internship opportunities. 2. 5 campus seminars. <p>Meet the quota for employment of people with disabilities (1% all employees).</p>	5.1 Human Resources
12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	<p>1. Properly manage chemicals and waste in their life cycles in ways that are friendly to the environment.</p> <p>2. Cut down the volume of waste in a substantial scale through, prevention, reduction recycle and reuse.</p> <p>3. Encourage companies to adopt sustainable industrial and commercial practices, especially those of large-scale and multinational companies, and absorb sustainability information into their report cycle.</p>	<p>Actions:</p> <ol style="list-style-type: none"> 1. Conduct product environmental footprint life cycle assessment and implement sustainable management. 2. Implement waste recycling and reuse. 3. Complete construction of green building and green products. <p>Targets:</p> <p>In 2018: 70% of our products will be completed with environmental footprint life cycle assessment; In 2021: 100% of our products will be completed with environmental footprint life cycle assessment.</p>	4.1 Green Building Planning 4.2 Eco-friendly Products 4.3 Environmental Sustainability Management 4.4 Climate Change Management
13 CLIMATE ACTION 	Post-disaster resilience and adaptability to natural disasters and climate-related risks.	<p>Actions:</p> <ol style="list-style-type: none"> 1. Conduct greenhouse gas inventory and purchase high-temperature reduction equipment to cut down greenhouse gas emission. 2. Conduct water/electricity shortage calculated risk taking and set up relevant contingency plan. 3. Install dynamic uninterrupted power system (DUPS) and uninterrupted power system (UPS) at each plant and set up emergency power generator for backup to minimize the impact on production caused by power outage. <p>Targets:</p> <p>2018 1. Reduce greenhouse gas emission intensity 2.5% compared with 2017. 2. Complete scope 3 inventory of greenhouse gases.</p> <p>2021 1. Reduce greenhouse gas emission intensity by 10% compared with 2017. 2. Complete scope 3 inventory of greenhouse gases.</p>	4.4. Climate Change Management

From traditional "report mindset" to "impact evaluation"

In 2017, NTC implemented the management concept of impact valuation. Using the logic of gain and loss, impact valuation expresses the potential costs and benefits (i.e. externalities) from the input and output of various business activities in the value chain to the economy, environment and society in monetary terms, which provides a consistent and comparable way to examine how much value or losses has been created and enables the management to make informed decisions.

We took reference of the Impact Valuation Roundtable White Paper jointly developed by several leader corporations and integrated cases and methodologies of domestic and foreign benchmark businesses to analyze the potential external impacts on the economy, environment and society brought by the input and output of the various business activities of our operations, upstream supply chain and downstream applications between 2015 and 2017, using the Impact Pathway Approach. The result is then linked to 6 sustainability development goals (SDGs) to map out the Company's sustainability strategies.

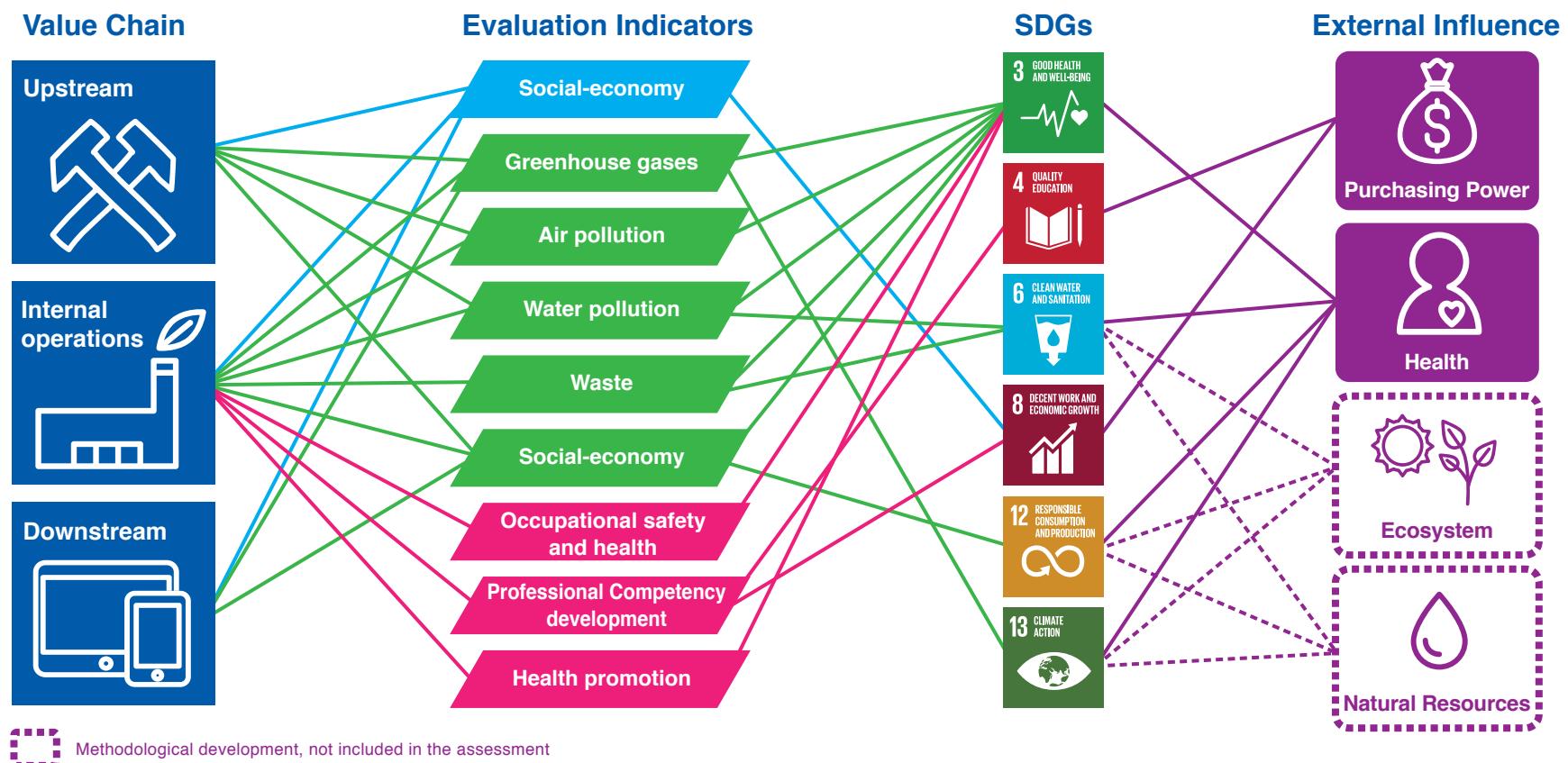


Figure I. Nanya Technology scope of external impact assessment

In regards to our internal operations, in order to evaluate the socio-economic benefits created by NTC for our stakeholders, aside from revenues, the Company regards the costs and expenses in the form of our employees's remuneration(employees), capital bonuses(shareholders and investors), taxes paid(government) and depreciation(suppliers) as positive economic values. In the aspect of environment, we evaluated the damages to human health and potential social cost brought by use of water resources, greenhouse gas emission, air pollution (NOx, SOx, VOCs), wastewater effluent (BOD, COD, NH3) and waste disposal (incineration and landfill), but excluded degradation of ecosystems and depletion of resources. In the aspect of society, we only took the social cost of occupational disasters, economic contribution of employee career development and the benefits of health promotion activities in cutting down employees' health risks into consideration, since the issues involve complex factors and methodology for analysis on such issues are not yet matured.

For analysis of the upstream supply chain, we used the input-output analysis approach to assess the indirect economic values created by procurement activities in the mutual dependent relationships among industries and evaluated the impact on the environment brought by the greenhouse gas emission, water pollution (COD), waste disposal (incineration) and air pollution (PM2.5, NOx, SOx, NMHC, Pb) generated by the supply chain based on the external costs of per-unit pollution generated from our own operations. For analysis of downstream product application, we focused on the top 5 end-user applications of DRAM products, taking into account the supply-demand relationship between the total amount of products sold and the product value of our customers' industries, and evaluated the indirect economic value created by product sale and the impact to environment during the product use and disposal stages. However, due to inaccessibility of data, evaluation on the externality of the social aspect excludes the upstream and downstream operations.

Scope of evaluation	Evaluation indicators		External impact
Upstream	Economy	Social-economy	
	Environment	Greenhouse gases	
		Air pollution	
		Water pollution	
		Waste	Use input-output analysis to evaluate the economic value of the industrial chain and the social costs brought by the potential pollution.
Internal operations	Economy	Social-economy	The Company's operations create economic benefits for the various categories of stakeholders.
	Environment	Greenhouse gas	Greenhouse gas emissions bring social costs.
		Air pollution	Emissions of VOCs, SOx and NOx cause damages to human health and in turn create social cost.
		Use of water	Water shortage causes malnutrition and damages to human health and in turn creates social cost.
		Water pollution	Emissions of COD and BOD cause damages to human health and in turn create social cost.
		Waste	Greenhouse gases and toxic substances released from waste incineration and landfill cause damages to human health and in turn create social cost.
	Society	Occupational safety and health	Occupational disasters results in loss of productivity and in turn creates social cost.
		Professional Competency development	Upgrade of professional skills brings a rise in pay and in turn makes contribution to social-economy.
		Health promotion	Health promotion activities brings down the social cost of cardiovascular diseases.
Downstream	Economy	Social-economy	Product sales create economic value for customers' industries.
	Environment	Product use	Power consumption from products causes damages to human health and in turn creates social cost.

Note*1: Upstream/downstream economic values are calculated with reference to the 2011 Table of Industrial Association published by DGBAS.

Note*2: The economic value of the Company's operations comes from the Company's annual report.

Note*3: The coefficients of environmental value were derived with reference to USEPA (2016), UNEP (2016), PWC (2015) and estimations in this study.

Note*4: Values of the social aspect are calculated with reference to Jiune-Jye Ho (2005), Chieh-Hsien Lee (2009), and estimations in this study.

Note *5: The overall methodology is designed with reference to the framework of Impact Valuation Roundtable White Paper (2017).

Note *6: The money's worth conversion takes into account the inflation coefficient of 2017 and the exchange rate of the New Taiwan Dollar against foreign currencies.

The results show that in the NTC's operations, environmental externalities fall mainly on GHG emission and use of water resources, which took up to 99 percent. The total volume of waste increased by 23 percent in 2017, but the environmental externalities decreased by 11 percent due to a reduction in the waste disposed through landfill. Externalities in the social aspect occurs mainly in the job opportunities and economic benefits created from staff function competency training and development. Viewing from the overall product value chain, the economic value created by the upstream supply chain, which was 3 to 4 times, shows the most prominent significance. However, the environmental externalities also appear in the upstream and downstream of the supply with significant dominance, especially the impact to human health. The main cause of this negative impact can be attributed to the hazardous micro granules and toxic heavy metal from coal-burning power generation in Taiwan, followed by the PM2.5 in health-hazardous air pollution from the upstream suppliers.

Impact valuation is a relatively new concept in management; therefore, many theoretic basis are still under development. Nanya Technology will continue to update relevant information and participate in the development of the methodologies. We are looking forward to continuously expanding the dimensions of our evaluation and linking the dimensions to the Company's material issues. We aim to enhance the quality, reliability, consistency and comparability of our evaluation results.

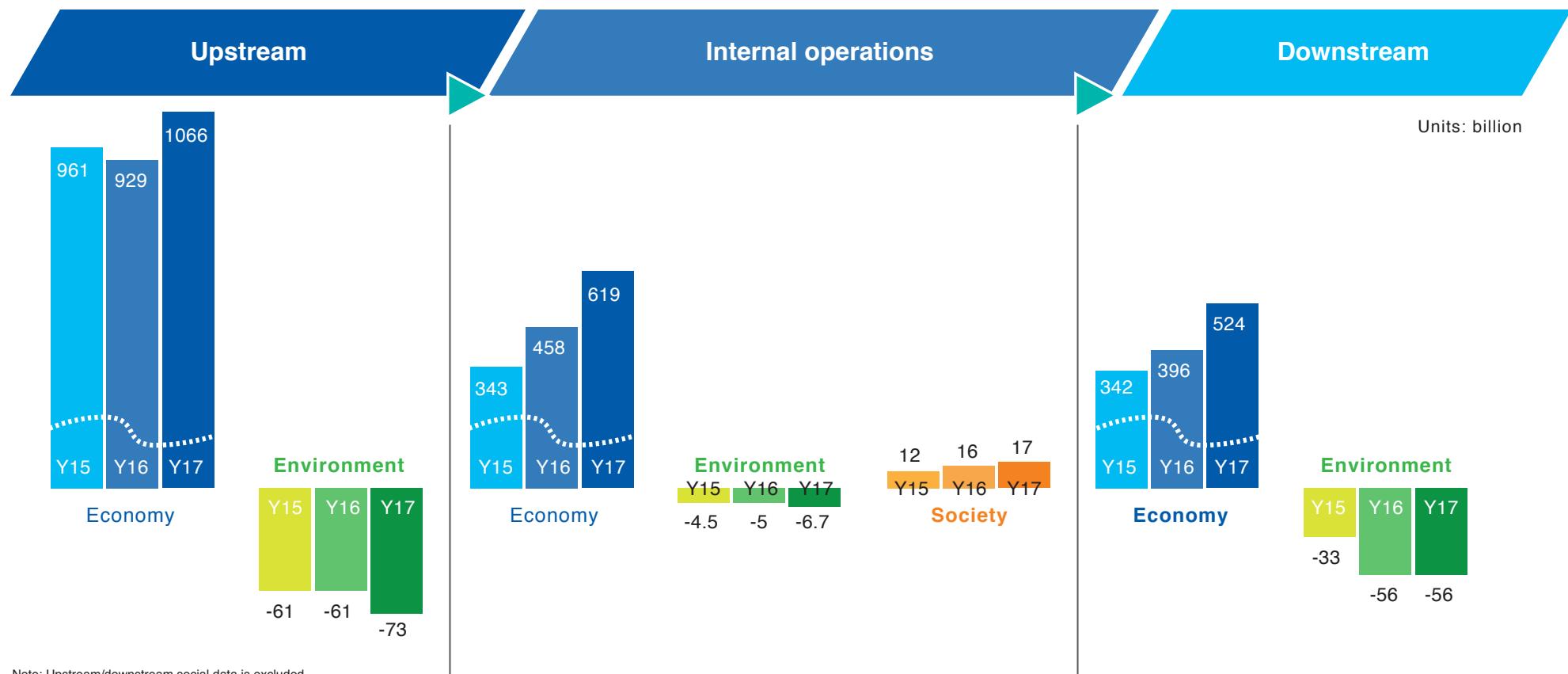


Figure 2. Results of impact valuation of Nanya Technology 2015 to 2017

1.4 Corporate Governance

Goals and Key Performances

Item	2017 Targets	2017 Achievements	2018 Targets	2021 Targets
Anti-corruption	corruption cases:0	corruption cases:0	corruption cases:0	corruption cases:0
Risk Management	Set up a dedicated information security department to reinforce the risk management mechanism.	Set up an information security department	Set up a dedicated risk management department to effectively manage operational risks.	100% (corresponding management plan and crisis management / identified major risk events)

Overview of Corporate Governance

Formosa Plastics Group honors the founder's business philosophy and places high emphasis on the protection of shareholders' equity and interests. As a member of Formosa Plastics Group, Nanya Technology believes that only through stringent and effective corporate governance mechanism, the company will ensure full legal compliance, financial transparency, and optimized operation performance. The Company was ranked the top 20% in the Corporate Governance Evaluation for publicly listed companies for 2 consecutive years (2015 to 2016), and the top 5% for the most recent year (2017). In 2017, the Company remained in the portfolio of the TWSE Corporate Governance 100 Index.

Main Three Corporate Governance Performance Goals

Publish financial reports within 2 months after the end of an accounting period.	Set up dedicated units for sustainable development and risk management.	Publish human rights policy.
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For Nanya Technology Corporate Governance Structure, please refer to the official website <http://www.nanya.com/en/IR/70/>.

Board of Directors

The Board of Directors of Nanya Technology acts in accordance with legal regulations, the Articles of Incorporation, and resolutions made by the shareholders' meeting. All directors have the required professional knowledge, skills, and competency, and commit to creating maximum benefits for the shareholders under the principles of honesty and integrity. The Board of Directors is formed by 12 members, who serve a term of 3 years. The current Board members include 3 independent directors and 2 female directors. 3 of the directors are between 50 to 59 years old and others are 60 and older. Average tenure of the directors is 8 years. The Company's "Corporate Governance Principles" lay out that the composition of

the Board of Directors shall be determined by taking diversity into consideration, without being limited to gender, race and nationality. For the composition of the Board of Directors, and the directors' experiences (education) and current positions at Nanya Technology and other companies, please refer to page 10 of the 2017 Annual Report published on the official website of Nanya Technology <http://www.nanya.com/en/IR/42/>. The Company has also set up the "Code of Ethics of Directors and Managers", which serves as a guidelines of ethical practices for the relevant personnel when performing their duties to prevent any behaviors that are likely to cause harm to the interests of the company and shareholders. The main responsibilities of the Board of Directors are to ensure the transparency of the Company's information, compliance of laws and regulations, appointment of senior managements, planning of distribution of profits, and providing supervision and guidance to the Company's operations. The Company has set up a Sustainable Development Committee, which reports to the Board of Directors every year. The Board of Directors is the highest guiding unit for sustainable development of Nanya Technology. Under an effective corporate governance structure, the competency of the Board is continuously enhanced to improve the quality and effectiveness of Nanya Technology's sustainable development.

In order to strengthen the structure of the Board of Directors and reinforce corporate governance, not only female directors but also independent directors were elected to participate in the operations of the Board. Nanya Technology's "Rules for Election of Directors" also specifies that at least one of the independent directors shall have expertise in accounting or finance. The "Rules of Duties and Scopes of Independent Directors" has also been set up as part of the comprehensive system of corporate governance and independent directors to ensure that the independent directors are able to perform their functions for the Board of Directors and the Company's operations. 2 functional committees, the Audit Committee and Compensation Committee, were set up under the Board of Directors to reinforce the operations of the Board. In 2017, the Board of Directors met in a total of 6 meetings and the average attendance rate was 96%.

The President's Office organizes training courses for the directors annually (covering the subjects of sustainable management, risk management, etc.) to enhance the professional competencies of the directors and reinforce their knowledge in legal compliance, so that they can more effectively monitor the Company's operations and give effective guidance. In 2017, each director completed at least 6 hours of courses, as shown in the table below:

Name of Director	Course	Organizer	Number of Hours
Wen-Yuan Wang, Susan Wang, Chia-Chau Wu Tsai-Feng Hou, Shih-Ming Hsie, Ming-Jen Tzou Otto Chang, Wen-Yao Wang, Lin-Chin Su	From Big Data to Artificial Intelligence From Ethics to Getting Rich - The Insights of Insider Trading	Securities and Futures Institute Dharma Drum Mountain Humanities and Social Improvement Foundation	6
Pei-Ing Lee	Case Study on the Fraud in Corporate Financial Statements Discovering the Opportunities in Sustainability from SDGs	Securities and Futures Institute Taiwan Institute for Sustainable Energy Center for Corporate Sustainability	6
Ching-Chyi Lai	2017 Insider Trading and Corporate Social Responsibility Forum From Big Data to Artificial Intelligence From Ethics to Getting Rich - The Insights of Insider Trading	Securities and Futures Institute Dharma Drum Mountain Humanities and Social Improvement Foundation	9
Shu-Po Hsu	2017 Insider Trading and Corporate Social Responsibility Forum How Directors and Supervisors Assist the Companies to Handle Risks and Crisis	Securities and Futures Institute Taiwan Corporate Governance Association	6

Audit Committee

To reinforce the supervisory function of the Board of Directors, the Company set up the Audit Committee in June 2016. The Committee is formed by the 3 independent directors and meet at least once every quarter to monitor the Company's business operations and financial positions under the principles of integrity and independent. They also review the Company's business report and financial statements, and aid the Board of Directors to supervise and carry out tasks charged to them by the Company Act, Securities and Exchange Act and other relevant laws and regulations. The Audit Committee met 4 times in 2017 and the attendance rate was 100%.

Compensation Committee and Compensations to the Senior Management

NTC has set up a Compensation Committee, which is formed by the 3 independent directors and meets at least twice a year to provide review opinions and suggestions on the pay and other remuneration proposed for the management. In 2017, the Compensation Committee met 3 times in total and the attendance rate was 100%.

Compensations paid to the Company's managers include monthly salary and various compensation based on bonus systems, retirement systems and performance evaluation. All compensations are approved by the Compensation Committee and recognized by a resolution at the Board of Directors meeting.

Pay adjustments, bonuses and other remunerations are proposed by the Human Resources Department, taking into consideration the industry's pay levels, the Company's performance, personal performance and contribution and the corporate governance indicators for sustainable development, including performance and contribution in the three aspects of economy, environment and society. This is reported to the Compensation Committee. The Committee reviews and discusses the proposal and implements the proposal after the Board of Directors approves the proposed compensations through a resolution.

Regulatory Compliance

Regulatory compliance is the minimum standard for corporate ethical management. Nanya Technology monitors and manages possible violations of laws and regulations through the "Code of Ethics of Directors and Managers" and "Antitrust and Competition Law Compliance Manual" for the employees. For suppliers, we set up an online electronic trading platform as well as a comprehensive audit system to prevent violations of laws and regulations from the three aspects of mindset, operation and management.

Code of Ethics

Electronic Trading Platform

Audit System

1. Code of Ethics

NTC established the "Code of Conduct for Directors and Managers", providing the managers a set of behavioral guidelines to abide by when they engage in business activities, to prevent unethical conducts and actions that may harm the interests of the company and shareholders. To ensure that the employees in relevant operations fully comply with antitrust laws, the Company set up the Antitrust and Competition Law Compliance Manual and Procedure of Antitrust and Competition Law Compliance to raise awareness on the relevant practices and provide a set of guidelines. The guidelines and procedures provide guidelines to our employees not to discuss deals, transactions, or any other topics that may violate the antitrust laws with competitors. By the end of 2017, there are 2 on-going legal actions regarding antitrust laws, please refer to page 97 of the 2017 Annual Report published on the official website of Nanya Technology <http://www.nanya.com/en/IR/42/>.

To ensure compliance with the Procedure of Antitrust and Competition Law, the Company launches regular training courses for employees in relevant operations or requires the employees to sign the compliance manual. Employees, supervisors, and directors are also required to follow relevant rules and regulations. The Company is committed to being fully compliant in all business practices, marketing strategies, trading practices and social ethics, striving to eliminate all illegal and unfair practices from the Company's operations. As of the present day, the Company has not been imposed of any significant sanctions for violation of associated regulations. We also take a neutral stance on public policies, and do not participate in any political activities.

2. Electronic Trading Platform

The Company has already implemented purchasing operations through the electronic trading platform. This platform not only helps us achieve higher efficiency, but also ensures that the purchasing process is conducted through a procedure that enables fair, just, and open competition, and prevents malpractice in the procurement. We are committed to achieving a win-win situation for the Company and its suppliers.

3. Audit System:

NTC has a comprehensive audit system to ensure the transparency of the company's finances and full compliance with legal requirements. The audit reports are required to be submitted to the Board of Directors meeting, and the Group Administration Office, formed by the companies under the Formosa Plastics Group, acts as an independent audit unit. This setup not only ensures that maximum professionalism and efficiency is achieved in all audit operations, but also enables it to maintain its impartiality for maximum supervision.

Environmental Safety and Health Compliance

Meeting full compliance of the environmental, safety, health and fire related codes and regulations is the basic requirement for all operations in Nanya Technology. In 2017, we maintained this standard. We have not been imposed of any fines or sanctions (such as suspension or international trade sanctions) by the competent authority due to environmental issues in 2017. We adopted the following measures to ensure regulatory compliance:



1. The Company was certified for ISO 14001/ OHSAS 18001 EHS management system. Each department is required to carry out EHS and fire related compliance audit against the requirements of each management system. The audit checks our practices against the regulations one by one and non-compliant items are logged and entered into the management improvement plan. Through regular internal audit activities, we examine the inspection records, work site markings and the hardware facilities at each department to ensure that full compliance is met.
2. Each month, the EHS Department logs into the government website to review the newly-added/revised environmental safety and health regulations, and announces the update at the monthly work safety meeting. If an update on the internal compliance system is required, the update will be proposed and the departments concerned will be requested to make necessary improvements.
3. The Group Administration Office has developed a software program to remind and require the relevant personnel to make the necessary declaration regularly as required.
4. In personnel training, all employees, regardless if they are new or existing, are required to participate in EHS related training courses with the content and training hours higher than the regulatory requirements.
5. Daily on-site patrols are implemented by the EHS personnel on duty. When abnormalities are found in EHS and fire safety, a proposal will be forwarded to require the relevant departments to make necessary improvements.
6. We have planned to complete the ISO 45001:2018 Occupational Safety and Health Management System Attestation by 2021.

Compliance with labor regulations

The Company complies with the local labor laws and protects employees' basic work rights and employee benefits. We keep constant watch on the updates in labor laws and regulations and regularly review the internal management procedures and guidelines to identify the obsolete terms. Once an obsolete term is discovered, we revise the related procedures and guidelines to ensure that our regulatory compliance system is up to date. In 2017, a labor dispute arose due to employees' early arrival at the plant, which the competent authority recognized as extended work hours unpaid and imposed a fine of NT\$ 80,000 on the Company. In response to this penalty, the Company has taken the initiative to establish an improvement mechanism and remind the employees that they do not need to come early or leave late, unless they are requested to, and all over-time work needed to complete their work will be paid when submitted for approval by their supervisors. We expect to meet full compliance of labor equities and build a high-quality workplace through instilling the concepts of self-audit and risk prevention to eliminate unnecessary labor disputes due to misunderstanding.

Personal Information Protection Act

The Company enforced the Personal Information Inventory and Risk Assessment Procedure on August 15, 2012. This procedure provides guidelines for inventory of personal information and calculated risk taking, aiming to identify the potential risks in the behaviors of acquiring personal information, including collection, processing and utilization. The identified risks are assessed for the levels based on the assessment standards and improvement measures implemented. Personal information of employees and customers are accessible only by authorized personnel and strictly limited in terms of usage. Since the Company strictly and effectively implemented personal information protection measures, no cases of violation has been reported in 2017. To actively prevent violations against personal information protection policies, the Personal Information Work Team took the initiative to review the Company's practices and found one suspected personal information leakage incident in 2017. The team immediately notify the alert the principal to take necessary precautions. Therefore, no risk or impact occurred. The Personal Information Work Team also organizes regular personal information management meetings to brief the personal information management executive on the relevant issues and propose improvement actions, aiming to raise the awareness on personal information protection.

Internal Control

Internal Control System

NTC has set up an effective internal control system in accordance with the Regulations Governing Establishment of Internal Control Systems by Publicly Owned Corporation, giving consideration to the operation activities of Nanya Technology and its subsidiaries and compliance with laws and regulations related to the industry. We review this system whenever necessary in response to the changes in the internal and external environment to ensure the effectiveness of the design and implementation of this system.

Implementation of the internal control system is a continuous process. Through constant review of the operations and management practices, we discover any actions that deviates from the Company's policies operating procedures , goals or expected standards and report the issues to the right management personnel through the feedback system. Targeting on the issues, we take necessary actions to ensure that the Company's operations are set on the right path towards the direction planned by the Company. And through the internal control mechanism, we achieve the goal of check and balance to prevent malpractice.

Internal Auditing

NTC has established an Auditor's Office under the Board of Directors and appointed full-time internal auditors. Internal auditors are required to participate in audit-related courses organized by professional training institutions every year to continuously improve their professional capabilities. Scope of internal auditing:

- Review the reliability and integrity of financial and operational information.
- Review the existing system to ensure compliance with policies, plans, procedures, contracts and regulations.
- Review methods for safeguarding assets.
- Evaluate the efficiency and effectiveness of resource utilization.
- Review the operations or project plans to determine whether the results are consistent with the established goals.

In addition to preparing audit reports on internal control and abnormalities discovered during an audit, the internal auditors also file the cases for tracking and reminders to ensure that the relevant units have taken appropriate measures to rectify the situations in a timely manner. The audit reports are submitted to the independent directors by the end of the next month after the audit report is completed.

Internal auditing is not the sole obligation of the independent auditing department. Each department is also required to carry out independent audit on the specific items internally and independently within the specified period. The independent auditing department then reviews the results of the internal audit at each department and implements scheduled and unscheduled inspection to ensure that internal control has been thoroughly implemented at each department.

Internal auditing statistics

Year	2015	2016	2017
No of items audited	41	42	42
No. of abnormalities found	4	4	9
Abnormality improvement rate	100%	100%	78% (Note)

Note: Two abnormalities have not been fully rectified; they are scheduled to be completed by the end of June 2018.

Anti-corruption

All employees at NTC are required to abide by the Company's "Personnel Management Rules". Anyone who is found to have engaged in malpractice, embezzlement and accepting bribery or commission, will be dismissed from the Company once the unethical acts are confirmed. And the direct supervisor may also be punished depending on the severity of the event. To prevent malpractices, anyone who holds a position in sales, procurement, finished-products warehousing, supervision and budgeting is put under job rotation and required to avoid conflict of interest. We have also compiled anti-corruption materials for employee training (training completion rate 100%). We expect that all our employees, irrespective of their work and life, will follow the code of ethics and manifest our corporate culture of "industriousness and honesty". In 2017, no cases of corruption has been reported in the Company.

Code of Sustainable Conduct

In addition to the Code of Conduct for Directors and Managers set out by the Board of Directors, NTC took reference of the Code of Conduct - Responsible Business Alliance (RBA), as well as publishing the Labor Ethics Management Policies and Code of Business and Ethical Conduct. Collectively, these codes and policies serve as guidelines for all employees (including managers), employees of subsidiaries, customers, suppliers and stakeholders, ensuring that all businesses are conducted in honest and ethical manners. The Code of Conduct contains a set of specific rules, covering the areas of business ethics, information disclosure, environmental control, employment of workers, safety and health, compliance and corporate governance, social engagement and whistle-blowing procedures. To implement the guidelines, the Labor Ethics Management Policy and Code of Business and Ethical Conduct are published on the internal website, and all employees are trained for the Code of Business and Ethical Conduct through the online training system to raise the awareness on business Integrity and ethics. Our target is 100 percent employee reading rate (the training system has been set up with a clocking system; those who do not read through a set period of time will not be registered for completion). All new employees are required to participate in the RBA Code of Conduct training during the on-boarding period to ensure that they understand the importance of and take responsibility to meet the guidelines. Employees are prohibited from providing (or accepting) bribery, engaging in any unethical activities, such as insider trading or behaving in ways that damages the Company's reputation. In the case of major violations or corruption (e.g. employees accepting bribery), the involved employee(s) will be dismissed immediately once the events are verified as true and pursued for legal liabilities when the events cause serious losses in the Company's rights and interests.

In our effort to continuously optimize the business environment, Nanya Technology sets a series of labor ethics goals and implemented relevant training courses. In 2017, we achieve all four goals set for the year - "zero corruption", "zero sexual harassment" and "training for the Code of Employee Conduct and Ethics" and "anti-corruption education".

Labor Ethics Goals and Achievements	2015	2016	2017	2018 Targets
Anti-corruption cases	0	0	0	0
Sexual harassment cases	1	0	0	0
Completion rate for the Code of Employee Conduct and Ethics training	100%	100%	100%	100%
Completion rate for Anti-corruption Awareness Education	-	-	100%	100%

Note: "Anti-corruption education training" is a newly added course in 2017. It had been implemented in the "Code of Employee Conduct and Ethics" training course before 2016.

Grievance and Whistle-blowing

The Company has set up an Employee Grievance Procedure to provide our employees a channel for reporting unlawful or unethical conducts. When an employee discovers an illegal or improper conduct that has compromised an individual's or the Company's equities, or an individual receiving unlawful gains through his/her authority, he/she can fill out the "Grievance Form" at any time and forward the form to the supervisor of the person being reported. In addition, the Company has also set up the Misconduct Reporting Guidelines in 2016 and added a dedicated hotline (02-29061001) and email box (audit@ntc.com.tw) to the Company's official website. Dedicated personnel are staffed to handle the cases and provide a channel to the stakeholders for grievance when they find their interests compromised. To protect the whistle-blower, the staffs handling the cases are required to carry out investigations under the principles of confidentiality and strictly prohibited to disclose any details of the cases to parties of no concern. When conducting investigations, the staffs should only discuss the part of the case relevant to the person involved and, in particular, the identity of the whistle-blower shall never be disclosed.

Cases Reported

Case Reporting Mode	2015	2016	2017
In writing (including anonymous whistle-blowing)	0	3	4
Employee Reporting Form	1	1	0
Reporting Hotline and Email Box	0	0	0
Total	1	4	4
No. of cases raised after investigation	1	1	1
No. of cases closed	1	1	1
Case closing rate	100%	100%	100%

Note: In 2017, 4 cases were reported; among which, 3 cases were grievances regarding internal management issues (1 case was raised and 2 cases were dismissed). The department supervisor was requested to pay attention to employee grievances and reinforce the function of employee counseling and communication to resolve issues at the first instance. One case of suspected corruption was reported, which was dismissed after investigation.

Investor Relations

NTC's business management strategies and financial policy is to maximize the value of the investments for our investors.

We continue to disclose information on our financial information to our shareholders through annual general meeting, financial reports and other means.

In order to deliver the most up-to-date financial information to our investors, we hold regular quarterly investor conference and teleconferences for our institutional investors. We upload briefings, press releases and video files to the Company's official website to disclose the latest quarterly financial and operating performances. Also upload our Company's financial and various information required by the competent authority to the MOPS. We strive to provide our investors immediate and transparent information on our business and financial operations.

In addition, NTC has also set up a spokesperson to respond to investors' comments or concerns. Our spokesperson has the full support of the staff and functional teams under the President's Office to provide our investors in-depth information and answers.

Balanced Reporting

In response to the news reported in December 2017 and February 2018 regarding an investigation on two former Nanya Technology involved in violation of the Trade Secrets Act, the Company issued a press release as the follows:

- The Company has taken necessary measures to reinforce its information security management: including computer hardware and software, network, printer, access control and mobile phone. We carry out unscheduled inspections on the personal computers and mobile phones carried into the Company by our employees.
- The Company will give full cooperation to the investigation during the trial and continue to investigate and pursue any illegal acts to ensure that the research and development carried out by NTC's R&D team and our partners are safeguarded research, the equities of our shareholders' are well protected and the order of fair competition in the market is maintained.

Nanya Technology Website: | <http://www.nanya.com>

Investor Mailbox: | NTCIR@ntc.com.tw

1.5 Risk Management

To achieve the goal of sustainable development, the Company set up a dedicated department for risk management and formulated risk management policies and procedures. The policies and procedures act as the highest guiding principles to govern relevant practices, covering the areas of risk management strategies and goals. Regularly studies are also implemented to analyze the potential risks in the internal and external environment and their impact on the Company's operations, and relevant emergency response plans are launched to mitigate the impact, facilitate quick recovery and ensure the Company is restored to normal operation in the shortest time possible.

Organizational operations:

The Risk Management Steering Committee is the highest decision-making unit in risk management and charged with the obligation to ensure proper functioning of the Company's risk management system. The Steering Committee chaired by the President is responsible for formulating risk management policies, setting the structure and organizational functions and reporting to the Board of Directors on a regular basis. The Auditing Office under the Board of Directors audits the execution process of the Company's risk management policies at least once each year, covering the risk management framework and operating procedures, and provides recommendation for improvement, as well as keeping track of improvement results.

The Steering Committee meets quarterly to review the performance of risk management operations and business continuity



plans implemented by each functional committee to ensure the suitability, relevance and effectiveness of ongoing operations.

The Risk Management Steering Committee has set up five subcommittees for operations, environmental safety and health, legal affairs, finance and information security incorporating the Company's business goals. Each subcommittee takes charge in collecting information on the risk factors of the internal and external environment, performing daily risk monitoring and assessing the risk hierarchy quarterly based on the assessment criteria. The subcommittees are required to report to the senior management on the results and status of the operations to ensure that adequate measures are taken in a timely fashion in response to the risks.

Duties of the Risk Management steering committee:

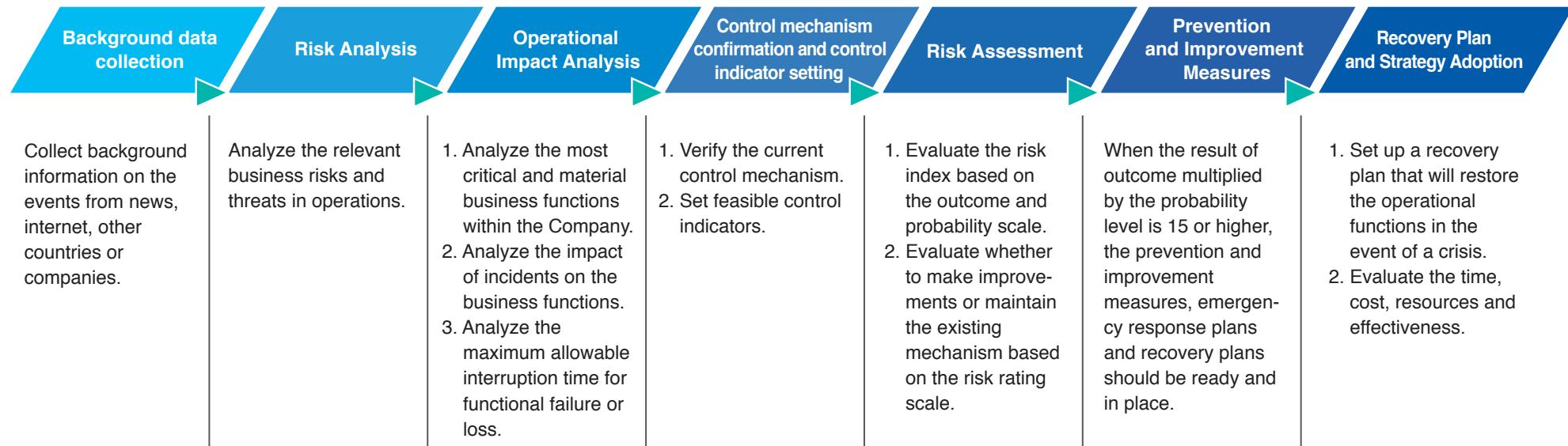
1. Formulate risk management policies, structures, and organizational functions, establish qualitative and quantitative management standards and regularly report to the board of directors on the execution process of risk management operations, as well as making necessary recommendations for improvement.
2. Regularly review the development, establishment and execution efficiency of the Company's overall risk management mechanism.
3. Supervise all departments to carry out risk management activities.
4. Make adjustments to the risk categories, configuration of risk ceiling capacity and risk undertaking modes.
5. Coordinate cross-departmental interaction and communication for risk management functions.

A new Risk Management Team was established in 2018 to assist the Risk Management Steering Committee in promoting relevant activities, formulating management guidelines and supervising the operations of the various committees, taking an active role to monitor risks.

Duties of Risk Management Team:

1. Formulate and implement risk management policies.
2. Set the responsibilities and operational mechanisms for risk management.
3. Assist the functional committees to establish KPI for related operations and plan long-term risk management system to integrate and control various categories of risks in the first instance.
4. Assist each of the functional committees to plan and implement risk identification, risk factor analysis, correlation analysis, risk mapping, sensitivity analysis and stress test.
5. Organize regular Risk Management Steering Committee meeting to ensure risk monitoring and improvements are effectively implemented.
6. Establish risk proposals and reward mechanisms, plan education and training and develop a risk-aware culture.
7. Handle other matters related to risk management, including various risk management compliance required by the competent authority.

Risk Management Process



Potential risk factors and threats included in the consideration:

Potential risk factor, threat or impact	
1	Information security protection
2	Loss of personnel (resignation, kidnapping, headhunting)
3	Employee health and safety accidents
4	Key technologies/patents
5	Important facilities/ equipment/ parts
6	Customer or public health/ product safety/ environmental issues/ accidents
7	Negative news/impression
8	Loss of corporate image/ credit worthiness/ brand
9	Loss of inventory/goods on hand
10	Employee tardiness/strike/theft/smuggling
11	Internal and external collusion/ embezzlement
12	Loss of investment
13	Shortage of funds - cash flow/ turnover/ turnover rate
14	R&D capabilities
15	Customer closure/order withdrawal
16	Social security
17	Political factors
18	Laws and regulations
19	Change of business environment
20	Shortage of resources
21	Terrorist threat
22	Diseases, epidemic
23	Natural disasters caused by climate change (typhoon, flood)
24	Supply chain system interruption
25	Material transport accident
26	Material industrial accident
27	Communication interruption
28	Utilities interruption (gas, water, electricity, drainage, fuel)

Emergency response mechanisms and measures:

NTC has a complete set of procedures and guidelines for handling of emergency and abnormal events, covering the scopes of manufacturing, supply chain and warehousing, information security and human resources. In 2017, we set up a project update and business continuity plan (BCP/BCM) containing 16 specific guidelines to reinforce the system and meet the practical side of manufacturing operations. Through adequate planning, immediate response can be taken in case of emergency to mitigate the impact, facilitate quick recovery and ensure restoration of normal operation, so that we can meet customers' needs without interruption. For examples, events, such as short supply of raw materials, events affecting 10 percent of output (e.g. earthquake, typhoon, toxic gas, fire, labor shortage, etc.), . . .), public system breakdown, abnormalities in the automation system, abnormalities in the outsourced production

capacity and large-scale product returns, have specific procedures for emergency response and improvement. In addition, for emergency events involving personnel safety, such as fire, gas leakage, liquid leakage, odor, earthquake and radiation leakage, emergency response measures, reporting procedures and command system and handling procedures have all been implemented in accordance with the relevant EHS regulations and drills are held regularly.

Emergency response mechanism at production plant:

Central Monitoring System Operation Guidelines	Central Control Center monitors: Abnormalities, including public system supply and quality, power supply, fire, leakage, odor and earthquake, and activate alarm or warning.
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Abnormal Situation Emergency Response Procedures	Procedures and details on abnormalities, including gas leakage, fire, liquid leakage, odor, radiation leakage and earthquake. Emergency Response Drill Plan
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Major Abnormality Event Handling Procedure Public Utility Supply System Abnormality Emergency Response Procedure	Handling abnormalities in public system and production equipment and response from the production line.
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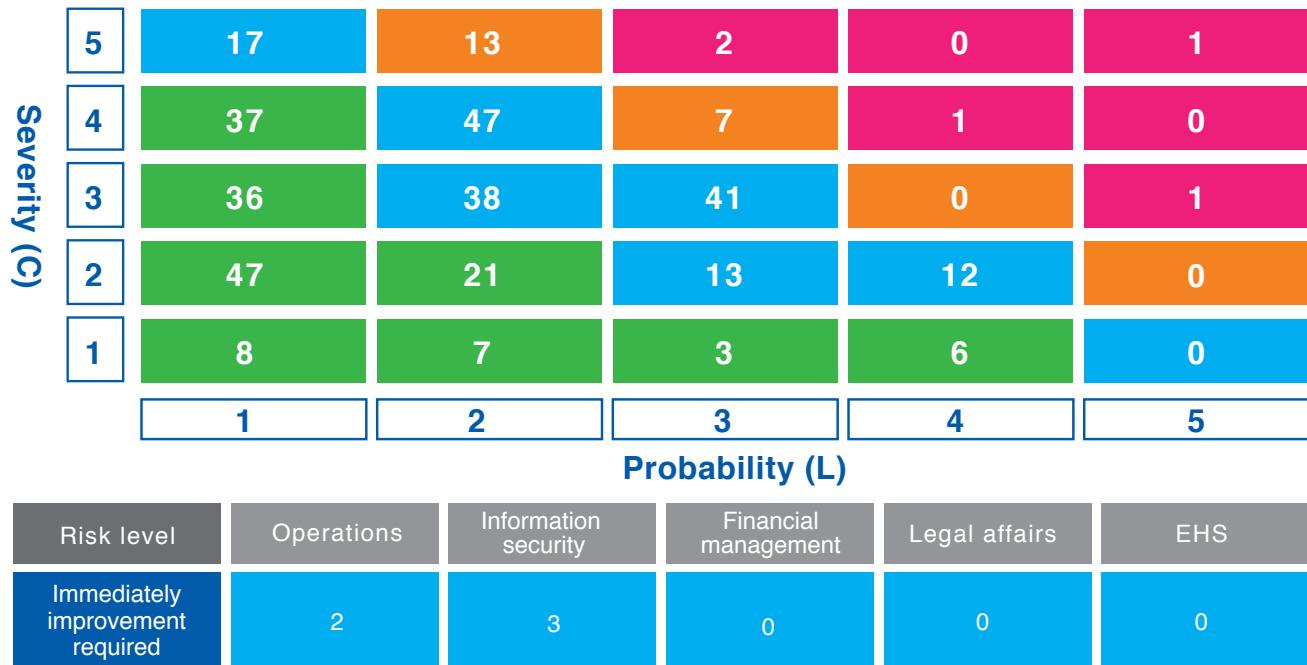
Risk identification and stress test:

1. Result of risk identification

In 2017, NTC's risk management committees for operation, EHS, legal affairs, finance, and information security proposed a total of 356 risks. These risks were put through the identification process and organized into a risk profile, containing the following statistics and distribution. According to the statistics, 5 risks require immediate improvement, 20 risks are conditional ,166 risks are tolerable and 165 items requiring no actions. The high risks fall mainly in the categories of information security and protection, power supply, wafer supply and currency exchange rate fluctuation. However, under continuous implementation of response strategies, these risks are now mitigated to the tolerable (or lower) risk hierarchy and long-term management plan and crisis management mechanism have also been implemented targeting on these risks.

In our effort to safeguard our business secret and intellectual property right, the Company set up an Information Security Team in 2017 and resources are continuously invested to reinforce our management in information security. Strict control measures are enforced to manage use of computer hardware and software, confidential technical documents, networks, printers, access control and mobile phones. Regular meetings of the Information Security Committee are implemented and education and training campaigns and courses are launched to raise employees' awareness.

In December 2017 and February 2018, news media reported that two former employees of NTC were under investigation for violation of the Trade Secrets Act. This event shows the effectiveness of our multi-layer protection for information security management. We will continue to improve our information security and malpractice detection capabilities. Preventing information related crimes will be the Company's long-term strategy. We will not tolerate any infringement on the Company's intellectual property and trade secrets. All violators will be reported for legal actions to ensure our long-term competitiveness and protect the rights and equities of our employees and shareholders.



2. Stress Test

NTC conducts sensitivity analysis and stress tests on issues in operations, such as product price, finance, such as exchange rate fluctuation and environment, such as use of electricity and water resources:

(1) Product price: We conducted profit/loss analysis under the assumption that the average prices of products will fall in varied rates in the next five years. The result is then linked to cash flow and return on stockholders' equity. Results of the analysis show that if the average prices in the next five years falls more than the average prices in the past five years, the return on shareholders' equity will go down, but the risk of business interruption will stay low. NTC will continue to pay attention to changes in market supply and demand, as well as the prices and invest in development of new products and technologies to maintain competitiveness.

(2) Exchange rate fluctuation: Exchange losses come from appreciation of the New Taiwan Dollar and the large amount of U.S. Dollars held. Since NTC will continue to invest in the future, we will need large sum of U.S. Dollars. Therefore, we will continue to pay attention to the fluctuations in the exchange rate and take necessary measures to hedge during volatile times.

(3) Use of electricity: We inspected the internal and external power supply systems and simulates Taiwan Power Corporation's plans for power limits at 5, 10, 15 and 20 percent of the contract capacity, supplemented with the emergency power generators and DUPS. The result shows that the plant can still maintain normal production. However, if a complete outage of power supply occurred, the impact is estimated to cost approximately NT\$ 140 million each day, based on the revenue of 2017.

(4) Use of water resources: We inspected the Company's internal and external water supply and storage systems and simulated water rationing at different stages (stage 1: nighttime water outage, stage 2: reduce 20% rationing, stage 3: rationing in rotation), supplement by the supply from the standby wells and reservoirs in the plant. The result shows that the plant can still maintain normal production. However, if the water source from the rivers is completely unavailable, the plant can maintain approximately 18 days of normal production.

Emerging risks in the next 3 to 5 years

NTC has kept close watch on the movement of the economic environment, so that we can identify long-term risks and opportunities and adapt business strategies to achieve the goals of sustainable development and operational performance. Therefore, every year, our sustainable development team carries out at least one analysis on the emerging risk for the next 3 to 5 years. The report is then submitted to the Risk Management Steering Committee for final approval. The content also includes information on how to mitigate the impact on the operation and the response strategies and serves as an important reference for planning of business strategies. Detailed information is also disclosed in the Company's Corporate Social Responsibility Report. The table below shows the emerging risks discussed in 2017:

Emerging risks	Rise of China's DRAM Industry	New memory replaces DRAM	Lack of information security protection
Countermeasures	Continuous investment in development of new technology and new products Active expansion to the market of higher value added products	Continuous attention to the development schedule of the new type memories Timely adjustment to operational strategies and launching of response measures	Implement of protection systems and anti-virus software Developing an awareness on information security

1. Rise of China's DRAM industry:

The DRAM industry is currently in a state of balanced supply and demand. If new manufacturers join the market, the balance will be disrupted. The most likely player to the market in the future would be the Chinese DRAM manufacturers. Information available at this stage shows that the Chinese DRAM manufacturers are not likely to break through the technical bottlenecks through proprietary R&D without support from the multinational manufacturers in the short run. However, we will stay close to the development and take countermeasures when necessary to reduce business risks.

The company will continue to research and develop new technologies and new product, actively expand to markets with higher value added, increase the revenue in automotive and industrial and telecommunication to reduce business risks and the impact brought by the rising of Chinese DRAM makers.

2. The possibility of new memory for DRAM replacement:

There are three types of new memory including magneto resistive random access memory (MRAM), resistive random-access memory (ReRAM), and Phase Change memory (PCM). According to the most updated development status reports, those new memories are not able to reach competitive performance as that of DRAM in terms of frequency, speed, density and reliability on read write times. However, we will continue to play close attention to the development schedule of new memory, make timely adjustment or our business strategies and take response measure when necessary. However, we will continue to play close attention to the development schedule of the new memory, make timely adjustment or our business strategies and take response measures when necessary.

3. Lack of information security protection, resulting in successful hacking:

Wide availability of Internet and mobile devices has provided hackers more ways and opportunities to attack the Internet world, and hacker attacks have also transformed from self-challenging ventures into economic criminal acts. In recent years, there have been many cases of leakage of personal information from large companies, theft from financial institutions and rampant extortion software. With the thriving development of artificial intelligence, this emerging technology is expected to be combined with big data and used by hackers for network attacks in the next 3 to 5 years. We will be facing increasingly smart hackers with targeted threats and no company will be exempted from the risk of hacker attack.

In order to reduce the risk of hacker attack, the first action should be prevention. The Company has introduced a number of protection systems and anti-virus software that are deemed effective to prevent most malware attacks. Through education and training, we act to raise the awareness of our employees to prevent them from falling into the traps in social media. In addition, targeting on abnormal account use (e.g. multiple login failure in a short period of time), we send out alerts to detect potential hackers lurking in the Company's system and prevent continuous expansion of the risks. We will also continue to pay attention to information security related topics, keep updated of the latest hacker attacks and conduct offensive and defensive drills to ensure that we are free from hacker attacks and threats.

Risk Management Education and Training:

NTC executive directors participate in the annual corporate governance related risk management courses organized by the competent authorities. In addition, the Company has also developed risk management related course materials and require our employees to study the content, aiming to raise awareness on the risks. We also encourage our employees to make proposals to explore potential risks. Our goal for 2018 is set to complete the training for all employees (2,900), entailing a total of 1,450 training hours. Furthermore, to ensure the safety of the plant construction, all contractors are required to participate in the Contractor Safety and Health Training and Cleanroom Construction Safety Training courses before entering the factory. The courses aim to inform our contractors the hazard factors in the work environment and rules to be observed and raising awareness on safety and prevention occupational disaster. In 2017, a total of 3,509 workers were trained. The company has also instill the mindset of risk management in daily management, including the various standard operating procedures and audits and regular self-audit practices in all management functions targeted to identify potential risks for early prevention and improvement.

Development of Risk-awareness Culture:

To raise risk awareness in the Company and develop a risk-awareness culture, two executive directors (President and senior vice presidents) serve as the chairperson and deputy chairperson of the Risk Management Steering Committee, aiming to consolidate consensus in the management team and reinforce the operation of the risk management organization. Every year, the Committee reviews the performance of risk management operations and the risks likely to emerge in the future.

The company launched a series of incentives to encourage our employees to raise proposals and inspire innovative thinking for identification of potential risks. Several mechanisms, including a 24-hour hotline, dedicated information security hotline and employee feedback facilities have also been set up to provide timely responses. Awareness campaigns are also long-range planning to educate our employees through displays on the TV wall, posters and computer desktops, targeting to instill the culture of risk management in the workplace.



1.6 Corporate Social Responsibility Awards

Golden Honor of New Taipei City Environmental Evaluation Impact



Silver level of Taiwan Green Building EEWH standard



2017 Taiwan Corporate Sustainability Awards
Top 50 Corporate Sustainability, Corporate Sustainability Report Golden,
and Best Performance for Innovative Growth Awards



2018 Thomson Reuters
Top 100 Global Technology Leader



TCL Qualified Supplier Award



Huawei Best Supplier and Green Partner



Gongjin Electronics (Hong Kong) Co., Ltd. Best
Global Partner Award and Strategic Partner





Collaborative Development - Innovative Product Technology

Nanya Technology collaborates with customers to develop innovation and creative technology in order to sustain the competitiveness in the market.

- 2.1 Overview of Nanya Technology
- 2.2 Main Products and Operating Performance
- 2.3 Customer Relationship



Sustainable Development Goals and Key Performances

Material Issues	2017 Targets	2017 Achievements	2018 Targets	2021 Targets
Financial Performance	Average ROE >10%	ROE 37% (including non-operating earnings) ROE 15% (excluding non-operating earnings)	Average ROE >10%	Average ROE >10%
R&D and innovation	1. Initiate 20nm DRAM technology and mass production. 2. Proprietary development of 20nm 8Gb DDR4 Products.	1. Completed initiation of 20nm DRAM technology and reached production targets in the first quarter, ahead of the scheduled time. 2. Completed verification of 20nm 8Gb DDR4 products, began mass production and launched into the market.	<ul style="list-style-type: none"> • Confirm 10nm DRAM technology. • Complete design and verification for 20nm low power consumption products 	<ul style="list-style-type: none"> • Initiate 10nm DRAM technology and begin mass production. • Complete verification of DDR5 products. • Enter the fast-growing markets, such as artificial intelligence, data center, automotive and internet of things. • Set up high-efficiency production lines with artificial intelligence aided systems.
Comprehensive customer service	Customer satisfaction score is over 86 points.	Customer satisfaction score touched 88.7 points.	Customer satisfaction score is over 87 points. (Survey conducted by a third party)	Customer satisfaction score is over 88 points. (Survey conducted by a third party).

Management Approach

Vision & Goals

For many years, NTC has focused on R&D and development of intellectual property rights, and a strong product R&D team has been formed. Along with the development of diverse DRAM applications, smart production, big data analysis and the integration of suppliers, the role of the DRAM industry is even more significant. Over the past three years, NTC has gradually increased its investment, both in fund allocation and human resources, human resources, in the development of innovative technology. By 2017, new and improved products have contributed to 85 percent of our total annual revenue. Our innovation strategy is forward-looking, mapping out an overall market plan and comprehensive customer service. We keep pace with the development of market applications. Therefore, in 2021, we will put 10nm DRAM process technology into mass production and complete the development of next-generation DDR5 products. We are accelerating towards high diversity and smart factory, developing a sustainable path to scale up the operations of NTC and continue its work in energy saving and carbon reduction practices to improve the quality of human life.

Material Issues

1. Financial Performance
2. R&D and innovation
3. Comprehensive customer service

Channels of Communication

1. Gather market information and keep in touch with market trends.
2. Visit customers regularly to provide good after-sale service.
3. Customer satisfaction survey. 4. Customer education and training

Management Flow

Customer Relations Management Process

1. Product Design: Assist customers to solve design and testing issues.
2. Test Verification: Provide customers a parameter measurement platform to shorten the development cycle.
3. Manufacturing: Meet customer needs through production and sales system.
4. Product Launch: Market Application Engineering Department assists customers preliminary troubleshooting and then in restoring.

Relevant Policies and Actions

1. Participate in the activities external associations, domestic and international conferences.
2. Obtain patents for various products.
3. Introduce advanced process technology and continuously reduce costs.
4. Diversify products and enhance product values.
5. Develop value-added market to increase profitability.
6. Provide customer-specific technical services to eliminate product issues.
7. Obtain customer feedback on products and services through frequent customer contacts and visits.
8. Annual comprehensive customer satisfaction survey enables gathering of information which will be useful for continuous improvement of products and services.
9. Engage third-party consultant company to conduct online survey or interviews.
10. Formulate the Company Secrets Management Procedure to protect customer privacy.

2.1 Overview of Nanya Technology

Nanya Technology Corporation (“NTC”) has focused its core business on DRAM (Dynamic Random Access Memory) memory for over 20 years. NTC dedicates itself in R&D, design, manufacturing, marketing and sales of DRAM products. Our manufacturing and development facilities are mainly located in Nanling Technology Park, Taishan District, New Taipei City. For 2018, monthly capacity of our two manufacturing sites (12-inch Fab) is 65,000 WPM (wafer per month) and is scheduled to marginally increase to 73,000 WPM in 2019. Over the years, NTC has cultivated a strong establishment in R&D and Intellectual properties.

The evolution of “Smart World and Connected World” has defined the next stage of industrial revolution. The DRAM play a key role enable many smart devices applied in the cloud, in the city, in business environments, at home, in the car, and in personal devices; but also in medical, industrial, and business applications, including machinery and robotics, machine learning, financial and productivity enhancement, and also in the artificial intelligence application of all areas. Nanya Technology will continue to conduct our DRAM core business with forward-looking market planning and with excellent customer services to fulfill diversified demand.

After the initial introduction of the leading product, 20nm DDR3 product, NTC has successfully shipped an 8Gb DDR4 chip which was independently developed by the Company's in-house R&D team; and will continue to introduce low-power DDR4 product lines. At the same time, we will continue our development of 10nm-class manufacturing process and products. Our goal is to provide value-added solutions for consumer, mobile & PC peripheral applications, and also for server / data center application which is the fast growing market segment to date.

Since 2013, NTC has successfully executed business transformation from PC into smart device applications and operational performance improvement has been evident. Meanwhile our financial performance has also been improved significantly, as Nanya Technology has made 5 consecutive profitable years. In 2017, NTC delivered record-setting net profits of NT\$40.3 billion and earnings per share (EPS) of NT\$14.36, thanks to a favorable market environment, the Company's operational improvement, and non-operating income. By March 31, 2018, the paid-in capital reached NT\$30.6 billion, with approximately 3,060 million ordinary shares issued to the capital market.

The Company is headquartered in Taiwan with branch offices in China, Japan, the United States and Germany. As of December 31, 2017, the Company employed total 2,984 headcounts, including 95 from branch office.

For the past year, we were rewarded with Silver level of Taiwan Green Building EEWH standard, Golden Honor of New Taipei City Environmental Evolution Impact, and Taiwan Sustainability Awards; also, recognized as a Top 100 Global Technology Leader by Thomson Reuters; we are also awarded as one of the top 5% in corporate governance evaluation by Taiwan Stock Exchange. These important milestones symbolize our commitment to corporate sustainability responsibility.



Global sites



Nanya Technology Global Locations: US, Europe, Japan, mainland China, Taiwan, and Asia-Pacific Region

Participation in Public Activities

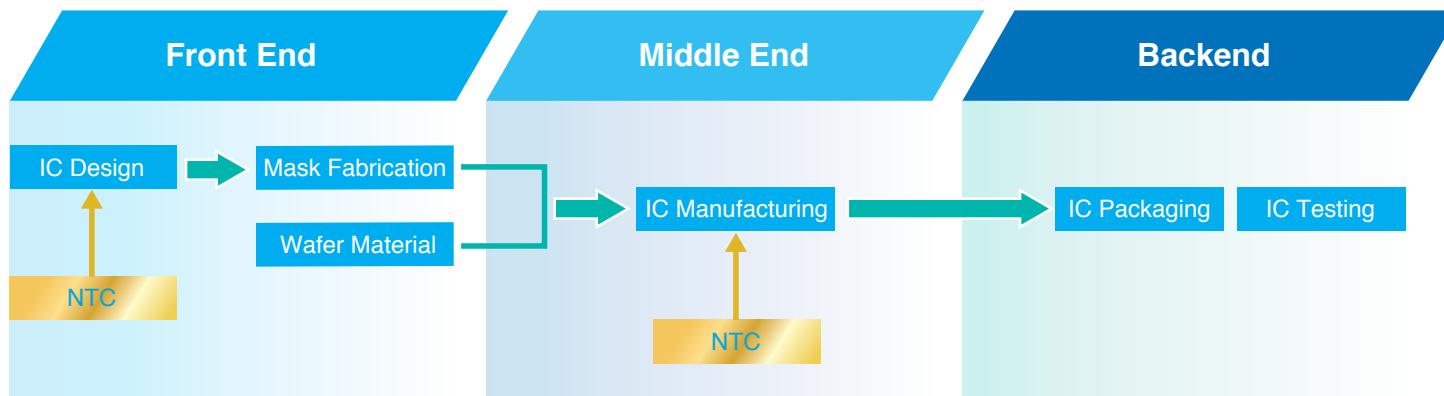
The Company is committed to the development of its core business and sustainability in environmental, social and economic aspects. The scope covers industrial development, technological innovation, climate change, employee equity, human rights, social engagement and etc. The Company has formulated "NTC Public Affairs Participation Guidelines" and the team for public affairs participation has been set up under the Sustainable Development Committee to assess and review if the policies and activities are consistent with the Company's business objectives, corporate responsibilities and the priorities of public affairs.

Major associations engaged	Organization	2017 annual fees (NT\$)	Role
	Taiwan Semiconductor Industry Association (TSIA)	NT\$ 320,000	Director
	Taiwan IC Industry & Academia Research Alliance (TIARA)	NT\$ 100,000	Member
	Center for Corporate Sustainability (joined in 2018)		Director

2.2 Main Products and Operating Performance

Industrial Supply Chain

The IC supply chain (DRAM included) is comprised of front end, middle end, and backend players from IC design, mask fabrication/ wafer material, IC manufacturing, IC packaging and testing sectors as of the flow chart in the below. NTC is specialized in DRAM design and fabrication in the entire IC supply chain.

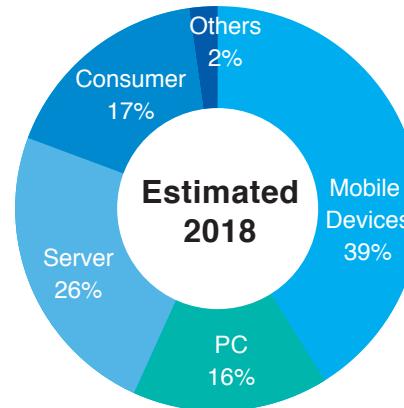
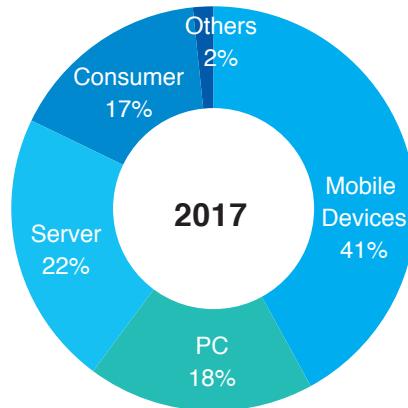


DRAM Market Dynamics

In 2017, Nanya Technology Corp holds around 3% market share in the DRAM market. Nowadays, the DRAM industry has become oligopoly market structure which is dominated by the top 3, Samsung, SK hynix and Micron. Instead of competing head-to-head with the top 3 in the mainstream market segment, NTC choose the specialty DRAM market to grow its business and dedicate itself to demands from consumer electronics, automotive and industrial applications. According to market research forecast, the total DRAM supply bit growth year-over-year is around 20% in 2018. As for the demand conditions in 2018, the demand of smartphones and servers remain healthy, and the artificial intelligence (AI) is the new driver to bring along more diversified end applications. Compared to demand of 2017, the annual growth rate is expected to stay around 22%.

Major product trends in DRAM market

DRAM Spec Trends	Low Power	High Speed	High Density
DRAM Application Trends	Mobile Devices Server Personal Computer Consumer Electronics	<p>Smartphone grew steadily in the past few years and became the most important segment in end devices. Mobile DRAM is widely adopted for power saving, around 40% of the total DRAM consumption.</p> <p>Tied up demand trends from cloud computing and Internet of Things (IoT), server unit shipment is growing fast, especially from data centers. For the DRAM content forecast of 2018, it's expected to hit 30% and above. The rapid growth in server DRAM has formed another key market segment to push up demand increase.</p> <p>PC was bottomed out by 2017 due to demand rebound in commercial and gaming PCs. Forward looking into 2018, the unit shipment and DRAM demand will remain stable.</p> <p>DTV, STB, and networking products are the key product categories in specialty DRAM market. In addition, infotainment and smart cars are trending in automotive market. With the increasing penetration in infotainment, Telematics and ADAS, automotive market will boost next wave DRAM demand growth.</p>	

DRAM Applications**Note:**

1. Consumer electronics include TV, STB, networking products, storage (Hard Disk Drive (HDD) and Solid State Drive (SSD))
 2. PC include desktop, notebook, upgrade module
 3. Mobile Devices include mobile Phone, tablet
 4. Others include automotive and industrial applications
- (Source: Gartner/ IHS/ DRAMeXchange/ NTC Marketing)

Introduction of Core Business & Product Line-ups

NTC is a key player in specialty DRAM business, carrying products from consumer DRAM, mobile DRAM, automotive-grade, industrial-grade, and customized DRAM. (Please refer to "Products" on NTC Official Website <http://www.nanya.com/en/Product/> for further product information.)

Pursuing better performance and lower cost, NTC continues the R&D efforts restless to deliver next generation advanced products. 20-nanometer technology began mass production since the second half of 2017 and expect to be the main runner in 2018. The implementation of 20 nanometer technology nodes will sustain NTC's competitiveness in server and specialty DRAM markets.

R&D and Innovation**Strategies, Vision and Management Framework for R&D and Innovation****Innovation Strategy**

DRAM is the core value of Nanya Technology. The demand for DRAM will grow explosively along with the development of artificial intelligence (AI), 5G mobile communication (5G) and Internet of Things (IoT) applications. DRAM products have the advantages of high speed, low cost, low power consumption and no read/write limitations; therefore, there is a certain level of difficulty to replace such product. In the past three years, NTC gradually increased its investment in, both appropriations and human resources, in the development of innovative technology. By 2017, new and improved products have contributed to 85 percent of our total annual revenue. Our innovation strategy is establishing the next-generation manufacturing processes and product technology, accelerating towards product variety and smart factory and reinforcing protection of our intellectual property rights. We strive to develop a sustainable path for the scale of NTC and continue our work in energy saving and carbon reduction practices to improve the quality of human life.

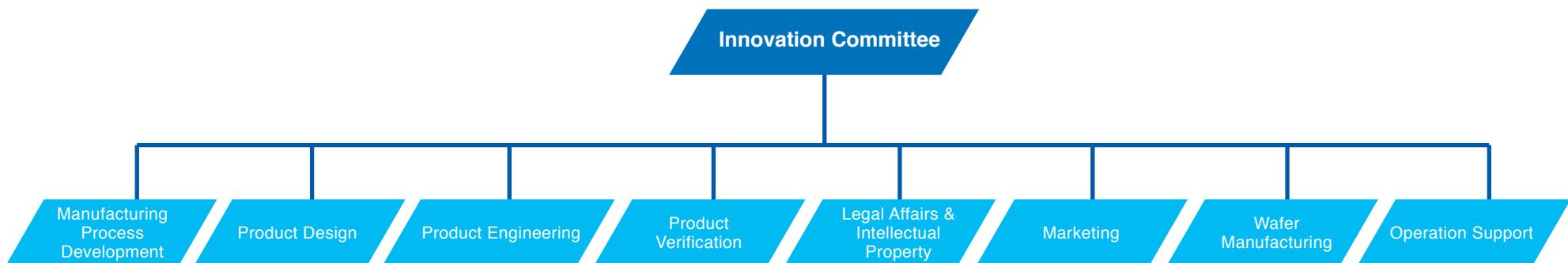
Vision for Innovative Development

Our vision for innovative development is to introduce 10nm DRAM process technology into volume production in 2021, develop next-generation DDR5 products, enter the fast-growing markets (artificial intelligence, data centers, automotive and the Internet of Things) and set up high-efficiency production lines with artificial intelligence aided system.

Innovation Committee

Fueled by new applications, such as AI, 5G and IoT, the market for DRAM continues to grow and at the same time moves towards diversification. In response to this trend, NTC set up a cross-departmental unit, the Innovation Committee, formed by the senior management and chaired by senior VP. The Innovation Committee is positioned to coordinate and plan the overall innovation strategy, set short, medium and long-term goals, implement innovation management and create a culture of innovation to further boost the Company's innovative energy and innovative value.

The committee holds a monthly executive meeting to review the progress of each project and discuss the planning of important projects



Investment and Output of Innovative R&D	Item	year	(Units: billion, person)		
			2015	2016	2017
investment in Innovative R&D	Turnover (A)	NT\$ 43.88 billion	NT\$ 41.63 billion	NT\$ 54.92 billion	
	Appropriation for Innovative R&D (B)	NT\$ 1.95 billion	NT\$ 2.48 billion	NT\$ 3.67 billion	
	Total number of employees (C)	2,469	2,679	2,984	
	Total number of innovative R&D personnel (D)	289	312	430	
	B/A	4.4%	6.0%	6.7%	
	D/C	11.7%	11.6%	14.4%	
	output of Innovative R&D	No. of Patents	259	478	471

Nanya Technology Smart Factory

NTC specializes in the manufacture of small-quantity and diversified memory-products. Under the existing system, we continue to introduce the most advanced automated information technology and build a big data integration platform, as we actively develop smart manufacturing systems to create a smart factory in the concept of industry 4.0.

Currently, we have developed a number of innovative production line applications, including smart scheduling, intelligent transportation, real time dispatching, equipment production efficiency monitoring and remote control management to improve production efficiency. Systems, such as advanced process control, fault detection & classification, tool diagnosis analysis, preventive maintenance monitoring, machine malfunction pre-diagnosis and image recognition, help to stabilize the production lines. Big data analysis platform, data mining technology, automatic analysis of process changes and quality control system provide higher analytical efficiency and enable the manufacturers to improve the yield quickly. Advanced new-generations process technologies have higher technical threshold, as they require higher process control accuracy, which high-diversity product assortment increase the complexity of production line control. NTC's smart manufacturing system can gradually reduce the repetitive and low-skilled-content jobs and help the employees to become analysts, decision-makers and managers of the manufacturing processes, making effective use of labor possible and enhancing the overall efficiency of production.



Line Stability Control

- Advanced process control
- Fault detection & classification
- Tool diagnosis analysis
- Preventive maintenance monitoring
- Machine malfunction Pre-diagnosis

Productivity Improvement

- Real time dispatching
- Intelligent transportation
- Smart scheduling
- Remote control management
- Equipment production efficiency monitoring

Yield and Quality Enhancement

- Process change automatic analysis
- Quality control
- Data mining
- Engineering data analysis platform

Big Data Integration

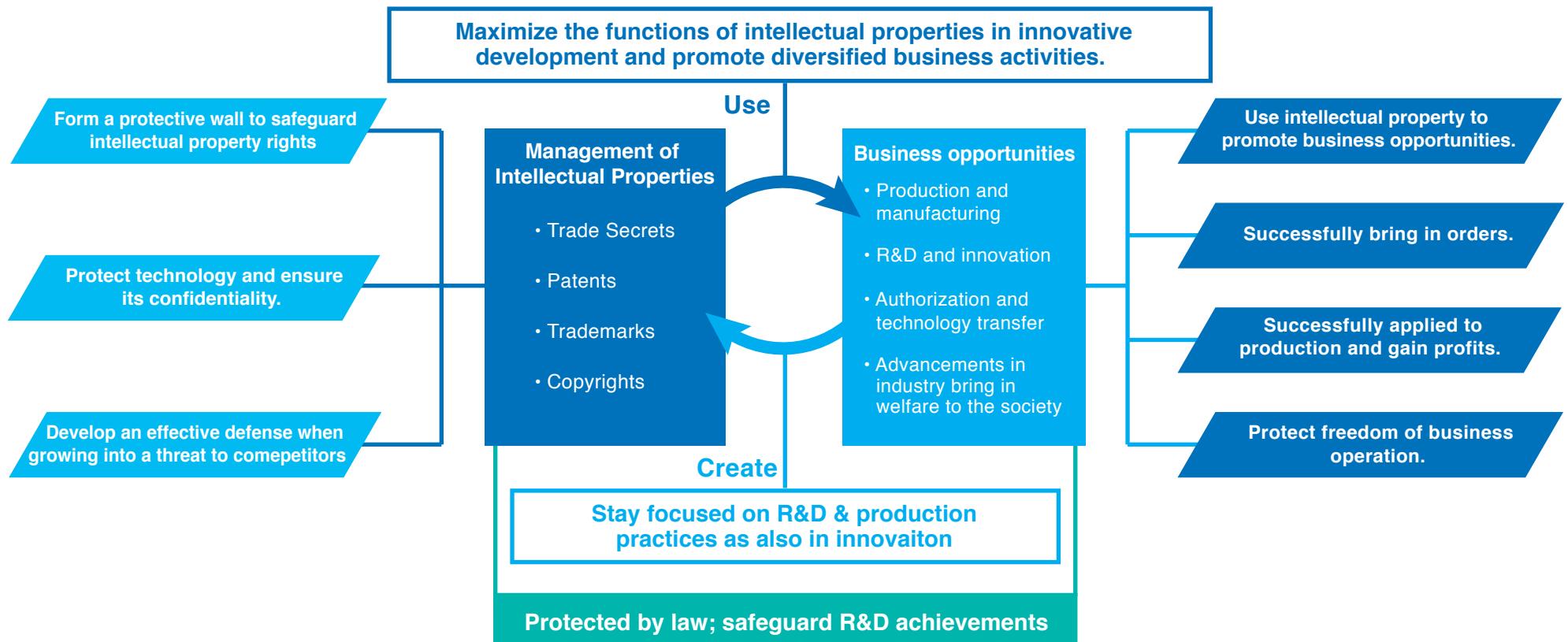
Highly Automated Production Line

Status and Strategy of Intellectual Property Rights

In the past 22 years, NTC has been working with top-notch DRAM manufacturers, including Oki Electric Industry Japan, IBM, Infineon Technologies (Qimonda) and Micron Technology. Through technology transfer and collaborative research and development programs, it has made tremendous efforts in filing patent applications and developing patent strategies. At the current stage, we own more than 3,000 patents; of which, some are for world-class DRAM manufacturing technologies. These patents provide the basis for proprietary development and meet the needs for production. For protection of our trade secrets and trademarks, we have also set a complete system to guard our rights and ensure continuous development of the Company. Nanya Technology's main intellectual property strategies are:

1. Creating the most favorable R&D and production environment with intellectual property rights, and then using the results of excellent production and R&D to recreate intellectual properties that are close to everyday applications.
2. Managing intellectual property rights with an optimal system that forms a stringent network for protection of information security and business secrets.
3. Making full use of intellectual property rights to create a favorable environment for the Company and the industry.

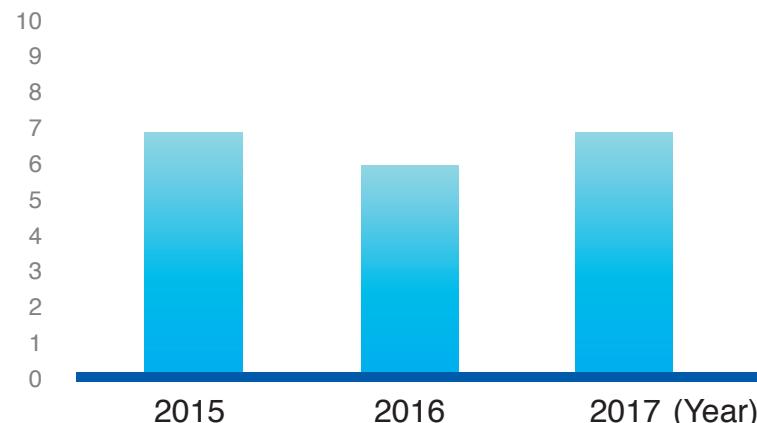
Therefore, the intellectual property rights generate business opportunities and profits, enriches R&D and innovation, and produces better intellectual-wealth resources. This is an endless cycle of life (as shown in the figure below).



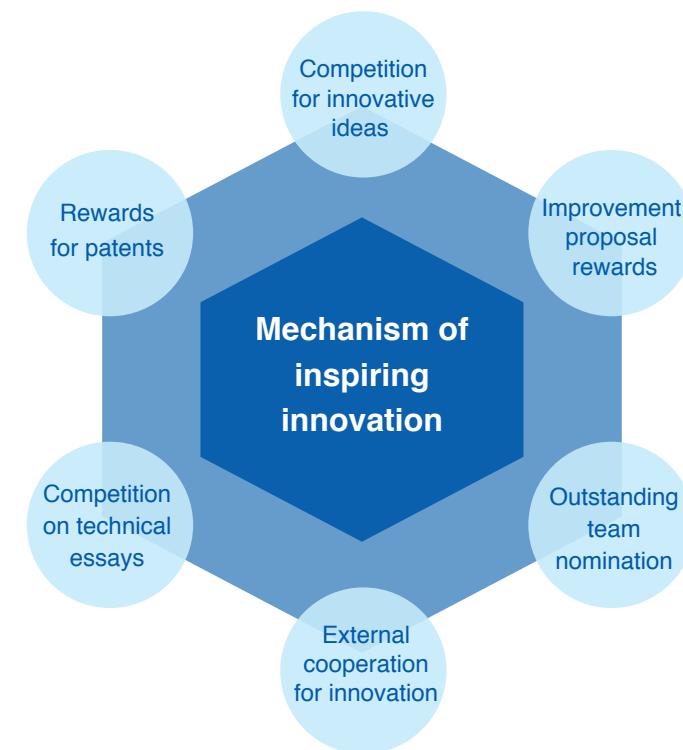
Inspiring innovative practices

NTC has pursued the promotion of innovation. In addition to acknowledging employees for suggesting innovative ideas with rewards, we have also introduced incentives for patent approval, creative competitions, improvement in proposal awards, essay contests and best team campaigns. We are also open to collaborative innovation, interact with external agencies to explore new territories. For example, professors from National Taiwan University, Chang Gung University and ITRI's Electronic and Optoelectronic System Research Laboratories worked together on the design of next-generation memory and foundation research, collaborated with manufacturers of masks and machine tools to develop processes and materials of the next-generation DRAM, teamed up with downstream system developers to expedite development of multiple application product through customization of wafer-class packaging. Over the past three years, 6 -7 open innovation projects were launched, as shown in the figure below. From 2018 onward, we will promote wider external collaboration in coordination with the development of 10nm-class process technology, product diversification and smart factories to ensure that our goals are achieved as planned.

Open Innovation Plan



Mechanism of inspiring innovation



Opportunities & Challenges

Nanya Technology's Core Competence

Strategically positioned as a key component supplier in specialty DRAM market to address differentiation from the mainstream DRAM trends

Challenges

- Difficulties in advanced technology node R&D
- Huge capital investment
- Emergence of new applications & spec requirements
- Threats from new entrants

Opportunities & Strategy

- Offer 10 nano-meter technology to maintain competitiveness
- Return to server market with high density products ready
- Strategically alliances with chipmakers and customers to address end customer's demand
- Stay focused on consumer/ specialty and mobile DRAM markets. Continue the longevity support to the demands from networking, automotive and industrial markets.
- Monitor the market dynamics and quickly respond by product portfolio adjustment to secure stable business operation.

Business Development Plan

Short-term Goal

- Target Consumer Electronics and Mobile devices as the major markets
- Return to server markets and cooperate with select customers
- Offer a complete product portfolio to meet up various demand and to offer low/ middle/ high densities

Long-term Goal

- Continue migration to advanced tech node and deliver a wider range of product mix
- Dedicate to consumer, mobile, and server markets
- Provide packaged devices, KGD, automotive grade, industrial grade, Multi-Chip Package (MCP), and customized services to enhance product added-value, margin, and competitiveness

Product patents

Product patents are mainly used for DRAM manufacture and applications. They can also be used for cross delegation of authority and patent defense among companies. They are the manifestations of intellectual property rights. In 2017, we obtained 471 patents for process improvement, circuit design, testing and IC packaging and now have a total of 3,257 patents. The statistics of patents in the past 4 years are shown in the figure below:

Operating performance

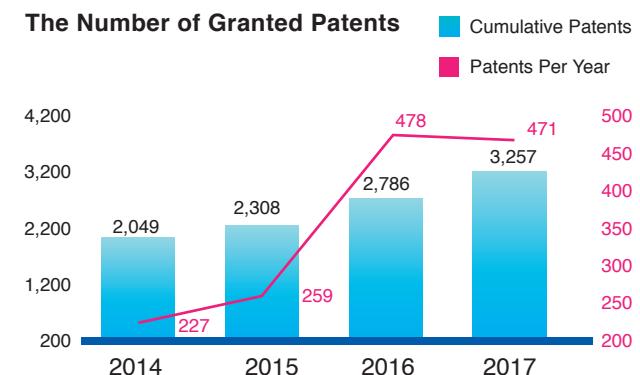
In 2017, NTC delivered record-setting net profits and earnings per share (EPS), thanks to a favorable market environment, the Company's operational improvement, and cash out of its share holdings in Micron Technology Inc. (MU). The market environment has been favorable to the Company as average selling prices (ASP) of DRAM have continued its rebound since the second half of 2016. In 2017, ASP's across all DRAM market segments were increasing quarter by quarter because, based on the Company's estimation, the overall DRAM market demand in bits was growing by approximately 22% year-over-year, outstripped the market supply which was growing by approximately 20% year-over-year. Along with the increase of market ASP's, the Company saw its own ASP to increase by over 35% than that in 2016. However, a stronger New Taiwan dollar which appreciated approximately by 5.8% over the US dollar caused a negative impact. In the end, the Company's total revenue posted a 32% year-over-year growth.

The Company's bit shipment in 2017, originally had forecasted to be down by approximately 9% year-over-year as a result of the Company's move to migrate its existing 30nm process technology to 20nm process technology, turned to be flat, thanks to endeavor of all hands. Over the last year, the Company ramped down its 30nm monthly wafer start capacity from 58k to 30k, ramped up its 20nm monthly wafer starts to reach 38k by the end of 2017, and, in parallel, introduced a new back-end of line process technology (copper-copper-aluminum). During the course of the migration, the Company was able to achieve yields of the leading product based on 20nm process technology, a 4Gb DDR3 chip, higher than our expectation to enable its mass production in the second quarter and successfully reached cost cross-over milestone over the cost of existing products in the third quarter, both of which were ahead of our original schedule by approximately one quarter. Meanwhile, the Company's 8Gb DDR4 and 2Gb DDR3, both of which were independently developed by us, received qualifications from our customers. The pull-in of ramp up of both 20nm product yields and related capacity resulted in additional bit output which would otherwise be foregone.

To facilitate the Company's future development, we had sold our entire shareholdings in Inotera to MU in December 2016 and back-to-back invested a major portion of the proceeds, i.e. NT\$31,457 million, to acquire about 5.26% interest in MU. The Company has completely liquidated its holdings in MU by the end of 2017, bringing in net proceeds of US\$2,112 million (equivalent to NT\$63,562 million) in total and realizing NT\$32,105 million in profits. Having paid for part of the capex of 20nm technology conversion (approximately NT\$29,400 million in 2017), the Company repaid all inter-company borrowing of NT\$12,500 million from affiliated companies and pre-paid all bank borrowings of NT\$17,600 million ahead of original schedules in 2017. The debt-to-asset ratio dropped from 37.5% in 2016 to 12.4% in 2017. The Company's financial structure was materially improved and has had cash reserved for the migration into 10 nanometer class process technology in the future.

The Company's consolidated revenue amounted to NT\$ 54,918 million in 2017, a 32% increase over NT\$41,633 million in 2016. Net income was NT\$ 40,295 million, and earnings per share reached NT\$ 14.36. Excluding major one-off items, namely the MU share disposal gains of NT\$32,105 million and a negative impact from euro-convertible bond option valuation of NT\$7,599 million, the Company's EPS would still have reached NT\$5.63, reflecting operational improvement over that in 2016.

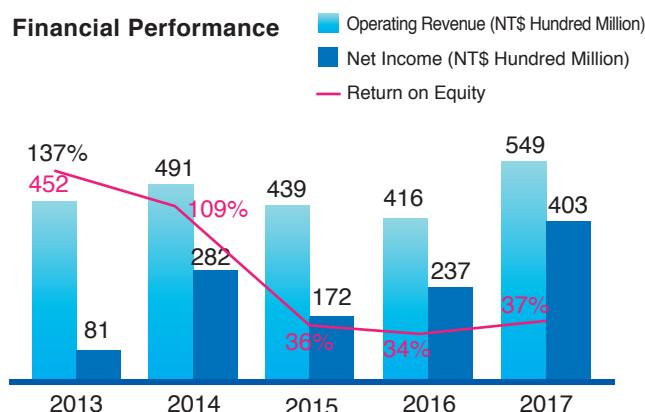
The cash dividend per share increased from NT\$ 1.5 for 2016 to NT\$ 3.5 to 3.62 for 2017 (please refer to the Note for Cash Dividend). This increase reflected the Company's continuous growth and cash inflow. In the future, we will continue our efforts to maintain a stable dividend policy.



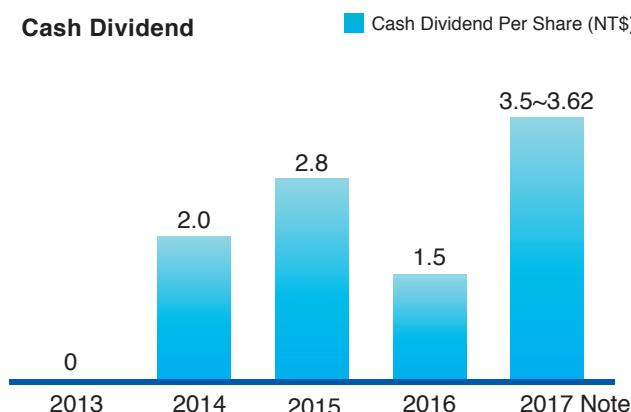
Nanya Technology's Operating Results in the past 3 years:

Performance Indicator	Year	2015	2016	2017
Operating Revenue (NT\$ Million)		43,876	41,633	54,918
Net Income (NT\$ Million)		17,171	23,729	40,295
Net Profit Margin (%)		39.1	57.0	73.4
Earnings Per Share (NT\$)		7.07	8.67	14.36
Debt-to-Asset Ratio (%)		47.3	37.5	12.4
Ratio of Long-term Fund to Property, Plant, and Equipment (%)		138.2	152.0	157.8
Return on Assets (%)		17.2	20.2	28.3
Return on Equity (%)		35.6	33.8	37.0

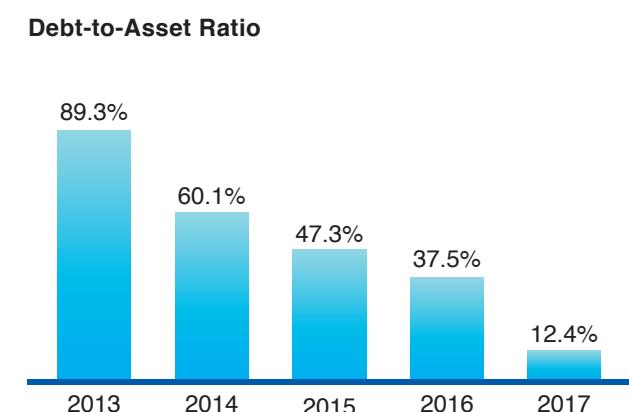
Note: The financial statistics used to represent operating performance are adopted from the consolidated financial statements. For the subsidiaries included in the consolidated financial statements, please refer to page 15 of 2017 Consolidated Financial Report <http://www.nanya.com/en/IR/39/>.



Note: The company has made profits in 5 consecutive years. The total equity increased from NT\$ 10.01 billion at the end of 2013 to NT\$ 132.12 billion at the end of 2017, leading to a decrease in the stockholders' return on equity.



Note: The total outstanding shares may increase as bondholders have converted their bonds into common shares or the Company's employees may elect to exercise their stock option rights. The final cash dividend per share may need to be adjusted accordingly.



Tax Policy and Information

Tax policy:

Nanya Technology endorses tax policies that encourage innovation and sustainable operation.

Our tax policies aim to control tax risks, pursue sustainable development, and fulfill the corporate social responsibility.

NTC is committed to the following:

- Full compliance with all applicable tax laws and regulations.
- Disclosures in financial reports are made in accordance with applicable regulations and reporting requirements.
- Forbid transactions solely conducted for tax avoidance.
- Develop relationships of mutual trust and respect with tax authorities through sufficient communication and good faith.

Nanya Technology's Tax Information in the past 3 years:

Item \ Year	2015	2016	2017
Net Profit Before Tax (NT\$ Million)	17,677	25,726	41,831
Income Tax Expense (NT\$ Million)	506	1,997	1,536*
Rate of Income Tax (%)	2.86	7.76	3.67

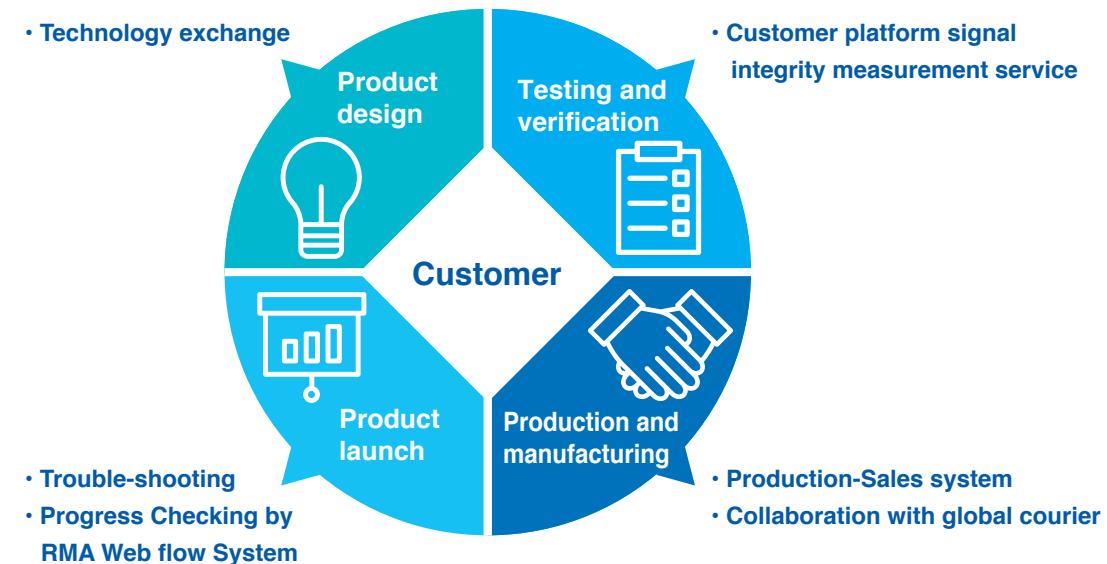
Note: The change in rate of income tax from 2015 to 2017 is mainly due to 10% income tax on undistributed earnings and alternative minimum tax. The statistics of profit before tax and income tax expense are adopted from the consolidated financial statements. For the relevant information, please refer to page 6 and page 40 of 2017 Consolidated Financial Report <http://www.nanya.com/en/IR/39/>.

*Income Tax Expenses in 2017 by country.

Country	Income Tax Expense(NT\$ Million)	%
Taiwan	1,517	98.76
U.S.	11	0.72
Japan	6	0.39
Others	2	0.13
Total	1,536	100.00

2.3 Customer Relationship

NTC is committed to providing the best customer service and is convinced that quality and timely customer service are crucial to maintaining good customer relationship. Good customer relationship will help us build customer loyalty, and high customer loyalty will help us in our venture to expand our business, as well as securing good partnership. Creating quality service is one of the core values of Nanya Technology. Our goal is to maintain the leadership in DRAM service and we believe that maintaining the service goals and attitudes will help us secure our relationships with existing customers, build good reputation in the industry and in turn attract new customers.



Product Design, Testing and Verification Stage

In order to improve the efficiency and frequency of customer service and effectively build close relationships with the customers, Field Application Engineering Division at the headquarter provides technical supports to customers in Taiwan, China, Southeast Asia, Europe, the United States, Japan and South Korea and organizes technology exchange events (86 events in 2017) to meet customer needs. The Division provides technical support and assist customers'engineering personnel to solve problems design and testing.

In addition, through the highly efficient, intensive and high-quality customer platform signal integrity measurement service (806 measurement service cases completed in 2017), NTC assists customers to understand the characteristics of their product platforms. Through this service, it is able to significantly accelerate customer new product development progress and verification cycle, reduce investment risks and help customers to launch end products to the market immediately.

Production and Marketing Stage

NTC has been certified for the ISO 9001: 2015 and ISO/TS 16949:2009 quality system. The Quality Assurance Division monitors product quality and implement improvements, making sure that all production processes are fully optimized. This tightly-controlled system monitors every stage of the production process to ensure that our products meet customer requirements.

Sales personnel continuously communicate with our customers and weekly provide customers'future forecasts to the headquarter. The head office then consolidates the forecasts from global customers, make estimations and turn the statistics into production plans through the production-sales system. Based on the continuous weekly feedback from the sales staff, we plan production activities to meet customer needs.

To ensure that our delivery meet customers' demand, the Company works with the world's top international express courier companies. We choose the right shipper based on the area where our customer is located and the delivery efficiency of the courier company.

After-sale Service Stage

When a product issue is reported by a customer, the Field Application Engineering Division at headquarter in the shortest time contacts the customer and assists the customer to resolve the issues. If further analysis is needed, Quality and Engineering Department take over to clarify the problem and propose a solution to enable customers to resume production as soon as possible. To ensure that each customer complaint can be handled with precision, the Company set up a RMA Webflow System to track the progress of each customer complaint case, and the ratio of cases closed within the target cycle time are reviewed monthly. In 2017, 95 percent of all cases were completed within the target cycle time.

In addition, the Field Application Engineering Department at headquarters also takes the initiative to visit customers regularly or carry out technology exchanges at the request of customers to assist customers in solving problems related to DRAM usage.

Customer Privacy Protection

Customers are important partners of NTC. Therefore, we are obligated to safeguard their privacy and confidential information as of our own. To ensure confidential information is well protected, NTC set up the "Confidential Information Management Procedure" to provide a set of guidelines for handling customer information. Regular education programs and audits are conducted to raise the awareness and reinforce our employees' knowledge and competency in handling and ranking confidential information. In 2017, no case involving violation of customer privacy has been happened. Furthermore, for the management and protection of customers'documents, we safe-keep the documents in the document control center and only authorized personnel have access to these documents.

If a customer suspects or discovers evidences indicating leakage of information, a complaint can be lodged through the NTC Grievance Mailbox. The email address is printed on every employee's business card. Customers can find the address the business card of any NTC employee.

Customer Satisfaction

NTC conducts a comprehensive customer satisfaction survey annually. The questionnaire, delivered through the Customer Satisfaction Electronic System, contains questions on the dimensions of "Product", "Delivery", "Quality", "Technical Service", "Communication", "Commercial" and "comparison with competitors". Items with low-satisfaction performance are reviewed by the relevant departments, who are responsible for proposing improvement. The customer satisfaction survey report is then submitted to the top management meeting for review and the sales personnel give feedback to the customers to communicate on the direction of continuous improvement. In 2018, external survey will be added, for end-customers, and will be implemented by an impartial third-party consultancy company through online survey or interviews.

We are expected to look at customer demands from a fair and objective perspective. However, due to an increase in the number of customers, the average score is expected to decline slightly. Nonetheless, we will continue to make improvements to raise customer satisfaction.

Complementary with the survey, Quarterly Business Reviews (QBRs) are also conducted by the service team so that customers can give feedback to NTC on a regular basis. We are able to maintain close touch with customers for better service.

We also consider the internal quality improvement in addition to the external customer satisfaction. We use PDCA (Plan→Do→Check→Action) management method to manage and control the process flows and indicators, ensuring the target is identical.

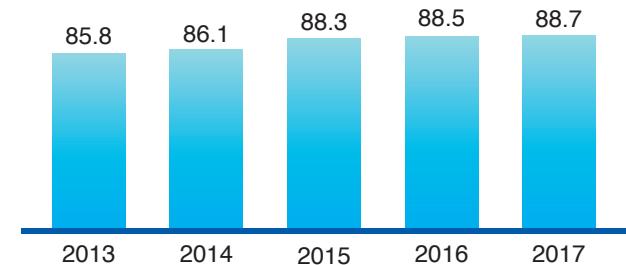
Procedure of Customer Satisfaction Survey:



In 2017, the overall satisfaction score average was 88.7 points and continues to grow robustly. The score exceeds the target of 86 points. We are committed to product quality and listen to the voices of our customers. In 2017, no product recall events. Every month, a meeting is called to discuss strategies and review tracking of issues, targeting on the areas that require further reinforcement. We take actions to communicate with our customers, actively respond to the issues with positive attitude and implement continuous improvements.

Customer satisfaction survey performance by Year.

(Unit:point)





Working Together - Sustainable Supply Partners

In order to uphold the philosophy of sustainable development, Nanya Technology and its suppliers work together to build a sustainable value chain.

3.1 Supply Chain Management

3.2 Contractor Management



Sustainable Development Goals and Key Performances

Material Issues	2017 Targets	2017 Achievements	2018 Targets	2021 Targets
Suppliers Sustainable Management	<ul style="list-style-type: none"> 1. Achieve 100% use of non-conflict metals in the wafer production lines 2. Achieve 100% use of non-conflict metals in the suppliers' packaging and testing production lines 	<ul style="list-style-type: none"> 1. Non-conflict metals were used in 100% of our wafer manufacturing product lines 2. Non-conflict metals were used in 100% of our suppliers' packaging and testing production lines 3. RBA audits were completed on 8 suppliers 4. 87% of the key direct material suppliers completed the RBA self-assessment questionnaire 	<ul style="list-style-type: none"> • Achieve 100% use of non-conflict metals in the suppliers' packaging and testing production lines • Implement RBA audits on 15 suppliers • Implement the RBA self-assessment questionnaire on 100% of the key direct material suppliers • Achieve the target percentages of suppliers signing the corporate social responsibility commitment letter (100% and 65% respectively for new and existing suppliers) 	<ul style="list-style-type: none"> • Achieve 100% use of non-conflict metals in the wafer production lines • Achieve 100% use of non-conflict metals in the suppliers' packaging and testing production lines • Implement the RBA self-assessment questionnaire on 100% of the key direct material suppliers • Achieve the target percentages of suppliers signing the corporate social responsibility commitment letter (100% and 80% respectively for new and existing suppliers) • Achieve 10% reduction in the output of waste generated by the major local suppliers during production, with 2017 as the base year.

Management Approach

Vision & Goals

Suppliers are important partners of NTC, as well as a significant link in production. Beyond procurement management, NTC also incorporated terms of sustainability, such as green environment and social responsibility, into the contracts as part of the supply chain management and continues to work with our suppliers to create higher values. For the contractors, our priority is set on work safety management, implementing full-scale safety measures on both aspects of system and practice to achieve the goal of zero disaster and zero accident.

Material Issues

Supplier Sustainability Management

Channels of Communication

1. Quarterly or non-scheduled meetings
2. Electronic trading platform - procurement and contracting system

Management Flow

1. Supply chain management: the supply chain management flow includes initiation of new suppliers, management and evaluation of existing suppliers and ensuring compliance with environmental, human rights and labor standards. This is done through quality reviews, on-site audits, regular evaluations, supplier education and training, and enforcement of NTC's practices as a member of the Responsible Business Alliance (RBA).
2. Contractor management: contractor management at NTC follows the standards and system set up for all businesses under the Formosa Plastics Group, which aims to minimize worksite disasters and accidents through contractor screening, implementation of the evaluation system, occupational safety training, and licensing/certification training to help the contractors develop operation technology and work safety awareness.

Relevant Policies and Actions

1. Supply Chain Management
 - Screening of price, quality, and place of origin
 - Quality control inspection and audit
 - On-site audit and verification
 - Sample batch verification
 - Regular quality audit and evaluation
 - Annual commendation and non-scheduled training
 - Supplier Sustainability Management
2. Contractor Management
 - Contractor screening
 - Contractor Occupational Safety Management and Audit System
 - Occupational safety practice training
 - Daily toolbox meeting

3.1 Supply Chain Management

Overview of Supply Chain

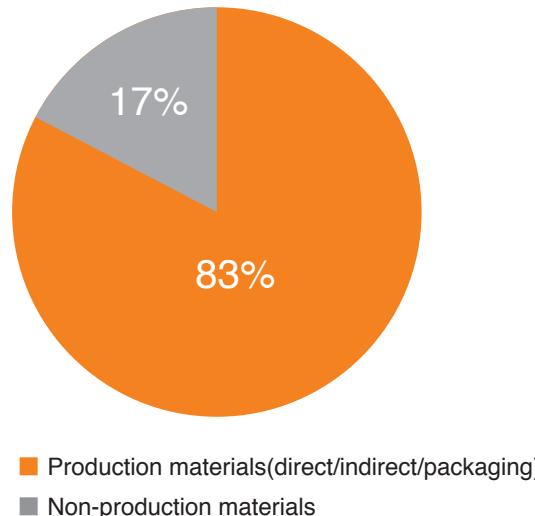
NTC works with several categories groups of external businesses, which includes suppliers, packaging and testing services suppliers, and contractors. These groups are divided into two categories, suppliers of production materials (direct/indirect/packaging materials) and suppliers of non-production materials. The procurement is mainly achieved by open tenders, and Formosa Technologies Corporation's E-market Place procurement and trading platform hosts the operations of price inquiry, managing quotations, negotiation, ordering and delivery online. NTC is committed to achieving sustainable development, and expects to work with the suppliers to build a well-managed and stable supply chain through the active pursuit of sustainability.

Raw materials suppliers play the key roles in NTC's operations and production. Based on the two major categories, production (direct/indirect/packaging materials) and non-production materials, suppliers of production materials - approximately 300 suppliers - are the key suppliers in the Company.

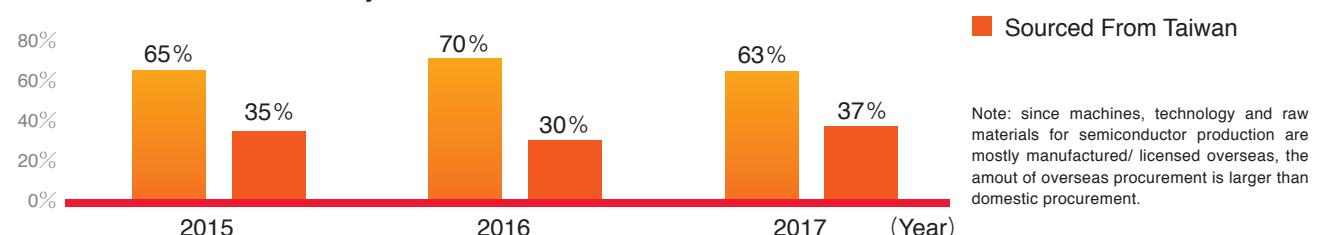
To develop stable relationships with the suppliers, enable faster services, cut unnecessary costs by shortening delivery time, and minimize environmental impacts, NTC is committed to sourcing materials locally and has procured locally 37% of total materials. By working with local suppliers, NTC creates a win-win situation with increased job opportunities for local communities.

The figure below shows the distribution of suppliers and material origin by supplier category and region:

Categories of Raw Materials Suppliers in 2017



Raw Materials Procured Locally from 2015 to 2017



The table below shows the percentages of suppliers by category:

Procurement Category	2015	2016	2017
Direct Production Materials	Total Number of Suppliers	82	100
	Percentage of Procurement by Supplier	52%	59%
Indirect Production Materials (including packaging materials)	Total Number of Suppliers	375	483
	Percentage of Procurement by Supplier	34%	28%

*Direct production materials are all key materials.

To prevent material shortage and quality risks, NTC actively develops counter-suppliers for various materials. With a focus on direct production materials (key materials), risks were assessed, covering major scenarios, such as earthquake, fire, water/electricity cutoff, interrupted supply of materials/manpower, and quality issues, and classified into two categories, tolerable and non-tolerable risks, based on the severity and frequency. Based on this risk classification, NTC sets up recommended preventive measures for emergency response, with the aim of achieving corporate sustainability.

Initiation of Suppliers

Before a supplier of direct production materials is officially accepted into NTC's supply chain, the supplier must have third-party certification for ISO 9001 and 14001, as well as undergo evaluation based on five key indicators - quality, delivery time, service, cost, and technology. This evaluation is done through the electronic monitoring and evaluation management system (MEMS). This process aims to ensure that all suppliers meet the Company's supply chain requirements and operate under the principles of sustainable development. In 2018, NTC is planning to integrate an additional indicator (the sixth indicator) - sustainable management - into the supplier evaluation system. NTC expects the suppliers to work with the Company in the venture towards building a sustainable supply chain and works to ensure that the suppliers meet the requirements in quality and sustainability.

Management of Existing Suppliers

NTC carries out evaluations using five indicators - quality, delivery time, service, cost, and technology - on existing suppliers, to determine if there are potential issues at the supplier and implement immediate rectification if necessary. Evaluation results are forwarded to the procurement department for future reference. Through the quarterly and various non-scheduled meetings, the Company carries out discussions with the suppliers on the results of the annual evaluation, striving to build a good and unimpeded communication channel for the suppliers. Meanwhile, the Company has also set up multiple online support management systems to share information with the suppliers and ensure that the suppliers comply with NTC's standards. The practices include sending material procurement inspection procedures to the suppliers and arranging dedicated staff to answer queries and process feedback from suppliers. We coordinate and implement various continuous quality improvement projects to develop long-term, high-quality suppliers and help our suppliers enhance their competitiveness.

Supply Chain Management Flow



Supplier Evaluation Indicators

Quality	Delivery Times	Services	Cost	Technology	Sustainability
<ul style="list-style-type: none"> • Stable Yield • Reduce Abnormality 	<ul style="list-style-type: none"> • Timely Delivery • Diverse Resources for Backup 	<ul style="list-style-type: none"> • Quick Response • Active Care 	<ul style="list-style-type: none"> • Reduce Wastage • Increase Efficiency 	<ul style="list-style-type: none"> • Front-end Development • Risk Forecast 	<ul style="list-style-type: none"> • Green Environment • Social Responsibility

Notes: 1. In 2018, an additional indicator (the 6th), sustainable management, will be integrated into the supplier evaluation.

2. Description of sustainable management evaluation: Green environment evaluation includes ISO 14001 certification, energy saving, GHG reduction, and percentage of waste recycle. Social responsibility evaluation includes a commitment to comply with local labor regulations.

Supplier Sustainability Management

In pursuit of corporate sustainability, NTC is committed to business integrity and ethical practice. To achieve the standards, the Company continues to reinforce corporate governance, ensuring shareholders' rights and a commitment to building a harmonious, healthy, and safe workplace. NTC is moving towards green technology, and strives to create a sustainable environment where production and the well-being of the environment coexist. Through social engagement, the Company works to meet the expectations of the public and stakeholders, fulfilling its corporate social responsibility.

To fulfill the aforementioned commitments, NTC observes the RBA code of conduct closely, making commitments to implement various management systems to monitor the practices of human rights, workplace health and safety, environmental protection, and corporate ethics. These practices ensure that NTC provides a safe workplace, the employees gain the respect and dignity they deserve, and the Company takes responsibilities for environmental protection and follows the code of ethics strictly. In addition to building internal management systems and standards, NTC organizes policy and legal compliance education training programs and requires all new employees to pass the RBA code of conduct training courses. Through training and communication over the years, the RBA spirit has been integrated into the company's core values. NTC's employees are more aware of their own rights and the Company's determination to maintain a positive corporate image by being fully compliant with the code of conduct and instilling the value of business integrity.

Suppliers play a significant part in upholding the aforementioned core values. NTC requires the suppliers (including contractors) to observe the RBA code of conduct closely in their practices of labor, health and safety, environmental protection, and business ethics, with reference to the Company's labor, health and safety, environmental, corporate ethics, and management standards. These efforts are carried out with a goal of creating a better environment for the electronic industry. To convey the importance of human rights and ethical conduct to the suppliers, NTC requires the suppliers to sign a commitment letter, answer a self-assessment questionnaire, and conduct on-site audits. NTC's management practices ensures that the suppliers' operations and activities comply with the Company's labor standards and principles of ethical conduct. No violations of NTC's code of conduct and standards have been reported up to date.



Signing of the Supplier/Contractor Corporate Social Responsibility Commitment Letter

To enforce the significance of human rights to the suppliers and contractors, NTC drafted the Supplier/Contractor Corporate Social Responsibility Commitment Letter (hereafter refers to as the Commitment Letter), which lists various standards to ensure that workplace safety is observed in the supply chain of the electronic industry, workers are treated with respect and dignity, and business operations are responsible in terms of environmental sustainability. The Commitment Letter includes supplier/contractor code of conduct of the Formosa Plastics Group, the RBA code of conduct, and conflict-free minerals related regulations and requirements. The Company's suppliers and contractors are required to have the awareness and knowledge of and make commitment to comply with the corporate social responsibility standards set forth in the Commitment Letter. In 2017, the Commitment Letter was distributed to 350 suppliers of direct and indirect production materials and 221 were returned. The response rate was 60.29%. The target response rate for the Supplier Corporate Social Responsibility Commitment Letter in 2018: is 100% for new suppliers and 65% for existing suppliers.

Return rate of the supplier self-assessment questionnaire

To survey human rights practices in the supply chain, the Company sent out NTC Supply Chain Code of Conduct Questionnaire to all suppliers and contractors in the fourth quarter every year and request a full-scale return. Suppliers and contractors are required to disclose their practices on various issues in the survey and provide proof documents for the different management system certification. Results of the supplier self-assessment questionnaire can be used for management of human rights in the supply chain as well as a reference for the Company to help the suppliers implement a human rights management system. In 2017, the self-assessment questionnaire was sent to 350 key suppliers of direct and indirect production materials and 219 were returned. The return rate was 62.57%. Results from supplier self-assessment survey, top three risks for supplier exposed to human rights on working hour (overtime hours), the lack of human rights policy, and occupational health and safety (injury, identification of regulations). The target for 2018 is 100% distribution rate for the self-assessment questionnaire and 90% return rate. Historical data is shown in the table below. We defined the high sustainability risk as in past last three years, is the Company violate regulations where the government imposed punishment (divided into 3 dimensions, environmental e.g. air pollution, economic - e.g. violation of business-related regulations and social - e.g. labor rights). In 2017, based on the definition above, the results of NTC SAQ there has no critical supplier (0%) content high sustainability risk, and there is 5 tier 1 suppliers (1%) are high sustainability concern.

Supplier Self-assessment Questionnaire		2017	2018 Targets
Direct Production Materials	Total Number of Key Suppliers Distributed	89	-
	Percentage of Distribution	100%	100%
	Percentage of Return	57	-
	Return Rate	64.04%	90%
Indirect Production Materials (including packaging materials)	Total Number of Key Suppliers Distributed	261	-
	Percentage of Distribution	100%	100%
	Percentage of Return	162	-
	Return Rate	62.07%	90%

Supplier Audits

NTC's current supplier audit practice covers two major areas: Quality and RBA audits

1. Quality Audit:

In 2017, NTC completed on-site audits with 16 suppliers. Before an audit was carried out, NTC sent out questionnaires to inquire the status of the various practices in the labor and ethics systems, EHS system, and RBA requirements for environmental protection, as required by the Company's Audit Management Procedures. The surveys aim to gain a preliminary view on the apparent or potential negative impacts in the suppliers' environment. In 2017, NTC sent out a total of 61 requests for improvement in response to the supplier audits. As of December 31, 2017, the completion rate within the deadline was 100%. In 2017, a total of 76 suppliers participated in the supplier performance evaluation and the results were: 35 were rated A (scored 90 and above),

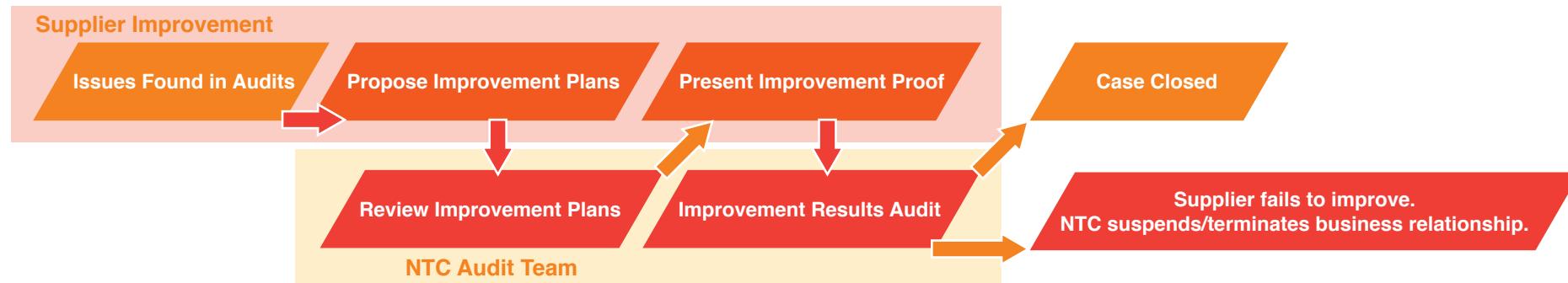
35 were rated B (scored $80 \leq - < 90$), and 6 were rated C (scored $70 \leq - < 80$). To ensure that NTC's suppliers of raw materials meet the standard of excellence in quality, service, and manufacturing process abilities, the Company determines the list for on-site audit based on the significance of the material products, stability of the quality, and the results of the annual performance evaluation. In 2017, the Comapny selected 16 key suppliers and implemented on-site audits. The on-site audits were carried out by a team formed by members from QA, EHS, materials and resources, and engineering technology. This team conducted full-plant evaluation and document review, as well as interviews with the management and employees, to ensure their production quality and potential for continuous improvement.

Audit results in the past three years

	2015	2016	2017	2018 Targets
Number of Plant Audit	22	22	16	14
Average Audit Score	81.6	79.8	80.8	-
Total Number of Issues Discovered	81	101	61	-
Improvement Completion Rate	100%	100%	85.2%*	100%
Common Issues	Poor equipment calibration traceability, manufacturing process not carried out by the standard operating procedures, and product appearance not conforming with the label			

Note: causes of non-completion in 2017: 1) full-scale systemic improvement is required - 6.6%; 2) the supplier is disqualified due to the poor results of audit - 8.2%.

Supplier Issues Improvement Management Procedure (eCAR tracking management system)



2 RBA Audit:

NTC has integrated RBA code of conduct into the scope of audit for the suppliers since 2015. Through self-assessment questionnaire and site visits, the Comapny guided the suppliers to integrate the labor and ethics standards into their operations via several stages and set qualification standards based on the Company's requirements. Targeting at the specific suppliers who have not met the qualification standards, these companies are listed as high-risk suppliers and requested to make improvements within the deadline with the help of the dedicated personnel sent to their plants for on-site audits and consultation. Every year, NTC's personnel from human resources and EHS form an audit team to carry out the annual supplier audit. In 2017, there are 5 suppliers with high risk. The EHS Department set a priority to audit the high-risk raw material suppliers (such as suppliers of combustible or corrosive chemicals) and conducted on-site RBA EHS audits, document reviews, and interviews with the management and employees. The team also communicated and conveyed the RBA requirements to the suppliers. A total of 11 issues were discovered from the audits, and requests for improvement were issued and tracked. The suppliers have also coordinated with the Company to complete implementation of the improvements. The Human Resources Department conducted document and record audits on the labor, ethics, and management systems.

2017 Statistics of Improvements on Supplier Issues

Labor and Ethics			Environment, Health and Safety	
Total number of suppliers audited: 8			Total number of suppliers audited: 2	
Number of non-compliant findings: 16			Number of non-compliant findings: 11	
Labor	Ethics	Management System	Environment	Health and Safety
13	2	1	2	9
A total of 27 issues were found and improvements were fully implemented by February 2018.				

All issues found from the audit were tracked with the Audit Improvement Form. All suppliers have been cooperative during the audit visit, open to the audit conclusions and suggestions, and completed the improvements within the deadline. Together, we made substantial contributions to the advancement and improvement of our supply chain environment.

Packaging and Testing Supplier Evaluation

Targeting the suppliers of packaging and testing services, NTC implemented a quarterly evaluation mechanism to survey the overall performance of the packaging and testing services suppliers. The Company also invites the management of both companies to attend the Quarterly Business Review

Meeting for information exchange and two-way communication. This quarterly valuation targets mainly at three major areas: engineering/production service, quality, and cost. Based on the Company's assessment items and the associated contents, the packaging and testing services suppliers are assessed in January, March, July and October, followed by a face-to-face interactive exchange between the management of both sides to facilitate quality review and discussion of cost issues.

In August 2017, NTC organized the first product quality conference with the packaging and testing services providers. The Company engaged three major packaging and testing services providers to carry out the Operation Improvement Project, and invited them to report on their achievements in the conference. NTC also made a presentation in the conference on quality issues with case studies, aiming to minimize the rate of customer complaint, optimize quality, and meet customer demand.

Supplier Commendation, Education and Training

NTC hosts a supplier commendation ceremony every year. During the commendation ceremony, the Company's senior management discusses the supply chain targets and demands of quality, technology, delivery time, service, and cost directly to the suppliers. Through the internal evaluation activities held annually, NTC rated the suppliers of raw materials, components, and equipment in 2017 and made commendations to eight outstanding suppliers in the 2017 supplier conference. Moreover, NTC also organizes education and training programs through workshops and conferences to convey the concept of quality with case studies to instill the practices of supply chain management.

Additionally, NTC set up the Material Review Board. Through supplier evaluation, audit, consultation for improvement, performance evaluation, and supplier conference, the Company strives to instill the practices of sustainability into daily supply chain management via cooperation. In addition, the Company calls an Operation Management Risk Committee Meeting quarterly to identify risks associated with supplier production capacity, quality or supply chain interruption issues with the wafer plants. A report is compiled and submitted to the Risk Guiding Committee (chaired by the President) quarterly.

Supplier Education and Training (held on August 23, 2017)

Topics: Quality Promotion, Process Change and Abnormality Management, Experience Sharing Number of Participants and Companies: a total of 31 participants from 15 major suppliers attended the event.



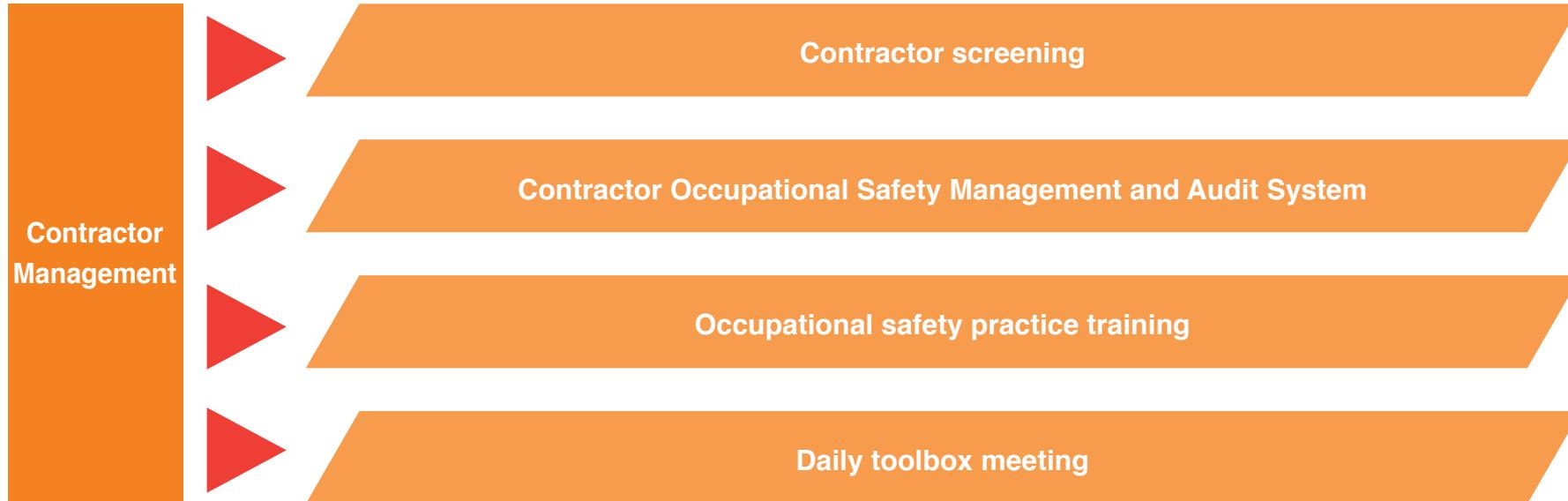
Packaging and Testing Supplier Conference



2017 Supplier Commendation Ceremony



3.2 Contractor Management



Contractor screening

To reinforce safety management, control the quality of contractors, improve contractors' occupational safety standards, and prevent their employees from injuries, NTC implemented a tiered system for contractor management.

NTC collected information from various professional engineering contractors, and evaluated their plants and work sites, engineering machinery, work-site safety management capabilities, technical abilities, and past projects. Based on the information, the Company classified contractors into three tiers, A, B and C. Contractors who meet the standards of each tier are eligible to submit quotations for the category and project scale they intend to undertake. Contractors who do not meet the standards of the three tiers may apply for upgrade consultation at the Formosa Plastics Group Contract Center.

Contractor Occupational Safety Management and Audit System

Contractor safety has always been a focus of the Company's occupational safety and health management practices. NTC values the contractors as much as it values the employees. The Company respects and appreciates the contractors for their dedication to construction and maintenance of the Company's projects with their professional equipment and technology. To facilitate smooth operation of the projects, NTC focuses on quality and progress control, as well as maintaining an outstanding work environment and safety management. In addition to the contractor management system, contractor occupational safety management evaluation system and occupational safety practice training program already implemented, NTC carries out pre-work checks for physical and mental health, as well as implements professional education and training to familiarize the workers with the relevant rules and instill the concept of safe practices, aiming to achieve the targets of zero disaster and zero accident.

NTC follows the standards and systems set up for contractor management by the Formosa Plastics Group. The safety and health management standards for the contractors are the same as the standards applied to the employees. As always, the Company controls from the source and all practices - from construction design, budgeting, and contracting to contractors entering the site - are controlled by computerized systems. The Company screens out outstanding contractors to participate in expansion projects or annual maintenance, and enhances contractors' construction technology and occupational safety awareness through the certification training system, targeting to minimize the occurrence of occupational disaster.

Following the project management standards of the Formosa Plastics Group, NTC incorporates the cost of occupational safety and health management into the project budget, and lists the occupational safety and health facilities requirements on the contract. When soliciting quotations from contractors, the quoted cost for occupational safety management may not be lower than the budgeted cost. This is to prevent the contractors from overlooking the importance of occupational safety and health management due to price competition.

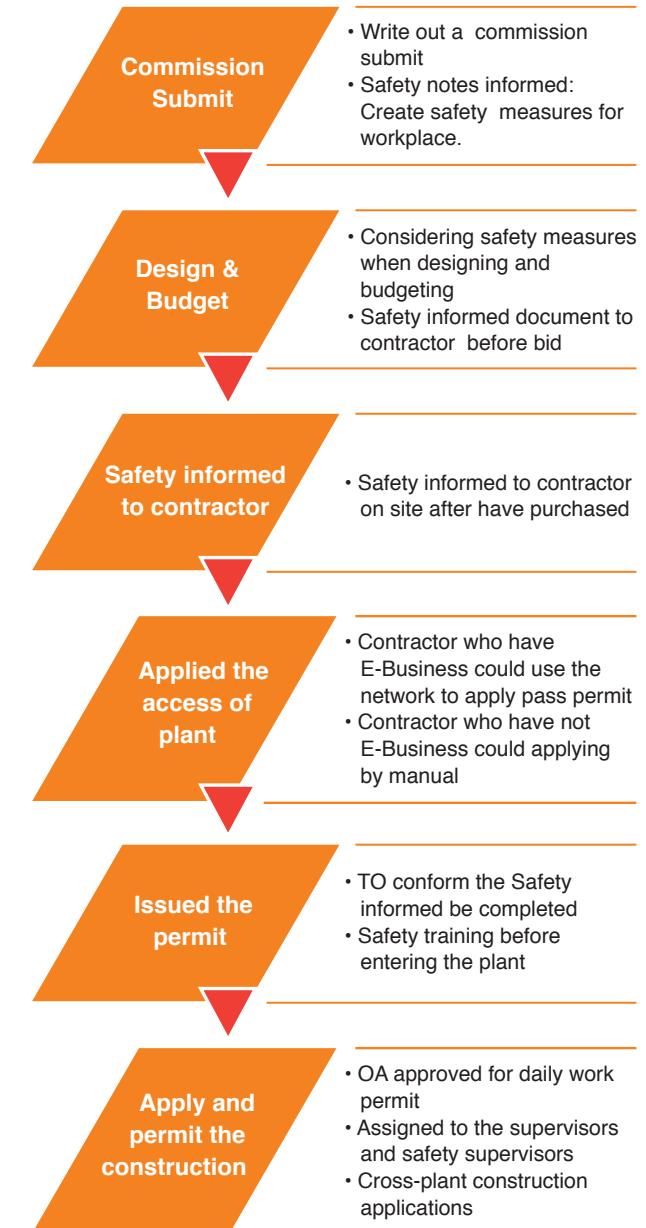
The benchmarks for calculation of occupational safety and health management are shown below:

Engineering safety and health benchmark

Item	Amount (NT\$)	Site Safety and Health Expenses (%)	Description
1	30,000 or less	5%	
2	30,001 to 1 million	4.5%	No less than 1,500
3	1,000,001 to 5 million	4%	No less than 45,000
4	5,000,001 to 10 million	3.5%	No less than 200,000
5	Over 10 million	3%	No less than 350,000

Statistics of Safety and Health Expenses over the Past 3 Years

Year	Project Safety and Health Expenses (NT\$)
2015	90,317,008
2016	122,813,177
2017	129,907,185



Occupational Safety Practice Training

NTC set up comprehensive contractor management standards in accordance with the industry practices, including construction permit management procedures, safety and health standards, and various control forms, such as construction application form, open fire operation application form, application for use of electricity, checklist for workers carrying out high risk operations, and emergency response guidelines for abnormal situations. All contractors are required to sign the contract and construction safety notice, which is intended to notify the contractors of the work environment, hazard factors, and relevant safety and health regulations. In addition, the various safety and health management standards implemented in NTC, including self-checks, occupational safety personnel inspection, employee work observation and interview, and accident reporting and investigation, are also applicable to the contractors. Through the full-employee monitoring mechanism, when the contractors are found to have unsafe practices, the abnormalities can be reported to the central control room or to the occupational safety personnel through the foreman via the various safety and health management mechanisms. All employees of the contractors are required to pass the contractor safety and health education and training program before entering the site. The purpose of this training program is to inform the workers of the hazard factors in the work environment and to ensure that they comply with the safety regulations and raise their safety awareness. Site supervisors are also required to pass the safety supervision training course before they can enter and work at the site. The purpose of this program is to ensure that the supervision staff understands their responsibilities and duties to prevent occupational disasters.

Contractor Training Courses	Year	Total Training Hours	Number of Participants
Safety and Health	2015	22	1,797
	2016	54	5,929
	2017	45	3,509

Daily Toolbox Meeting

To ensure the safety of the contractors' employees during operations, prevent accidents and eliminate occupational disasters, the Company presents the contractors with clear information of the work environment and the safety and health measures required during the project tendering. After being officially engaged, the contractor is required to follow the rules strictly. Everyday, a toolbox meeting before work commences is held to remind the workers of the safety rules and carrying out safety checks before, during and after work. The temporary structures, safety and health facilities, pollution prevention measures, and disposal of waste and construction debris shall be constructed or carried out in accordance with the laws and regulations and the standards of the Company. In case an occupational accident occurs due to the contractor's failure to follow the rules, the contractor's engagement with NTC will be suspended or terminated.

Currently, 3TG metals are used in the following applications:

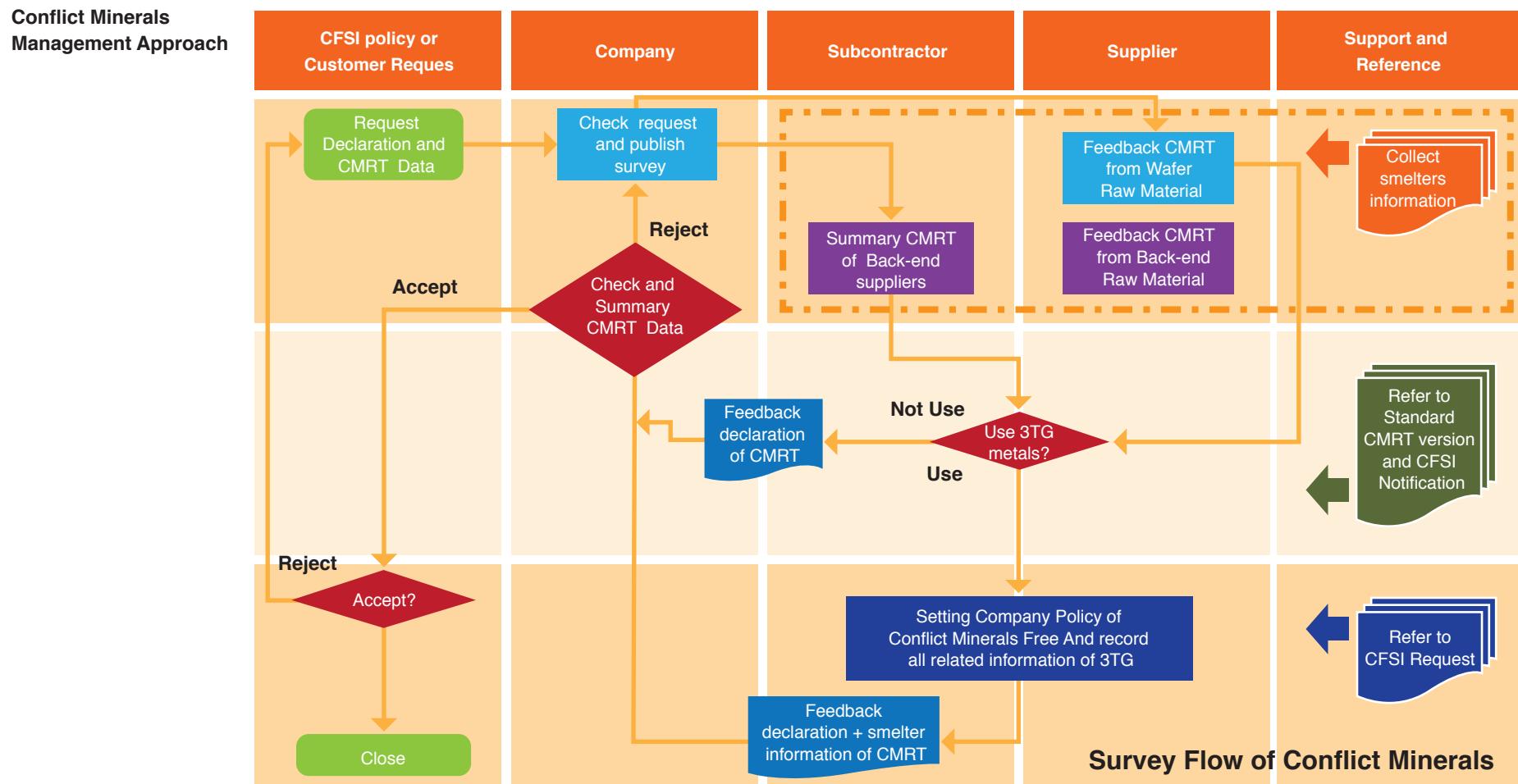
Name of Metal	Product Applied	Category of Application
Gold	IC	Gold Wire
Tantalum	Wafer	Wafer process target
Tin	IC	Paste, solder ball, tin wire
Tungsten	Wafer	Wafer process target

Conflict Minerals Management

To fulfill the commitment for conflict mineral free practices , uphold the responsibility as a member of the Responsible Business Alliance (RBA) and comply with the Responsible Minerals Assurance Process (RMAP), 4 contractors and 6 raw materials suppliers of NTC have completed the conflict minerals supplier chain survey. And 43 metal materials suppliers are confirmed to be 100% compliant with the conflict minerals-free requirements. NTC is committed to making tangible contributions to the environment and the industry's supply chain.

Suppliers who use 3TG or whose materials contain 3TG are required to undergo an survey through the Conflict Minerals Reporting Template (CMRT) and provide the results to ensure that the supply chain is not involved in illegal funding of warlords or armed organizations that violate basic human rights. The minerals used in the Company's products, including gold, tantalum, tin, and tungsten (collectively 3TG), may have come from the Democratic Republic of Congo (DRC) or its neighboring countries, and part of the source is recycled metals.

NTC has not directly purchased raw minerals or unrefined 3TG, neither will it purchase illegal minerals from armed organizations in the Democratic Republic of Congo, the neighboring countries or other conflict areas. NTC ensures that its supply chain does not directly or indirectly fund illegal organizations.



- Preparation for the Survey

NTC's supply chain has a multi-layer relationship with the sources of raw minerals. Therefore, before a survey is conducted, the Company inspects its raw materials supply chain and identifies the applicable categories of 3TG in its products. Next, the Company screens out the suppliers that require the conflict minerals survey to conduct a up-downstream investigation and uses the standard survey tool defined by the Responsible Minerals Initiative (RMI) to derive the latest list.

- Due Diligence (DD)

The due diligence of NTC includes the following areas:

1. Establish a supply chain management system
2. Assess supply chain risks
3. Periodical update of the latest information and standards released by the Responsible Minerals Initiative (RMI)

4. Report on supply chain survey

- Results of Due Diligence

1. Set up an internal team to manage the conflict minerals due diligence program of NTC
2. Disclose the Company's conflict minerals policy on the Company's website, including the latest status of the 3TG survey in the supply chain
3. Require suppliers to use the Conflict Minerals Reporting Template (CMRT) to provide supply chain smelter information - response rate is 100%
4. Publish the list of smelters that have been confirmed by due diligence
5. Publish the supply chain due diligence report

- Classification and Survey Data of 3TG Related Products

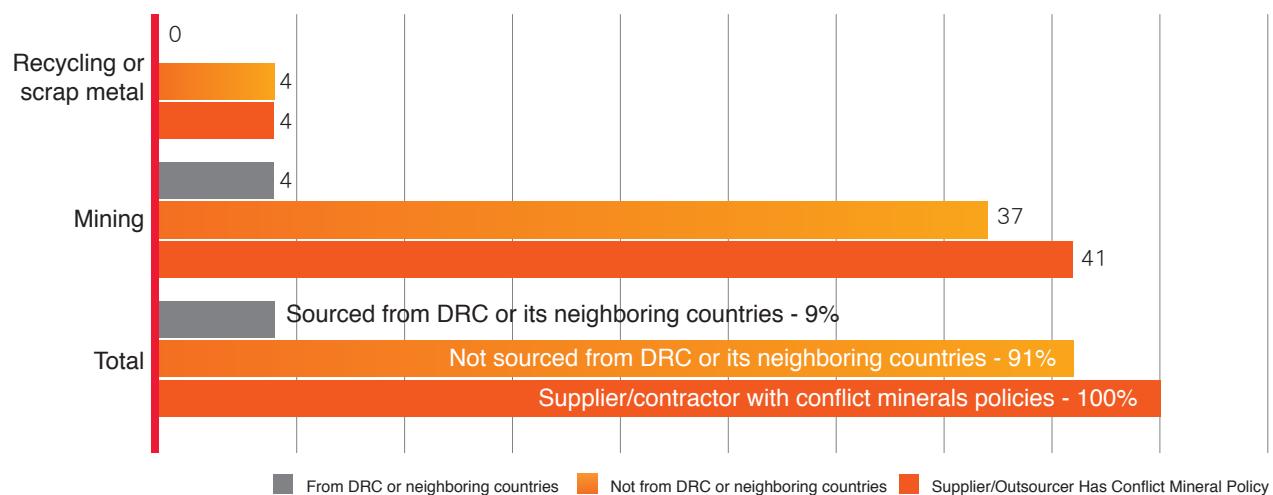
NTC is currently a supplier of SDRAM. According to the due diligence and the list of qualified smelters confirmed by the Responsible Minerals Initiative (RMI), 43 suppliers of metal materials provided their sources of 3TG metals.

In addition, 45 smelter were identified in the supply chain survey:

1. 45 smelters have been audited and certified by the Responsible Minerals Initiative (RMI); among them,
2. 41 smelters supplied 3TG metals from mining
3. 4 smelters sourced 3TG metals from recycled or scrap metals.
4. 4 smelters purchased 3TG legally from DRC or the neighboring countries.

Procurement of 3TG Metals	Total	Mining	Recycled or Disposed Metals
Supplier/Contractor with Conflict Minerals Policies	45	41	4
Not Sourced from DRC or Its Neighboring Countries	41	37	4
Sourced from DRC or Its Neighboring Countries	4	4	0

3TG Metal Smelter Survey



In the future, NTC will continue to follow up on the Responsible Minerals Assurance Process (RMAP) policy and conduct due diligence to reduce the risk of the supply chain:

1. continue to work with suppliers/contractors on supply chain surveys to ensure data accuracy
2. use the power of supply chain to connect and require 3TG smelters to pass the the Reponsible Minerals Assurance Process (RMAP) verification process to ensure the sources of the minerals
3. carry out supplier audits to assess the conflict minerals policies and practices in the supply chain



Building A Green Future - Green Process

Nanya Technology integrates both production and operations by combining the plant and the office. The Company builds up green process management through greenhouse gas reduction, reuse and recycling of resources, and incorporate environmental friendliness concepts in our product design.

- 4.1 Green Building Planning
- 4.2 Eco-friendly Products
- 4.3 Environmental sustainability management
- 4.4 Climate Change Management



Sustainable Development Goals and Key Performances

Material Issues	2017 Targets	2017 Achievements	2018 Targets	2021 Targets
GHG Management	Removal rate of process PFC emission needs to reach 90% and above.	Removal rate of process PFC emission reaches 90% and above.	<ul style="list-style-type: none"> To decrease greenhouse gas emissions for single unit product by 2.5% comparing to 2017. To complete inventories of scope 3 of greenhouse gas. 	<ul style="list-style-type: none"> To decrease greenhouse gas emissions for single unit product by 10% comparing to 2017. (Metric ton- Carbon dioxide equivalence/ 12 inch wafer equivalence- Amount of Photomask)
Resource recycling	The average annual process water recovery rate is 87%. Completed annual water saving plan with a target saving of 1,288 CMD (M ³ /Day).	The average annual process water recovery rate is 88.6%. Completed annual water saving plan, actual water saving result of 1,788 CMD.	<ul style="list-style-type: none"> The process water recycling rate is 90% in average per year. Completed annual water saving plan with a target saving of 500 CMD. 	<ul style="list-style-type: none"> To decrease water consumption per unit area of production by 25% comparing to 2017. The average annual process water recovery rate is 94%.
Eco-friendly products	<ol style="list-style-type: none"> Products comply 100% with international and customer specifications in zero hazardous substances. Continue the process of substitution of chemicals for substances containing perfluorooctanoic acid (PFOA related substance). 	<ol style="list-style-type: none"> Products comply 100% with international and customer specifications in zero hazardous substances. 85% of the processed chemicals do not contain any perfluorooctanoic acid (PFOA) or related substances 	<ul style="list-style-type: none"> Products comply 100% with international and customer specifications in zero hazardous substances. Completed 70% of 2017 Product life cycle assessment. 100% of the processed chemicals do not contain any perfluorooctanoic acid (PFOA) or related substances. 	<ul style="list-style-type: none"> Products comply 100% with international and customer specifications in zero hazardous substances. Complete 100% product life cycle assessment. Complete built of energy-saving semiconductor now at the application stage ready for assessment.

Management Approach

Vision & Goals

"Our Common Future" emphasize on the concept of sustainable human development: Humans having the ability to continue developing, and ensure that they can meet the current needs without endangering the ability of the next generation to fulfil theirs. While improving commercial competitiveness, NTC will strive to reduce the impact towards the environment by applying two major international approaches of mitigation and adaptation.

Materiality Issues

1. Greenhouse gas management
2. Resource recycling
3. Eco-friendly products

Channels of Communication

- | | |
|--|---------------------------------------|
| 1. Nanya Technology's official website | 2. CDP questionnaire |
| 3. Customer communication channel | 4. Supplier communication channel |
| 5. Government communication channel | 6. Shareholders communication channel |

Management Flow

1. Promoting Green Building concept in order to implement energy conservation and carbon reduction at the factory offices
2. Understanding the demands of clients towards low-energy-consumption products
3. Working together with the suppliers to design low-energy-consumption products to meet the client's expectation
4. Training and Education
5. Regulatory compliance and review
6. Risk assessment
7. Investigate the impacts of the process towards the environment and propose specific actions and supervisions

Relevant Policies and Actions

1. Green factory offices building
2. Design low-energy-consumption products
3. Zero Hazardous Substances (HSF) Policy
4. Product packaging materials reduction
5. Wastewater recycle and reuse plan
6. Pollution prevention and control
7. Adaptation and mitigation of climate change
8. Ordinance verification and adjustment
9. Improve carbon management mechanism through participation in CDP

4.1 Green Building Planning

NTC established its headquarters, new factory and made investments in facilities in 2017 and hope to increase competitive advantage in Memory Market further meeting various needs from clients and create more job opportunities through 「Factories and Offices Integration」. NTC will add corporate social responsibility to its business strategy to bring admiration to the memory industry as well as to create sustainable value for the company.

The new 3 A-N factory is planned, designed and built according to the Taiwan Green Building Evaluation System (EEWH). Besides using low-emission, low-pollution and recyclable building materials, it also reflects major indicators such as ecology of green building, energy conservation, waste reduction and health. The various indicators in the group include greening, energy-saving lighting, energy-saving air reconciliation, carbon dioxide reduction indication and etc. while the water resources and water retention base exceed the regulatory design specifications.

While at the planning stage itself, the 3A-N factory won Silver Level Certification for Green Building Labelling of the Architecture and Building Research Institute in 2015 based on the guidelines of the Taiwan Green Building Labelling (EEWH). In 2017, it received the silver attestation for Green Building Labelling. Hopefully, the implementation of environment protection will fully meet its corporate social obligations. The estimated power saving is 6.2%, and the indoor bathrooms are fully equipped with facilities labelled as water-saving that will decrease water waste significantly (excluding process facilities).

Green building effectiveness

Large index group	Indicator Description	Explain the current effectiveness of green building
 Ecology	1.Biodiversity indicators 2.The greening index 3.Base water retention index	1. 3A-N factory is designed using native species, the arbor tree or species of tree that attracts birds and butterflies as the main materials. Besides the greening on the ground floor, a green space is designed for the roof and facade, increasing the sequestration of carbon dioxide effectively through the greening design. Helps to mitigate the daily warming of earth's climate crisis, promotes soil microbial activities and thus greatly benefits the ecological environment. 2. Through the JW Ecological Construction Method (JW is derived from the abbreviation of the inventor's English name, Jui Wen Chen), design breathable road. Through this water conservation design, the water-retention capacity of the base is effectively increased.
 Energy saving	4. Daily energy-saving index 5. CO ₂ reduction index	Through outdoor patio direct the natural light and using LED lights for indoor offices, meeting rooms and related electromechanical spaces, without affecting the indoor illumination, will greatly reduce the energy consumption of lights.
 Waste reduction	6. Waste reduction index	During the planning stage of factory 3A-N, repairs and maintenance of electromechanical, air-conditioning, telecommunication network, pipelines, etc., have been considered, thus sufficient space and channels have been reserved to ensure no structures and decorations are damaged during the repair and maintenance work. The electromechanical air-conditioning equipment on the roof is set on a pedestal to prevent damage to the waterproof layer during repair and maintenance work. Reducing the amount of follow-up building materials used can not only reduce CO ₂ emissions, but also reduce waste production.
 Health	7. Indoor environment index 8. Water resources index 9. Sewage waste improvement index	1. staff resting space: In factory 3A-N, 9F of headquarters building has venues for ball sports, playground, gymnasium etc., for staff welfare. 2. Location safety control: Factory 3A-N monitors the quality of indoor condition, access control and other indicators at all times through central control room to guard the health and safety of the staff. 3. Through a combination of technology and art, the bathrooms are equipped with water-saving facilities to significantly reduce water consumption indoor. 4. Through landscaping landfill and indoor garbage classification, recoverable garbage will be sorted out to significantly reduce the quantum of garbage .

Green building performance

Our country's green building assessment mechanism is established based on the subtropical high-temperature and high-humidity climate characteristics in Taiwan. The assessment labelling is based on four major indicators including, ecology, energy saving, waste reduction and health. NTC is deeply aware that the global issue is imminent and hopes to minimize the impact on the environment during its operation. FAB-3A-N factory also received silver award as a green building. In future, new facilities for factory operations will come up meeting the optimum state in energy-saving.

Green building description

•Ecology

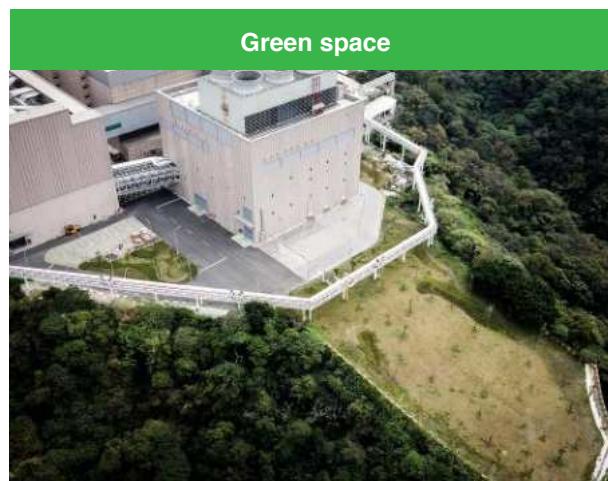
NTC creates 'a breathable path' by greening the plant area and adopting on-site water retentive to improve soil fertility as well as to promote the development of the ecosystem to lower the temperature and carbon dioxide absorption to achieve water retention of 100% and also increase the carbon fixation to 41%.



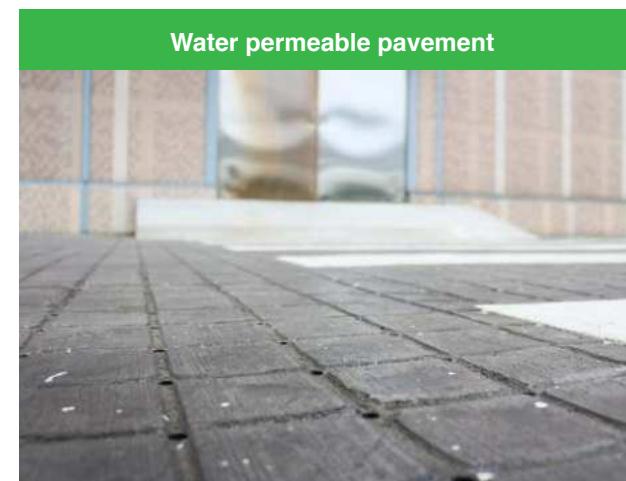
Water permeable pavement



Green space



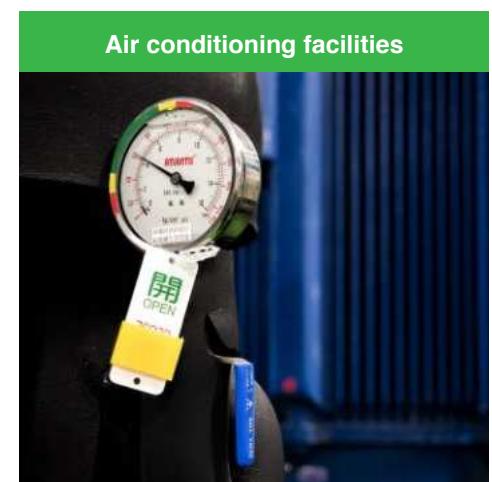
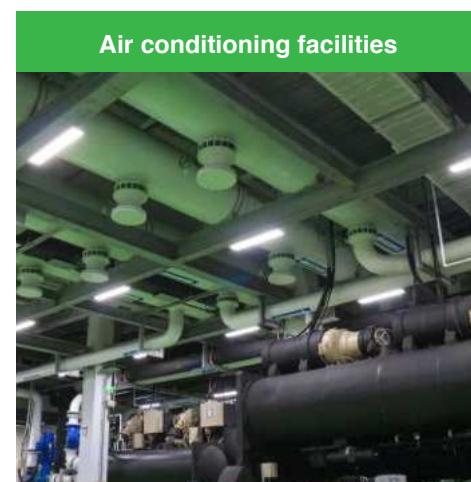
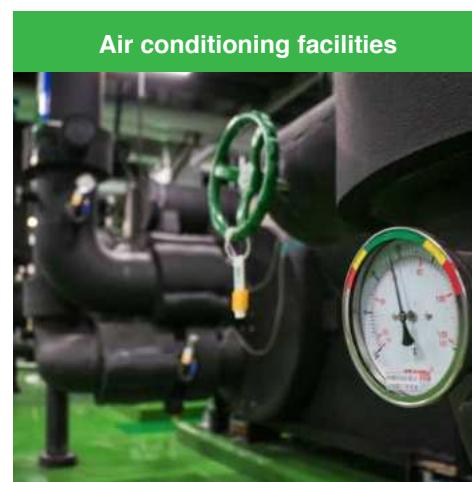
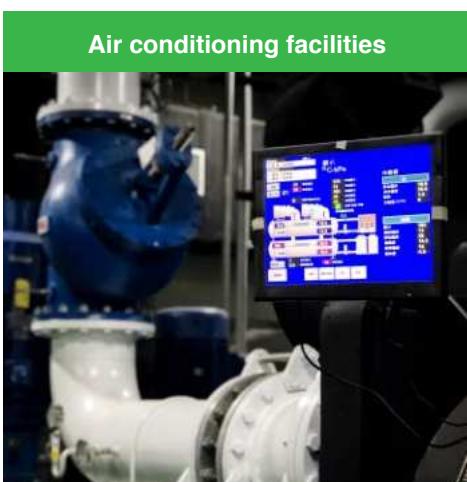
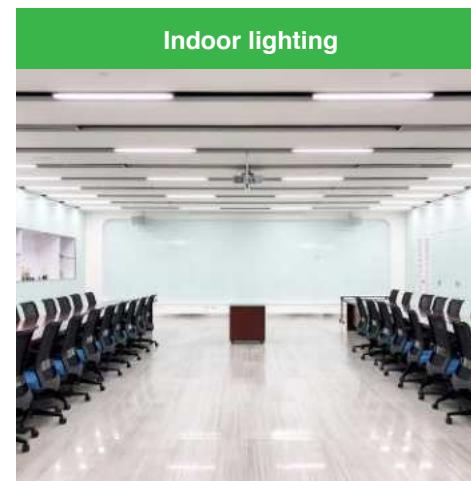
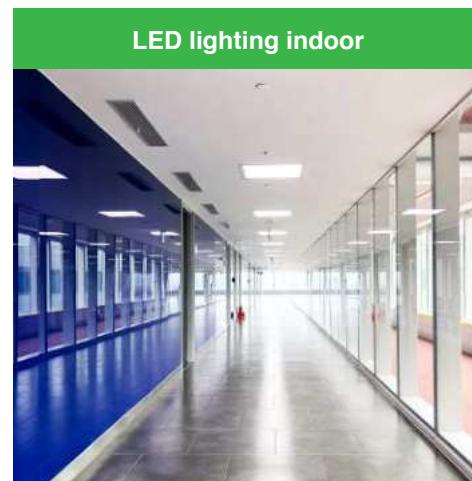
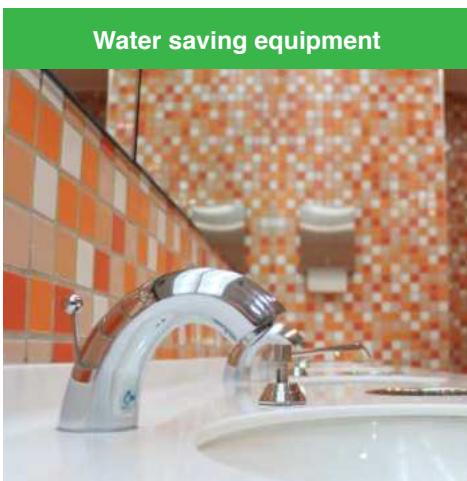
Green space



Water permeable pavement

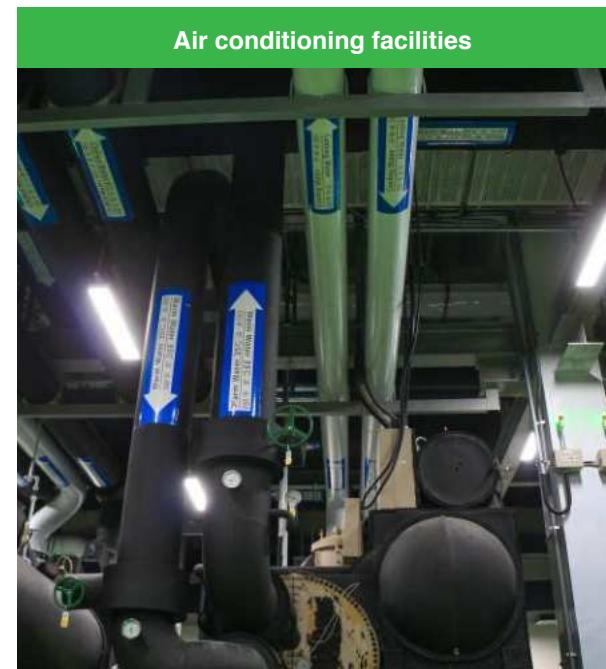
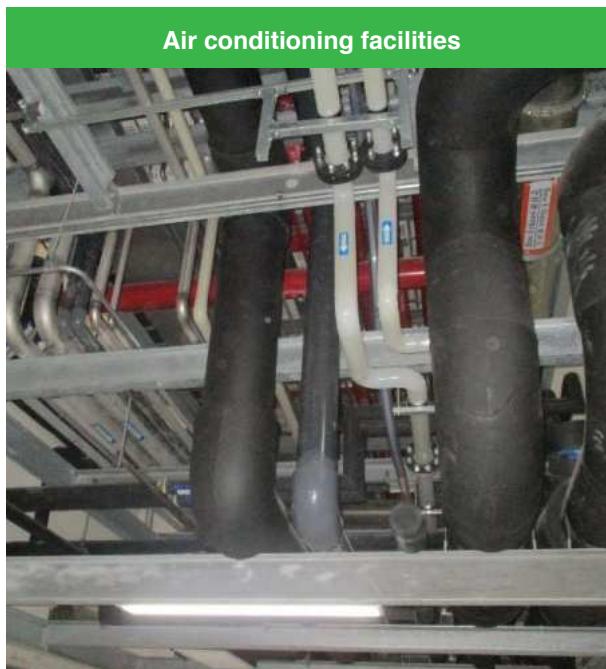
•Energy saving

As the exterior wall was designed with high thermal insulation glass curtain and metal sandwich panel, it's able to reduce the indoor air conditioning load requirement. The 3A-N factory uses dual-chilled water system, heat recovery of chiller system and also has the high efficiency chilled water system, so, it can drastically reduce the air-conditioning power consumption and save energy up to 25%. Lighting need is met through skylights and the LED lights used in the indoor office, meeting room and related electromechanical space, which can reduce power consumption and save about 6.2% energy without affecting the brightness indoors.



•Waste reduction

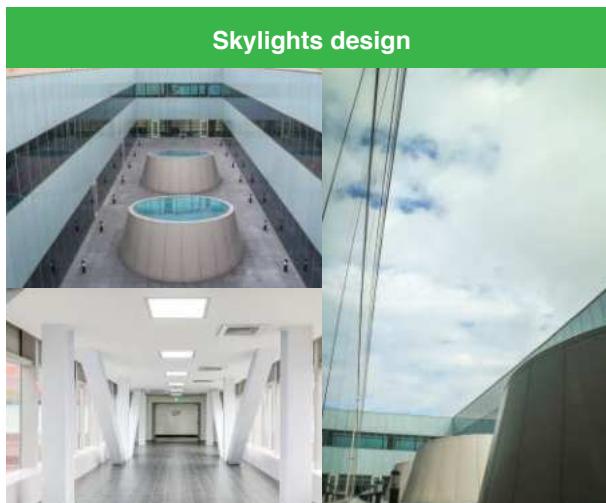
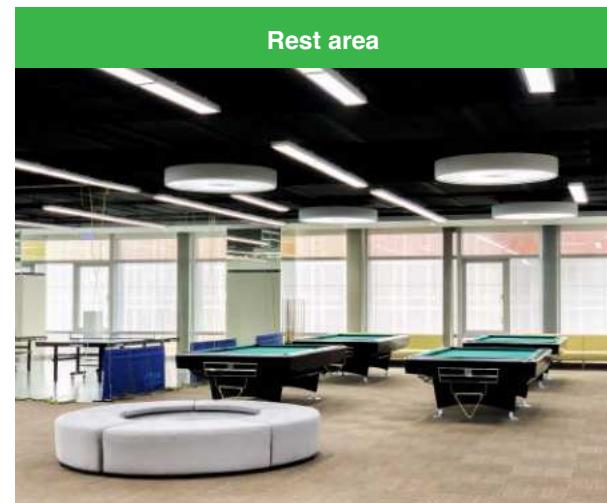
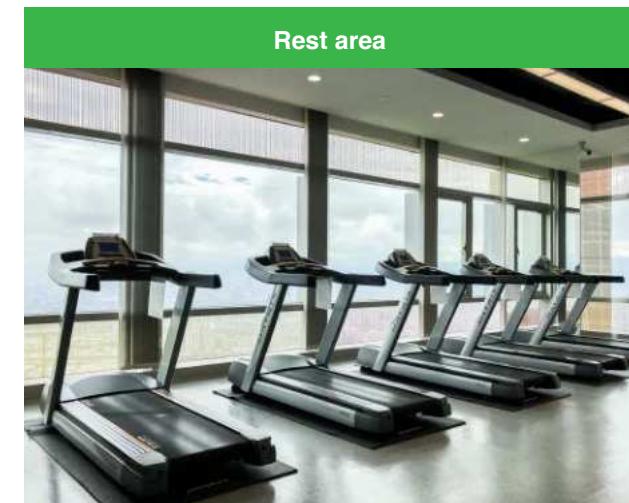
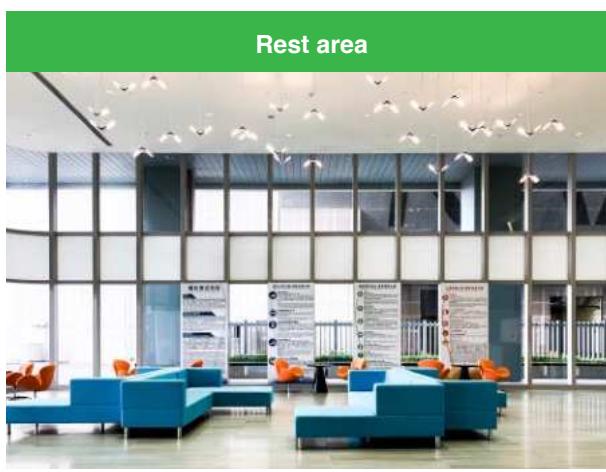
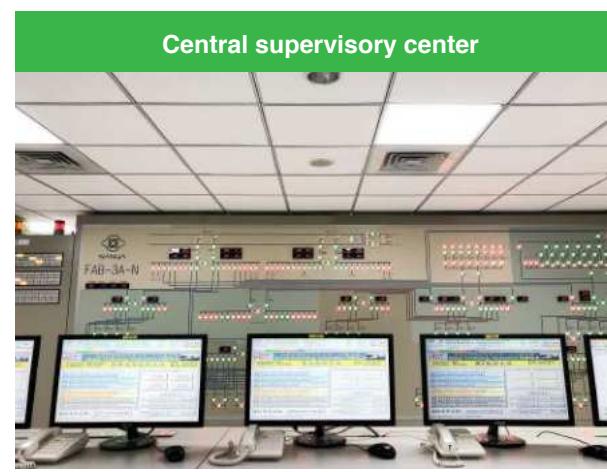
The CO₂ emission from the buildings is referred as the CO₂ reduction (CCO₂). The structure of reinforced concrete and steel concrete is designed to reduce the use of concrete, as well as renewable building materials including blast furnace cement and high-performance concrete, which can reduce the carbon dioxide in the buildings. In Taiwan, the Green Building index CCO₂ value is 0.41, which means NTC has several buildings with lower CO₂ emission. In addition, through the people-oriented design, from the perspective of operation and maintenance, some space are reserved for maintenance along the electromechanical systems to enable operators and maintenance personnel to inspect and maintain the buildings without hindrance. and Besides the design of uncovered pipelines can prevent damages to the renovated areas and wastage of building materials during maintenance work in the future.



• Health

In relation to the Human Health and Environmental Index in the building, including air and sound, the company has used soundproof system and score 85% of the total marks of 4.25. The air ventilating environment has scored full marks of 5. The Interior Building Materials and Construction has scored 87% of the total marks, which is 4.35 marks; The Employee Leisure and Health Management area has scored full mark of 1.

The indoor sanitary facility has equipment with water-saving devices that can considerably reduce the wastage of water. Then, sorting of waste by recycling metal containers, paper containers, Tetra Pak packaging and paper lunch box, can considerably reduce the generation of waste.

**Skylights design****Rest area****Rest area****Rest area****Central supervisory center****Interior quality monitoring device**

The management of Green Building

After the Green Building is completed, the next important activity will be its operation and maintenance. To ensure that the building and energy efficiency are fully optimized, the building's maintenance has been planned to ensure the renewal of the building's certificate. The Green Building Labeling Certification (EEWH) is valid for five years. To ensure that it is continued even after five years, the building consultant has to audit it and suggest corrective measures based on periodic assessment. To also comply with the annual factory facilities maintenance, and a budget is planned for the building management and maintenance. The plan is as below:



The indicators

Content

Ecology

1. Other than watering, fertilizing and pruning regularly, if any tree, shrub, flower or lawn has withered and died for whatever reason, the management team will replant them according to its category, attribute and original position to ensure the efficiency of CO₂ reduction.
2. Onsite planting, groundcover, grassed swales, permeable paving, garden soil or other special water retention design (Example: infiltration and retention with open field, infiltration and retention with landscaped pond, permeable drain pipes, permeable trench drains and permeable drain wells and others.). its original status should be retained and the paving material is not changed or its usage.

Energy saving

1. Building Envelope:
 - (A) CCompact wall: For the exterior wall and its inner and outer layer materials, changes can only be made after obtaining approval from competent authorities.. If that is not the case, changes should never be made.
 - (B) Opening parts: If the doors and windows need to be replaced, they shall be limited to the original position and size.
2. Air conditioning system: In addition to routine maintenance, if any changes are to be made to it or new one is to be installed , they should be reviewed separately.
3. Lighting system: The position of light fixtures and the number of light bulbs shall not be changed arbitrarily. If light bulb or fixture is to be changed, the one replacing it should be an equivalent product or has higher energy-saving, high efficiency and low power consumption to achieve energy conservation. The lighting switch circuit shall also not be changed arbitrarily.

Waste reduction

Our building will follow the instructions of the Green Architecture Evaluation Manual including the principles of 'the index of CO₂ Reduction ' and ` the index of Construction . Any changes made to the building will also conform to all the regulations to revisions, and recalculations and the project evaluated suitably.

Health

1. Various water-saving facilities and rainwater recovery systems, besides routine checking and maintainence , facilities with certified badges in water-saving effects should be used when upgrading facilities or installing new ones.
2. Sewage and garbage indicator facilities should be maintained in their original state and their usage shouldn't be changed arbitrarily. If any department goes against the aforementioned regulations, such action should be restrained. Any offender who fails to comply with the notice will be reported to the top management, and will be ordered to restore to their original state.
3. If any replacement is made or a new set up is planned with Indoor environment indicator and Worker Recreation and Health Management Indicator facilities, they should first be reviewed whether the particular area complies with the original approved plans.

4.2 Eco-friendly Products

NTC considers protecting the Earth together as its motto and is focused on developing advanced and highly efficient environment-friendly products. It'll not only assist customers by designing low-power- consumption products, but also manage the hazardous products and conflict minerals by influencing the supply chain.

In order to sustainably increase the environmental friendliness of the products, Nanya Technology Corporation has followed the Life Cycle Thinking, LCT and Design For Environment from the perspective of new product development, environmental impacts such as purchasing, manufacturing, transportation, product use as well as disposal and recycling are considered, to identify areas for improving the environment. Besides, through the Life Cycle Assessment tool-Simapro database, we will evaluate the product for environmental impact and identify the direction of improvement in the environmental footprint. At the same time, we have also accumulated the Product Environmental Data and Coefficients through LCA analysis to construct a decision support system for the development of green products by Nanya Technology Corporation and extend it to other new product development in the future. Currently, we conduct LCA assessment project analysis for TV Memory and the results will be evaluated by external agencies in accordance with ISO 14064 Scope 3.

Nanya Technology Corporation Green Design Matrix

	Procurement	Manufacturing	Transportation	Product use	Waste recycling
Energy efficiency	✓	✓	✓	✓	
Greenhouse gases	✓	✓	✓	✓	
Material reduction	✓	✓	✓		
Conflict minerals	✓				
Hazardous Materials	✓	✓			✓
Waste reduction		✓			✓
Water resource reduction		✓			

Environmental external benefits

The development of new products will evaluate the environmental impact of LCA, for electronic products, one of the most significant indicators being energy consumption during usage stage. NTC is actively developing low-power-consumption products assisting customers to reduce energy requirement and reducing greenhouse gas emission while using electronic products.

214,300,000 kWh power saving

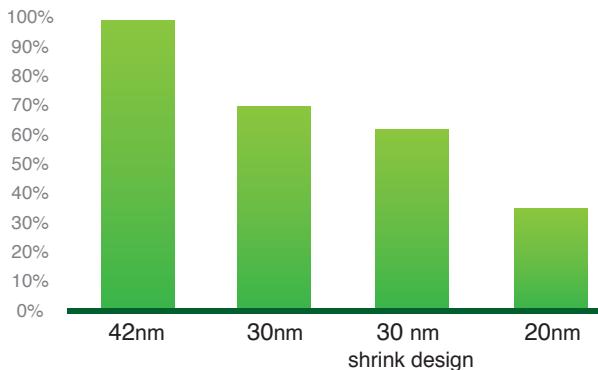
- Product: Low power DRAM product and 20 nanometer consuming DRAM product
- Scope: Total sale of year 2017
- Calculation: Assume that the product is based on a 2-year new product cycle and usage
- Benefits: Energy saving, carbon reduction

The low-power DRAM product and 20 nanometer consuming DRAM product sold by NTC in 2017 has lower operating voltage and current and also lesser power consumption than the previous generation, measured by the new product cycle of 2 years and the usage of the electronic products, which can save about 214,300 kWh (7.7×10^8 megajoules) of power. This can reduce 56,683 metric tons of CO₂ emission every year. The Taipei Daan Forest Park can absorb 389 metric tons of CO₂ per year, and the savings from electricity saved by the products is equivalent to the quantum of CO₂ absorption by 146 sets of Daan Forest Parks. It contributes to the company's efforts for expansion in operation and protection of the green Earth.

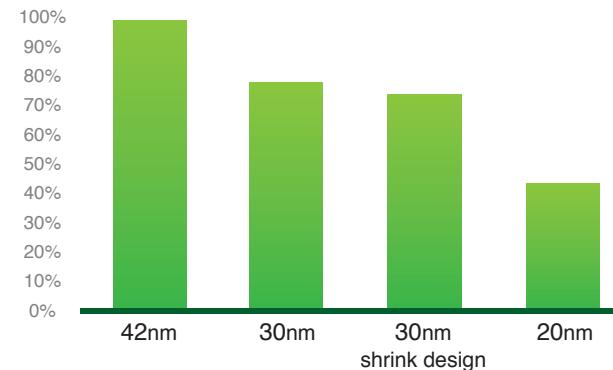
Low power products development

NTC actively participates in advanced processes based on 42 nanometer process technology memory die size considered as 100%, which translates to 70% in the case of 30 nanometer process memory die size, , and 35% in the case of 20 nanometer process memory die size (as shown on the left of the diagram below). Based on 42 nanometer memory product power consumption as 100%, the 30 nanometer process memory product power consumption is lowered to 80% of the 42 nanometer process, and the 20 nanometer process memory product power consumption is further lowered to 45% of the 42 nanometer process(as shown on the right diagram below):

Optimize chip size with advanced manufacturing process



Reduce product power consumption with advanced manufacturing process

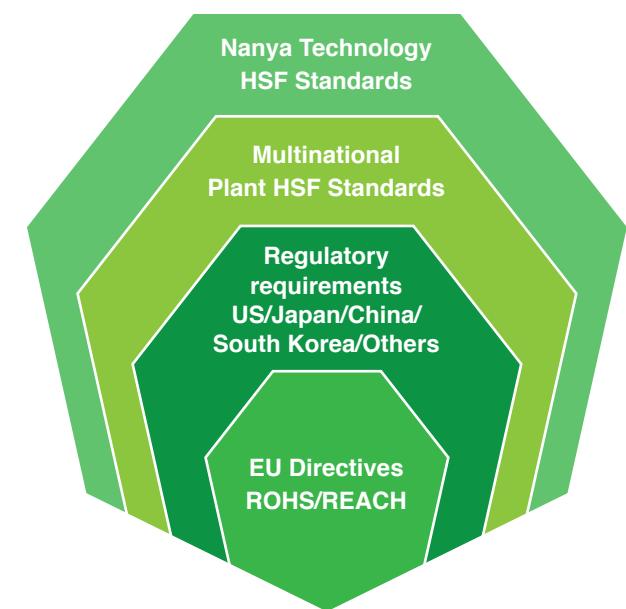


Hazardous Substance Free products

NTC has set up the Green Product Promotion Committee (GPPC) in 2005 to implement the Hazardous Substances-Free (HSF) process. It targets to meet the goals including pollution prevention, economization of energy sources, reduction of wastes and hazardous substance control and management. and actively connects with its suppliers and subcontractors from raw materials of processes to assembly production and packing of shipment to develop an efficient supply chain of eco-friendly products. The objective is to conform to the current laws and regulations, reduce environmental expenses and effectively manage the usage of hazardous substances during the production process.

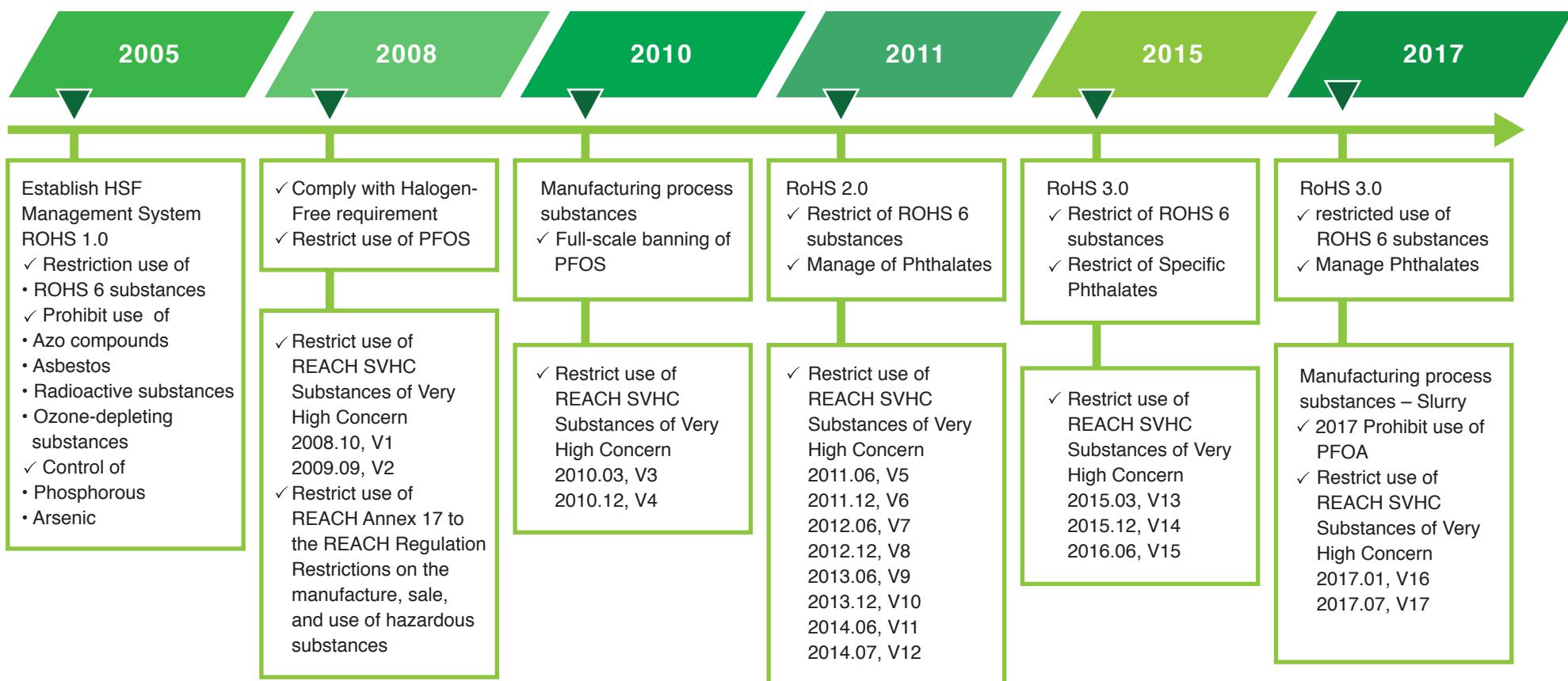
- Hazardous Substance Free (HSF) Policy**

To establish the Hazardous Substance-Free (HSF) Management based on general guidelines for "Environment-related to be Controlled" substances in parts and materials mentioned in the regulations of European countries and others, as well as customer specifications through the Green Product Promotion Committee (GPPC), NTC focuses on raw materials and other product-related materials to effectively meet the Green product specifications to minimize the environmental impact during production and to pursue Green Technologies that coexist with the environment.



- **Compliance with current and future regulations**

To ensure that all wafer products and IC assembly products of NTC production comply with international regulations and customer requirements on hazardous substances management followed the Hazardous Substance Free Management system, including:

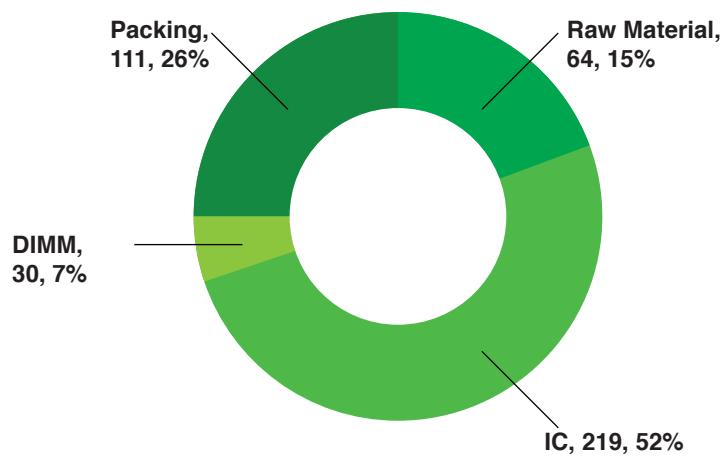
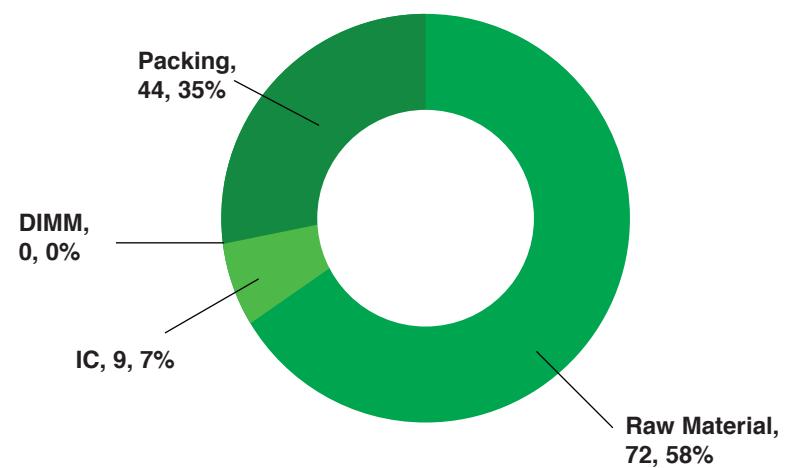


• Hazardous substances restriction and management

NTC has formulated the guidelines for “Environment-related to be Controlled” substances in parts and materials to actively control raw materials and related sourcing materials to meet directives of RoHS, REACH, Packing material and WEEE related national regulations and customer requirements, and meet the requirement of Green Product and lower the impact on the natural environment.

• In 2017, NTC has fulfilled the following processes of Hazardous Substances Management Restriction and Management (for homogeneous materials):

1. Review ROHS reports from a total of 4 subcontractors and 41 raw materials suppliers. There are totally 424 reports, and the completion ratio is 100%.
2. Completed REACH SVHC items (REACH SVHC V.16 & V.17) survey and hazardous substances by customer request for a total of 3 versions. Total 125 reports, completion ratio:100%.

Y2017 TEST REPORTS**Y2017 HS Surveys**

4.3 Environmental sustainability management

In the Environment, Safety and Hygiene Policy, NTC has focused on promoting waste reduction and resource reuse to comply with relevant regulations and commitment to environmental protection-related requirements, raise company's prestige and ensure its sustainability. For recycling and reuse of resources, NTC will propose an annual plan which includes the budget and work plan in accordance with the types and amount of waste and sewage that the Company predicted to be minimized and recycled every year after approval by the management team. In 2017, NTC built a new 12-inch wafer plant, FAB-3A-N, in the neighborhood of the FAB-3A plant. Test run will be carried out in the second half of 2017 and production will begin soon thereafter with many raw materials, utilities and other resources where at the output end many pollutants such as waste gas, waste water and wastes will be produced. Therefore, we have also invested significant resources on pollution prevention and management to minimize the impact on the environment.

- Project of Effluent reclamation and reuse of waste water**

NTC classifies waste water system into the following: acidic, alkaline, organic and HF. The acidic and alkaline waste water system already has a reclamation treatment system in place. By 2017, a reclamation treatment system with reverse osmosis will be added which can increase capacity of the reclaimed water by 288 CMD (M3/day). With the expansion, NTC has expanded the organic waste water reclamation system which can increase the capacity of the reclaimed water by 1,500 CMD to 1,788 CMD in total and of reclaimed process water by 88.6%. NTC plans to expand the HF wastewater reclamation system, which can reclaim another 500 CMD water by September 2018.

Copper sulphate waste solution reuse project was completed in year 2017.

NTC has expanded copper sulphate waste solution electrolysis management system, to reuse copper foil from the precipitate of waste solution. Initially, NTC produced about 24,693kg copper waste solution that needs outsource handling. Since June 2017, the quantum of waste release is 0kg, and the waste can be reused as copper foil.



Organic waste water recycling equipment



Acid and alkaline waste water recycling equipment



Copper sulphate electrolysis equipment



Electrolysis product copper foil

Raw material usage

The founder of the Corporation Mr. Yung-Ching Wang set corporate values focusing on " diligence and integrity", and the company has never wasted any raw materials in production. In addition to recycling, NTC also actively reviews the reasonableness and appropriateness of the use of raw materials in production. Simplifying the process in the use of raw materials can reduce waste and also lower production costs to achieve win-win situation both for the economy and for environmental protection. The company has a professional organization to set a goal every year to reduce the consumption of raw materials and regularly reviews the process. In 2017, a proposal with twelve improvements was conducted on the saving of raw materials used. Those include developing new process recipe, reducing process time, extending the life cycle and reducing the process usage. Modifying process of single wafer cleaning tool, which reduces the usage of IPA chemical by a third, and simplifying photoresist categories are the two main improvement plans of 2017.

Use and output diagram of Raw material

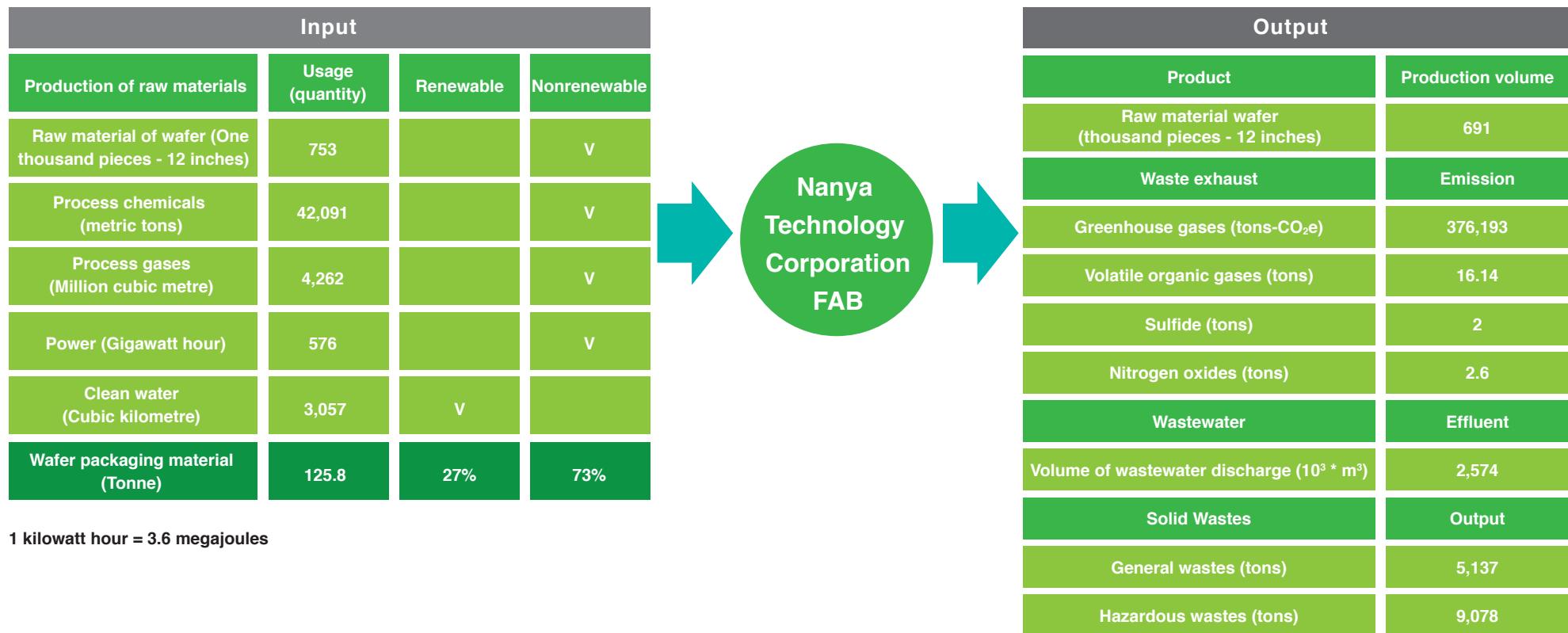
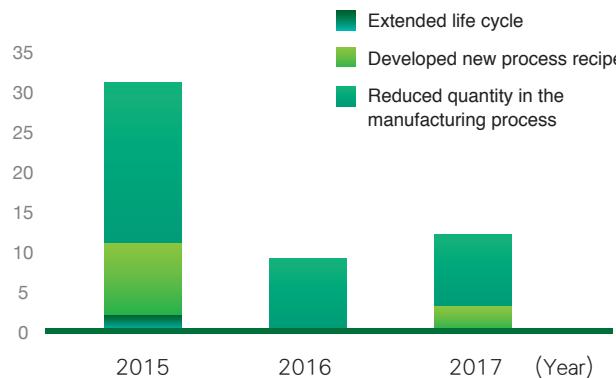
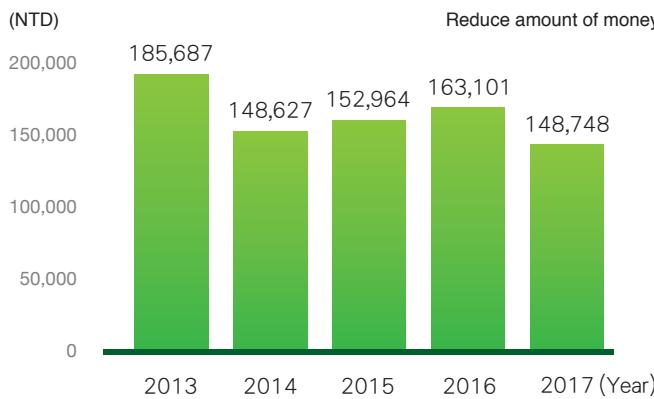


Chart showing improvement in



Packing material reducing effects



Ratio of recycled material used as raw material

During the manufacturing process, dummy wafer is used to monitor the manufacturing parameters. Dummy wafer can be used repeatedly 7.5 to 11 times after reclaiming. (the lifespan of wafer may differ according to manufacturing process) In this way, it not only saves on cost of buying new dummy wafer but also minimizes the production of waster.

Recycling of shipment and product testing packaging

Cartons, packaging boxes, cushioning material and wafer cassette used during the process of shipment to outsourced testing facilities or packaging factories are recycled as much as possible for internal reuse. Cassettes of raw wafer are also recycled for product shipment and the reuse rate is almost 100%. This approach minimizes the amount of product packaging materials and waste generated. Thus, 21,000 pcs of new 12-inch cassettes are reduced each year, equivalent to reducing the use of 94.5 tons of plastic.

Reducing product packaging material

NTC makes full use of the warehouse to support the recycling process. Reusable packaging materials from returned product are used for product exchange, storage and consignment. This is to reduce the number of requisitions to maximize recycle and reuse of packaging material and reduce the cost of packaging materials. Although the cost saving might not be significant, yet it greatly contributes in environment management and resource recycling. The following are some significant events:

Pollution prevention and control

Air pollution control

Ever since NTC set up the factory, it has taken the issues of pollution prevention and control seriously. Environmental management plan was planned to reduce raw material usage to reduce the concentration of exhaust emissions. Air pollution prevention and control equipment that comply with legal regulations were used, including local scrubbers, acidic or alkaline exhaust gas scrubbers, VOC Zeolite Rotor Concentrator and afterburners. Inspections over the years show that it has met the government's pollutant effluent standards. To continue to maintain the performance of waste management, every single equipment is maintained and inspected periodically. The operators are well-trained to maintain the system in operation and ensure that the exhaust gas emitted does not endanger the environment. In 2017, The maintenance cost for air pollution control was NTD 19,319,000 and a sum of NTD 464,500,000 was invested in new air pollution prevention and control equipment. The company expanded its new control equipment in 2017, which is why the investment in equipment was significantly higher compared to last year by 8.2 times. Remark: VOC: Volatile Organic Compounds; local scrubber: partial waste gas treatment system

The inventory shows that the main air pollutants are categorized into acidic, alkaline and organic exhaust gas. The exhaust gas is passed to the waste management system and equipment based on the characteristics of the pollutant. From the production line, the exhaust gas is passed on to the local exhaust gas management system to remove specific substances. Acidic or alkaline exhaust gas is then treated by the scrubber and neutralized before releasing. Industrial organic gas waste is absorbed and concentrated by the zeolite rotor, then directly passed on to the combustion equipment to break down. The combustion rate was 99%, which is way ideal than the regulatory standards, resulting in overall rate of reduction of volatile organic gas emissions above 90%, meeting the legal standard. The process is shown in Figure 1. NTC actively promotes various environmental management programs, such as setting plans to reduce raw material consumption at the source itself and to reduce the risk of abnormal emission. In 2016, Investment of NTD 15 million was made in improving the fuel

control equipment of the VOCs control facilities. The project saved natural gas consumption by approximately 81 Nm³/hr and reduced electricity consumption. As shown in Figure 2, the organic air pollutants (emission intensity) emitted per unit of product in 2017 were 0.32 kg VOCs/m². Due to the trial operation of the new FAB-3A-N plant and the implementation of new technology process, the total production in 2017 has decreased by 6.7% compared to year 2016. This also explains the increasement of organic emission per unit of product. The company will continue our efforts in reducing the environmental impact.

Figure 1 Flowchart of Waste gases management



Figure 2 Emission intensity of volatile organic compounds from 2014 to 2017

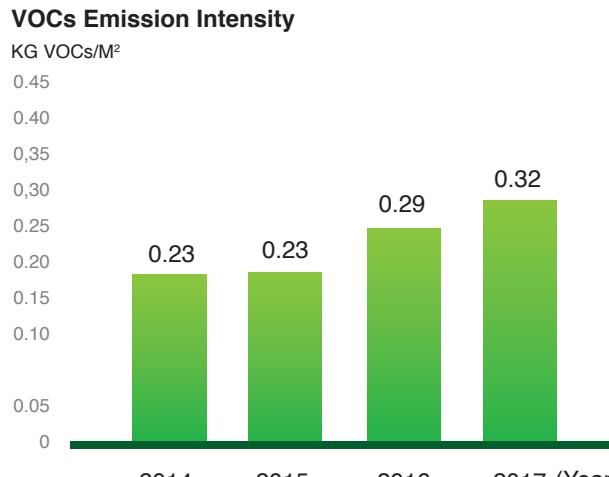
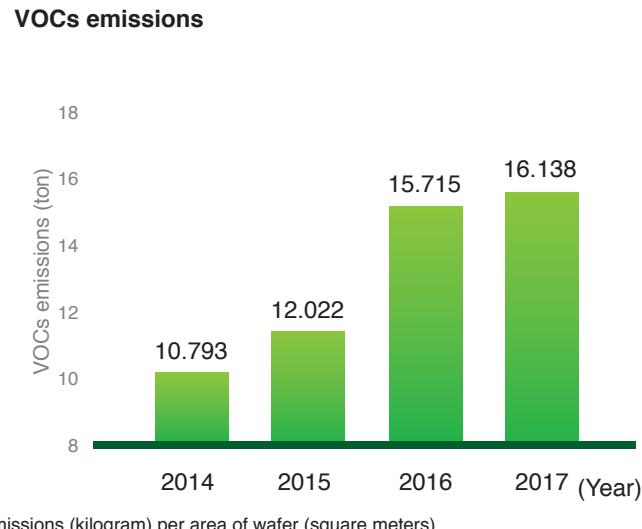


Figure 3 Total emission of volatile organic compounds from 2014 to 2017



Water pollution control

To minimize serious impact such as abnormal quality of wastewater, the environmental impact of pollutant emissions or ecological influence, 100% of Nanya Technology wastewater is discharged into the Deke Keng River. The company has spared no effort in preventing and controlling water pollution and gradually upgrading and investing on wastewater treatment facility. All effluents are collected accordingly and sent to specific equipment for appropriate treatment. The effluents will then be discharged after ensuring that the water quality complies with the effluent standards. The effluent treatment is carried out in over 20 different pipelines. Effluents are mainly classified into organic wastewater, general acidic and alkaline wastewater, hydrofluoric wastewater, and outsourced high-concentration wastewater. To ensure that quality of wastewater that is discharged follows the environmental regulation, the water quality of sewage is monitored synchronously with the Environmental Protection Agency. Also, offline sampling and analysis are outsourced every quarter to improve the wastewater management quality.

Environmental regulation trend of the effluent discharge
Following stringent environmental regulation of wastewater quality control, the factory has also continued its efforts in developing an effluent management plan.

• Management of effluent discharge

NTC manages effluent according to the types of effluent. Other than following the standard act of waste management, NTC also reuses treated reusable acidic and alkaline wastewater to reduce the amount of sewage discharge. After treatment, effluent is discharge into Deke Keng River. Inspection shows that discharging did not affect the wildlife habitat, thus it doesn't affect endangered wildlife. The plant was reconstructed from existing industrial lot. No massive excavation outside of designated vegetation was done in order to protect the habitat.

Effluent discharge performance

Result of effluents water quality inspection in 2017

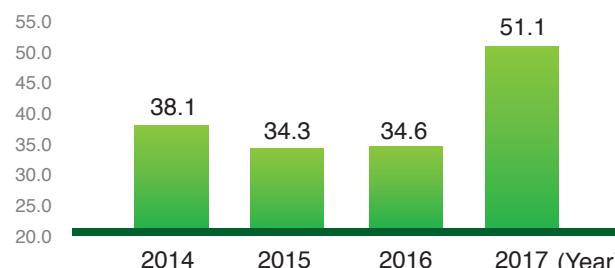
Test item	Unit	Regulation standard	Testing result			Does it meet the standards?
			Minimum value	Mean value	Maximum value	
pH	-	6-9	7.4	7.58	8.0	Compliant
Chemical Oxygen Demand (COD)	mg/L	<100	12.9	31.4	47.8	Compliant
Suspended Solids (SS)	mg/L	<30	6.3	8.25	10.9	Compliant
Fluoride ion	mg/L	<15	8.92	10.5	12.1	Compliant
Ammonia nitrogen	mg/L	<30	6.54	11.72	22.4	Compliant

The statistics of wastewater discharge in recent years.

	2014	2015	2016	2017
Volume of wastewater discharge (tons)	1,736,621	1,778,448	1,866,364	2,574,479

Remarks: The total volume of wastewater discharge was 2,574,479 tons in 2017, while the capacity of production was decreased by 6.7% compared with 2016. It means that the total volume of wastewater discharge increased 708,115 tons annually in 2017, or 37.9%. This is mainly due to the expansion of the new FAB-3A-N plant in 2017, the increase of water consumption and hence increased the discharge of wastewater. The annual discharge of wastewater per unit increased by 16.5 tons/M² or 47.7%. This mainly due to the conversion of 30nm to 20nm advanced process in the second half of 2017, the production capacity in the pilot production phase has not reached the economic scale and the water consumption for advanced-level processes was higher.

Wastewater Discharge/Wafer Area(tons/M²)



Recycling

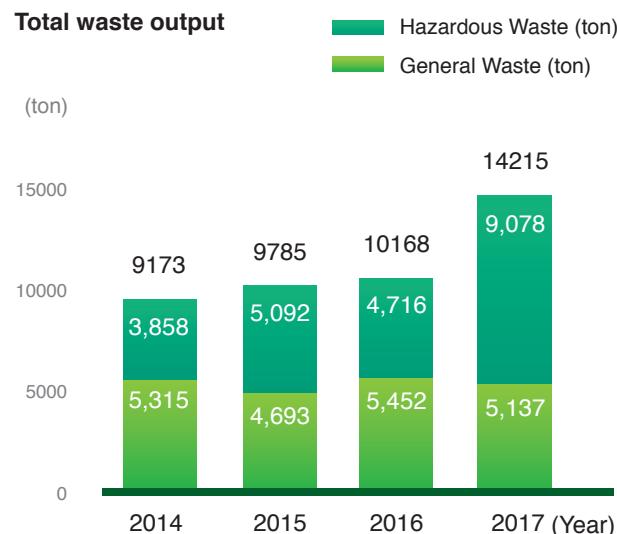
The total waste of Nanya Technology in 2017 was approximately 14,215 tons, including 5,137 tons of general waste (including 220 tons of announced recycling projects), 9,078 tons of hazardous waste, and 0.282 tons per wafer (m²) of waste per unit product. Compared with 2016, the total amount of waste increased by approximately 41.2% mainly due to the expansion of the plant in 2017 by building a new fab facility. Fab construction and new processes have increased the waste. However, as a result of the expansion and implementation of new processes and other trial operation phases, the output of products in 2017 decreased by 6.7% compared to 2016, resulting in an increase in the amount of waste generated per unit product. Despite the significant increase in hazardous waste generated by the new processes, hazardous waste such as sulfuric acid produced by the company will be recycle by recycling companies as industrial raw material. To reuse the waste effectively, the company will reduce its production, increase the recycling activities and follow other measures.

• Development of effluent management project

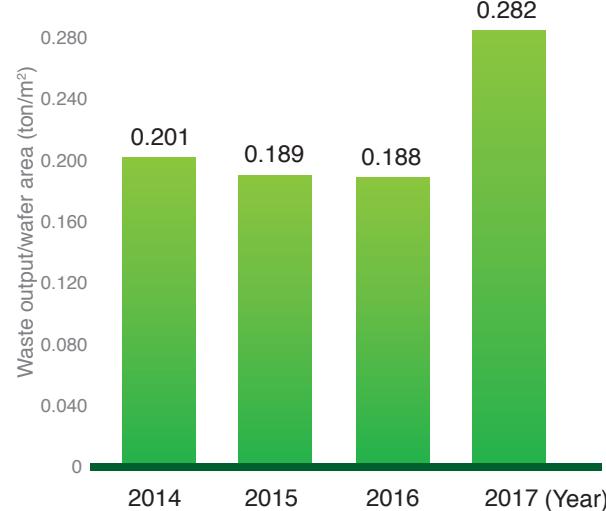
The total production in 2016 increased as a result of new establishment of plant FAB-3A-N. The effluent management system was expanded and recycling system was implemented. The systems were completed in 2017 and increased the total amount of recycle water to 1788 CMD. Recycling water rate of production line has been increased to 88.6%. Due to the decrease of insludge treatment site and stringent standards, reducing sewage sludge helped. The IPA concentration system was established to reduce the COD load of the wastewater. With the setting of sewage sludge drying equipment, water content in the sludge could be reduced from 84% to about 60% and reduce the total amount of sludge waste.

Waste management

The general industrial wastes and the hazardous industrial wastes of NTC are all managed by the Output Department to store, clear, test, reduce the volume of waste, etc. Besides, NTC will audit the waste contractors occasionally to ensure they follow the regulations of waste disposal and ensure they manage or reuse all the wastes properly to prevent those wastes from harming the environment for the second time. NTC did not ship any hazardous wastes to other countries from 2014 to 2017.



Per unit product waste output



NTC waste output unit in 2017

	Recycling	Incineration	Landfill	Unit: Tons Total
Hazardous	9,066	12	0	9,078
General (non-hazardous)	4,774	293	71	5,137
Total	13,840	305	71	14,215

industrial wastes recycling projects

The recycling projects	The functions of recycling	The recycling projects	The functions of recycling
Sulfuric acid waste	Recycled raw materials	Spent ion-exchange resins	Use after regeneration
Hydrofluoric acid waste	Recycled raw materials	Waste wood	Raw materials for wood processing and reuse
Isopropanol waste	Renewable fuel	Scrap iron	Raw material for steel remaking
SOD waste	Renewable fuel	Aluminum scrap	Raw materials for aluminium products or raw materials for other chemical substances
Inorganic sludge	Artificial fluorite	Stainless steel waste	Raw material for steel remaking
Photoresist waste	Subventioned fuel or concentrated fuel	Plastic waste	Raw materials for plastic products
Inorganic sludge water	The raw materials for bricks	Used PVC gloves	Plastic pedals for vehicles
Waste paper	Raw materials for Paper products	Waste glass	Raw materials for glasses and particles for cement products

Environmental compliance record

NTC is committed to promoting environmental protection setting environmental and safety performance indicators, promoting various waste reduction and resource recycling projects, GHG reduction projects and other related projects. Besides, it also collaborates with the Green Product Promotion Committee to implement the company's green product plan to fall in line with the trend in global environmental protection. The company's environmental protection certificate management, inspections, and declarations were all handled in accordance with regulations, and there was no violation of environmental regulations between 2014 and 2017.

Based on the environmental protection and environmental assessment commitments, NTC regularly monitors environmental impact factors, such as air quality, noise and vibration, the quality of surface water and groundwater, traffic flow and the ecosystem within the scope of development to truly appreciate its impact on the environment. In addition, it has checked with competent authorities that the scientific and technological developments at NTC are not at an environmentally sensitive location or a location with specific purpose.

Water and energy management

Water reduction and recycling

- **Water sources**

The main source of water production of NTC is Shimen Reservoir, which comes from Taoyuan. The gravity flow is independently used to divert water without affecting ecological system and any other uses. In addition, rainwater harvesting can supply production water and tap water for household. In 2017, the water consumption was 3,092,814 tons, of which Taoyuan Daso diverted 3,03,871 tons which is 98.2% of total water consumption by the company. The total amount of rainwater harvesting was 21,613 tons, accounting for 0.7% of total water consumption. And the amount of tap water consumption was 35,330 tons, which is 1.1% of the total water consumption.

- **Taiwan might encounter the problem of water shortage**

Due to its' high population density, the steepness of the hills, and typhoon, the rainwater in Taiwan flows back into the ocean rapidly. Therefore, the actual amount of rainfall per person is very small, only one-seventh of the mean value of the world. According to the current world standards, a country or region is considered as water-deficient area if the water supply per person is between 1,000 to 2,000 metric tons for every year. By this standard, Taiwan is considered as water-deficient as the amount of water available for each person is only about one thousand metric tons per year. On the other hands, Taiwan's rainfall is unevenly distributed between regions and seasons. And it is more likely to cause regional and seasonal droughts. Therefore, to reduce its' impact on the environment and the risk of water shortage, NTC continues to promote water saving measures and water recycling projects.

- **Strategies to overcome the risk of water shortage**

In 2017, the total amount of water consumption was 3,092,814 tons, and the average daily water consumption was 8,473 tons. The amount of water production needed is rather large. So, the shortage of water will causes the production interruption, and hence affect the output and delivery period. In order to avoid the impact of water shortage, Nanya Technology has conducted the assessment and management for the risk of water shortage. The capacity of the reservoir in the factory is 43,000 tons and its' function is to accommodate short-term water shortage. In addition, Nanya Technology is an affiliation of Formosa Plastics Group. In response to the water shortage, the Formosa Plastics factories are cooperated to set up a water shortage emergency response organization. When water shortage occurs, the members of the emergency response organization can deploy water resources to each other and hence reduce the impact of water shortage.

- **Water resources management**

The global climate change has resulted in polarizing the amount of rainfall in all regions of Taiwan causing floods and water shortage simultaneously. Therefore, the development and management of water resources are very important. Other than designing the water saving processes, NTC will be reducing the water usage and running water recycling projects.

Listed below are the water saving measures:

Implementing the water saving projects as per guidelines.

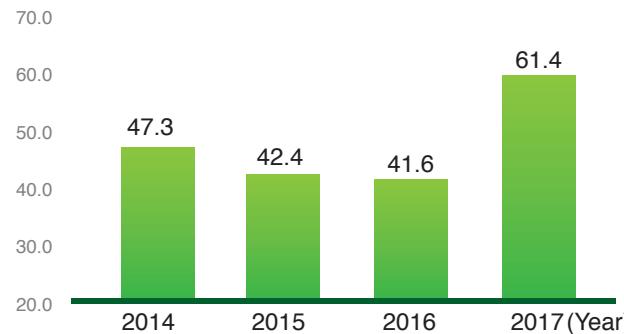
Reduce water usage and promote water recycling to manage with reduced availability.

Promote through daily management practices.

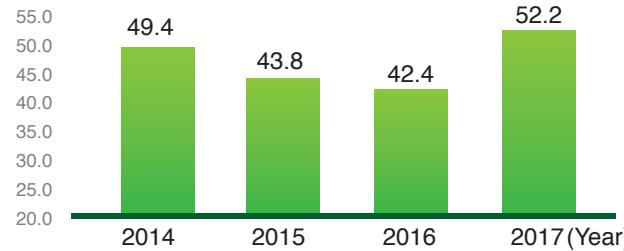
Setting up wastewater treatment and increasing the water recycling to maximize the use of available water resources.

- **Status of water recycling**

Other than promoting water-saving measures, NTC also has set up an acid-alkaline wastewater and organic wastewater recovery system. The recovery rate has reached 88.6% (meets the recovery rate of environment assessment which is 81.1%). In addition, two detention ponds with a capacity of 4,060 M³ (3,500 M³ + 560 M³) have been set up to effectively recover rainwater during the rainy season.

Water consumption over the yearsVolume of Water Used / Wafer Area (ton/M²)

Water consumption (tons)	2014	2015	2016	2017
2,155,223	2,198,960	2,244,759	3,092,814	

Ultrapure water consumption over the yearsVolume of Ultrapure Water Used / Wafer Area (ton/M²)

Ultrapure water consumption (tons)	2014	2015	2016	2017
2,252,819	2,271,030	2,287,149	2,630,671	

In 2017, the total water consumption was 3,092,814 tons, and 7,404,722 tons of process water was saved. The ratio of process water saved to the total water consumption is 2.4. In 2017, the production capacity decreased by 6.7% compared to that in 2016, and the total annual water consumption increased by 848,055 tons or 37.8%. The latest water saving target: the recovery rate of process water in 2018 will be increased to 90%, and the water consumption per unit area in 2019 will be 15% lower than that in 2017. The consumption of ultra-pure water increased by 343,522 tons in total or 15%, mainly due to the expansion of the new FAB-3A-N in 2017. The annual unit water consumption increased by 19.8 tons/M² or 47.6%. The annual ultrapure water consumption increased by 9.8 tons/M² or 23.1%, mainly due to the conversion of 20nm advanced processes in 2017, the decreases in production capacity leading to the failure of economy of scale, and the increase in advanced process water consumption.

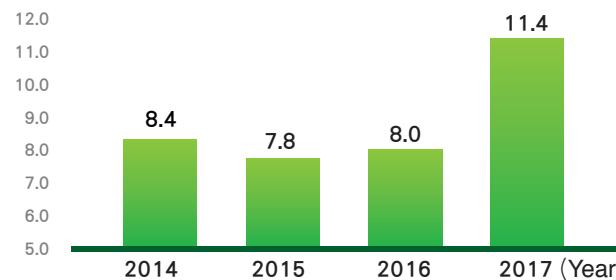
Notes: 1. The recycling rate of process water is calculated based on the approved formula of Nanlin Science and Technology Parks Environmental Quality Supervision and Management Committee.

Water saving and improving activities that completed in 2017:

Water saving measures
Expanding the organic waste water recycling system and also the daily recovery of organic waste water by 1,500 tons, with an investment amount of NTD 28.095 million. While the annual savings is NTD 6.132 million, the recovery period is 4.6 years.
Expanding the RO membrane treatment capacity of the acid-alkaline wastewater recovery system, and increasing the amount of acid-alkali wastewater recovery by 288 CMD. The investment amount is NTD 1.372 million and the annual savings is NTD 1.177 million. Meanwhile, the recovery period is 1.2 years.

Electricity usage over the years

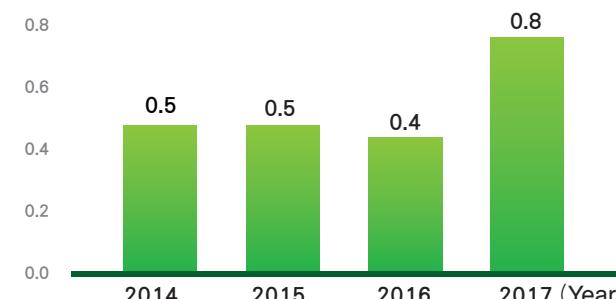
Amount of Electricity Use/Wafer Area (MWh/M²)



	2014	2015	2016	2017
Electricity consumption (MWh)	381,792	402,445	429,719	575,893
Electricity consumption (millions joules)	1.374x10 ⁹	1.449x10 ⁹	1.547x10 ⁹	2.073x10 ⁹

Natural gas consumption over the years

Natural Gas Used/Wafer Area (MWh/M²)

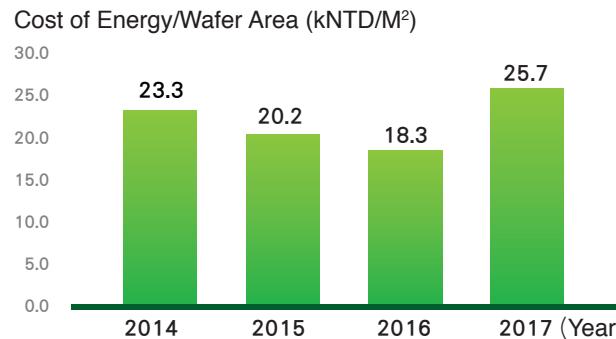


	2014	2015	2016	2017
Natural gas consumption (M ³)	2,107,596	2,395,455	2,290,230	3,662,649
Natural gas consumption (MWh)	21,919	24,913	23,818	38,092
Natural gas consumption (million joules)	7.891x10 ⁷	8.969x10 ⁷	8.575x10 ⁷	1.371x10 ⁸

Sustainable water saving and improving activities in the future:

Water saving measures	Estimated completion date
Expanding the FAB-3A-N hydrofluoric acid wastewater recovery system to increase the recovery of hydrofluoric wastewater by 500 CMD with the investment amount of NTD 47 million and the annual savings of NTD 2.044 million.	September 2018

Energy costs over the years



In 2019, the electricity consumption per unit area will be 15% lower compared to 2017.

Energy costs (kNTD)	2014	2015	2016	2017
Energy costs (kNTD)	1,060,951	1,048,038	987,261	1,295,096

Wafer production in 2017 decreased by 6.7% in comparison to 2016. However, the total electricity consumption in 2017 increased by 34% which is 146,174 MWh (5.262x108 million joules). This is equivalent to an increase of 77,326 tons of carbon dioxide emissions. While the total natural gas usage of the year increased by 59.9% which is 1,372,419 M³ (5.138x107 million joules) and is equivalent to an increase of 2,582 tons of carbon dioxide. Both these are mainly due to the increase of energy consumption to expand FAB-3A-N's operations. Total energy consumption costs of 2017 is NTD 1,295,096,000 which is 31.2%, an increase of NTD 307,835,000 compared to 2016. Total energy consumption had increased by 45.2% which is 3.8 MWh/M² (1.368x104 million joules/M²). As compared to the previous year, the cost of total energy consumed in 2017 has increased by 40.4% which is 7.4 thousand dollar/M², an increase of 40.4%. This is due to the conversion from 30 nm to 20 nm of high-end processes in second half of the year 2017. This is due to the uneconomic production activity in the trial phase and higher energy consumption for high-level processes.

	2014	2015	2016	2017
Diesel consumption (litres)	20,242	20,000	20,000	70,000
Diesel fuel consumption (million joules)	7.119x10 ⁵	7.034x10 ⁵	7.034x10 ⁵	2.462x10 ⁶

Note: 1. The carbon emission coefficient of electricity adopts the latest statistics from the Bureau of Energy, Ministry of Economic Affairs in 2016 which is 0.529kgCO₂e/degree.
 2. The carbon emission coefficient of natural gas adopts EPA's (Environmental Protection Administration, Executive Yuan) Management Table of Greenhouse Gas Emissions Edition 6.0.3.
 3. Energy consumption: One cubic meter of natural gas = 10.4 degrees of electricity.
 4.1 kW h = 3.6 MJ
 5. The company also uses diesel-generator backup system (DUPS, emergency generators) for unexpected situation. Energy consumption of the system is extremely low compared to total energy consumption. Its energy consumption in year 2014 to 2016 is stated as below.
 Energy consumption from 2014 to 2016 was less than 0.05%, in 2017 it was lesser than 0.12%, thus those data were not listed in the statistical analysis of each figure.

Energy-saving improvement events completed in 2017:

Energy conservation measure

Dual-fuel type burner of VOC combustion furnace was replaced with mono-fuel type: The changes saves up 360 degrees of electricity consumption (1.296x10³ million joules) daily, saving 1,944M³ (7.278x10⁴ million joules) of natural gas daily. Total investment: NTD 15 Million, annual benefit NTD 10,565,000, payback period 1.4 years.

Nozzle of Make-up Air Unit, MAU was replaced with ceramic type. With this, the new system saves up 135 degrees of electricity consumption (3.289 x 10⁴ million joules) daily. Total investment: NTD 49,500,000, annual benefit NTD 8,808,000, payback period 5.6 years.

Upcoming energy-saving improvement event:

In order to continue improving application and management of energy, NTC plans to import and obtain certification for Energy Management System ISO 50001 in 2018. The system is likely to develop and strengthen the energy management. System guidelines including establishing, supervising, measuring, documenting, improving energy productivity, and reducing greenhouse gas emissions effect. This is done to improve energy conservation activity effectively.

Environmental expenses and benefits

NTC has started to formulate an environmental accounting system from August 2008. In October 2009, the environment benefit accounting system was formulated and formally launched in 2010 demonstrating the determination and capability of NTC in preserving the environment. The introduction of the environmental accounting system made possible to access information on the environmental expenditure, assess its benefits, and provide a specific and accurate information to interested parties.

As per the rules formulated by the environmental protection agency, NTC's environmental accounting provides details of environmental protection expenditure category wise for internal use to enable outside parties understand its effort in environmental preservation. Since 2013, our environmental accounting program, besides newly added safety and healthcare features and expense information, also includes the environment, safety, health and all related expenses.

The expenditure on environmental preservation in 2017 was NTD 512.737 million, and the capital expenditure NTD 861.328 million totaling NTD 1,374.065 million. In 2017, the revenue of NTC is NTD 54.93 billion, and the expenditure on environmental preservation accounts for 2.5%.

Detailed categories of expenditure are as follows:

Unit: NTD '000

Expenses categories	Description	Environmental expenses	Capital expenditure
Enterprise operation cost	Pollution prevention expenses: Air pollution, water pollution and other types of pollution prevention expenses.	369,129	805,598
	Global environmental Preservation expenses: (1) Expenses for climate change prevention (2) Other expenses related to global environmental preservation	17,202	
	Resource recycle and reuse expenses: (1) Increase resource utilization efficiency (2) Reduce waste recycling, reprocessing costs and etcetera (3) Energy conservation expenses	114,531	50,000
Upstream and downstream expenses between suppliers and customers	(1) Green purchasing (2) Derivative expenses for eco-friendly products	1,117	
Management activity cost	(1) Personnel environmental education and training expenses (2) Derivative expenses for acquisition of external verification (3) Derivative expenses for measuring impacts towards environment (4) Others	8,864	5,730
Research development cost	Derivative expenses for environmental preservation research, products development	22	
Social activity cost	Derivative expenses for natural protection, afforestation, landscaping and other efforts to improve the environment	726	
Environmental Taxation and Fees	(1) Derivative expenses for air pollution (2) Examination and certificate expenses for pollution prevention and control	1,146	
Total		512,737	861,328
Sum total			1,374,065

Unit: NTD'000

Year	Capital expenditure	Environmental expenses	Total
2014	88,766	352,803	441,569
2015	177,500	352,000	529,500
2016	1,100	435,000	436,100
2017	861,328	512,505	1,373,833

In 2017, the environmental preservation and economic benefits that accrued through water and energy conservation, economical waste recycling improvement projects, and the implementation of the ISO 14001 management plan in the factory are as follows:

Category	Description	Environmental benefits	Economic benefits (NTD '000)
Operating expenses savings (Generated by ISO 14001 Management Plan)	Energy Conservation Saving Program	2,632 MWh (9.47x 10 6 million joules)	6,955
	Natural Gases Conservation Saving Program	665,596 m³	9,350
	Saving Fee from Water Conservation Program	191,928 m³	2,150
	Waste recycling to save the waste disposal and processing expenses	172,851 kg	778
	Energy resources consumption savings	Raw materials consumption savings, etc.	14,960
Sum total			354,332

Benefits from environmental program from 2014 to 2017

Unit: NTD

Benefits from environmental program	2014	2015	2016	2017
Energy saving programs	510,000	3,176,000	4,427,000	18,455,000
Waste reduction	37,000	7,000	720,000	778,000
Raw material reduction from production process	53,804,000	8,951,000	8,168,000	14,960,000
Waste recycling	18,610,000	20,445,000	14,021,000	15,028,000
Electricity saving from low power and advanced process	na	na	na	305,111,000
In total	72,963,014	32,581,015	27,338,016	354,334,017
Environmental compliance	2014	2015	2016	2017
Number of environmental violations	0	0	0	0

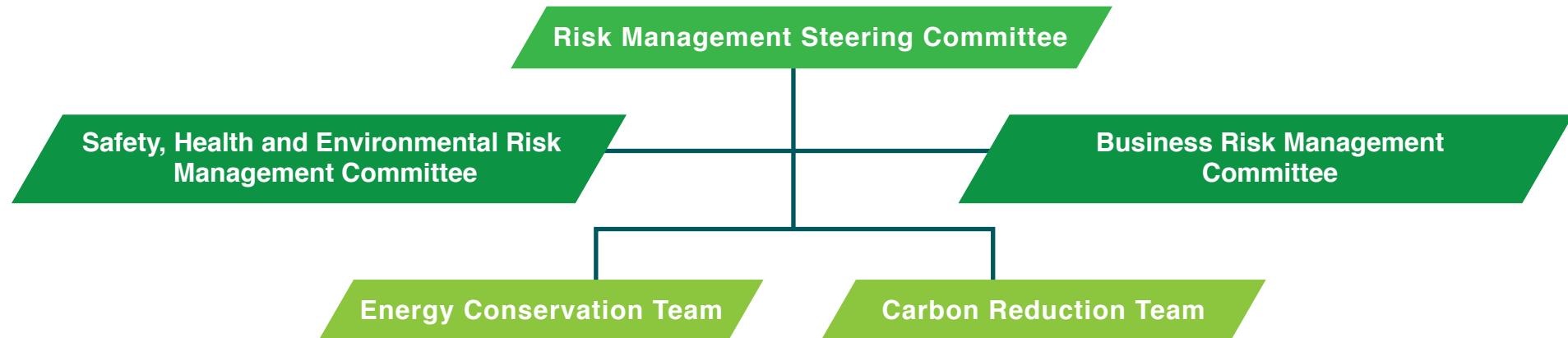
4.4 Climate Change Management

Adaptive strategies for climate change

Climate Change Management Organization

Climate change has been an issue widely discussed in recent years, and extreme climate change is gradually affecting the global ecosystem and human existence and we have to cope with it. In view of this, We have established a climate change management team, With the concept of sustainability, it sets short, medium and long-term carbon reduction targets, actively promotes measures like energy conservation and carbon reduction, and gears efforts towards mitigation of climate change and improvement in company's adaptability.

Climate Change Management Team



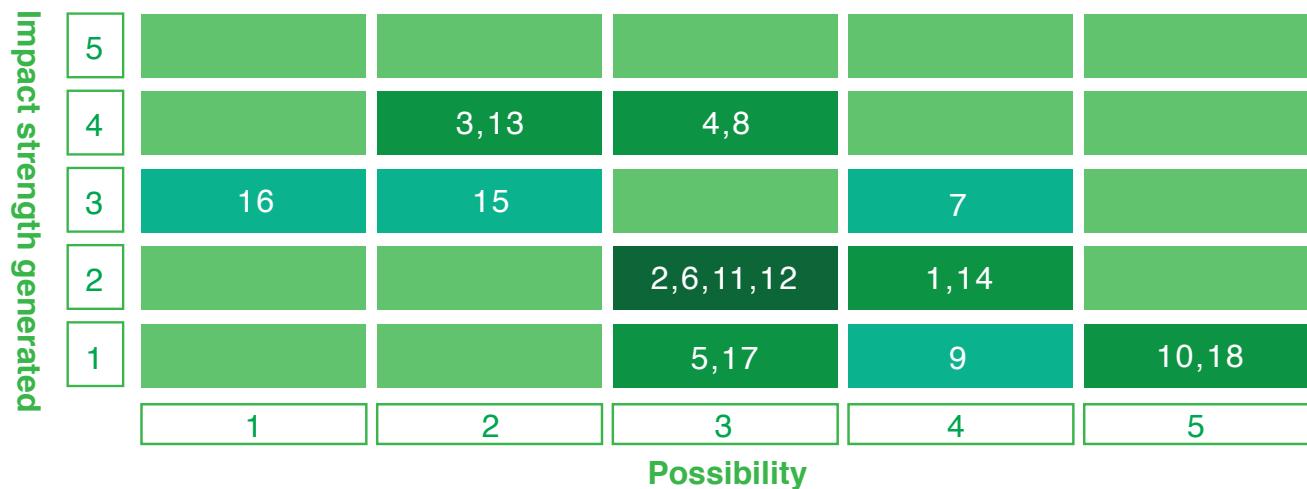
Measures to cope with climate change

The internal quarterly business risk management team continuously monitors the possible impact of climate change on the overall operations, assesses the probability of risk occurrence and its impact, and formulates mitigation plans and crisis management mechanism to alert and reduce the likely impact on the company's operations. The currently identified major climate risks include laws and regulations, impact of natural disasters, regulations on product's energy efficiency in various countries, consumer preferences for the environment and climate-friendly products, and will have more significant impact than earlier. We analyze and identify steps based on the probability of occurrence and its impact to reduce the impact.

Calculated risk taking of climate change

Based on the TCFD (Task Force on Climate-Related Financial Disclosures), an internationally accepted guidelines, we focused on aspects such as transformation risks (including regulations/ technology/ markets/ credit) and physical risks (including immediate/long-term) etc. Through brainstorm and discussion in the climate change team, a total of 18 risks factors were identified and risks assessed. The risk matrix is as follows:

- | | |
|---|--|
| 1. Carbon tax | 10. The demand for low-carbon products and services |
| 2. Fuel/Energy Tax | 11. Changes in consumer behaviour |
| 3. Cap-and-trade | 12. Credit |
| 4. Air Pollution Control | 13. Changes in frequency of extreme rainfall and drought |
| 5. Mandatory declaration | 14. Flood and typhoon |
| 6. Voluntary agreement | 15. Changes in frequency of extreme temperature |
| 7. Regulation of renewable energy | 16. Sea level |
| 8. International convention or agreement | 17. Average temperature |
| 9. Product efficiency regulations and standards | 18. Average rainfall |



Based on the results of the risk assessment, three of them showing medium-high risk and we take measures to respond:

Medium-high risk projects	Adaptive actions
4. Air pollution restrictions:	Pay attention to the "Greenhouse Gases Reduction and Management act" from local Environmental Protection Administration (EPA) and take adaptive measures.
7. Renewable Energy Regulations:	Regarding the relevant requirements of renewable energy on enterprise, from the Ministry of Economic Affairs, should be paided ongoing attention and take adaptive actions.
8. International conventions or agreements:	Ongoing attention on the follow-up actions of GHG reductions after the Paris Climate Agreement.

Climate Change Mitigation and Adaptation

Issue	Identified risks	Response Measure
Regulations aspect	<p>The United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol have been in place for a long time. Countries have reached a preliminary consensus on combating climate change and actively pursued remedial measures. In addition, the Paris Climate Agreement that took effect from 2016 demands the countries to take more aggressive measures for carbon reduction to strengthen the mitigation measures. In addition, the "Greenhouse Gas Reduction and Management Act" has been officially promulgated by the Environmental Protection Administration(EPA) in July 2015 requiring companies to put in place reduction measures and notify the schedule for carbon reduction. In the future, the principle of environmental justice will become effective by introducing user pay. The allocation of greenhouse gas emission quotas will come into vogue gradually putting in place the taxation mechanism for imported fossil fuels to cope with the effects of climate change, to follow the principle of neutrality and promote public interest; mandatory reporting of carbon emissions and industrial automatic GHG reductions protocol, etc. These measures will increase the cost of equipment in terms of its construction, limiting the expansion of the production capacity, and might even reduce it.</p>	<p>Continuous monitoring of the changing trends in local and international regulations after the United Nations COP21. The in-built "statutory authentication system" issues alerts , and the factory acts accordingly to reduce the regulatory risks. The company has been implementing the greenhouse gas inventory and reduction scheme for many years, which shows that the company takes lead in following the relevant rules and regulations. The company periodically communicate with the government through organizations such as trade unions, associations, etc. to suggest legislative amendments to make them more practical and implementable. Establish a footprint database of environmentally sustainable product for the company's factory and update it regularly.</p>
Physical aspect	<p>Cyclones, floods and droughts: Weather events such as extreme rainfall causes inconvenience for employees to work and reduces the productivity. It may also lead to flooding of the factory, resulting in financial loss and inconvenience of operation.</p> <p>One of the impacts of global warming and climate change is the increase in the magnitude and intensity of tropical cyclones (typhoons), especially in Taiwan which is located in region severely affected by typhoons. Its strong winds and heavy rains not only threaten the structure of the factory and the commuting of employees, but also have a considerable degree of influence on transportation, and even subsequent environmental clean-up and excessively high raw water turbidity, leading to water shortage crisis etc.</p> <p>Lack of natural resources will cause operational risks. We may need to spend more to obtain related energy resources.</p> <p>Power outage will result in the loss of production and operational interruption</p>	<p>Cyclones, floods and droughts: Each quarter, the company conducts internal risk assessment. It conducts risk assessments in particular of water and power shortage and has relevant contingency plans. In addition, keep maintaining a certain amount of raw materials storage to avoid the supply from being affected by extreme weather.</p> <p>Power outages: In addition to the above, each factory area should be equipped with backup systems such as dynamic uninterruptible power system (DUPS), static uninterrupted power system (UPS), and emergency generators to minimize the impact of production interruption caused by power outage.</p>
Other aspects	<p>Consumers today may be more concerned about the power consumption of electronic products, and the demand for high-carbon footprint products is reducing, especially low power chip and battery usage time.</p> <p>Socio-economic situation: Due to the wave of interest in low-carbon emission, the industry is required to actively contribute to the carbon reduction.</p>	<p>We are committed to the design and research and development of production technology, so that our products have low power consumption and high performance features, maintaining a certain degree of competitiveness. Consumer's demand for product could be a risk, a challenge as well as an opportunity.</p> <p>The emission of perfluorinated compound which is used in production process, is equipped with a high-temperature local scrubber to reduce greenhouse gas emissions. A number of energy-saving and water-saving improvement works are conducted and the annual greenhouse gas inventory and verification are carried out. The energy management system and product environmental footprint are planned to be completed in 2018 to meet the external carbon reduction requirements.</p>

Greenhouse gas inventory and reduction

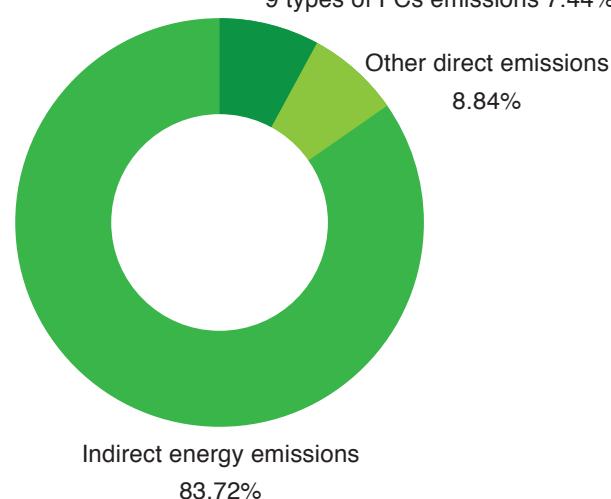
The main source of greenhouse gas emissions from semiconductor factories are electricity and perfluorocarbons (PFCs), of which electricity is necessary for the production process and thus there is limitation in its carbon reduction effect; whereas the company uses perfluorocarbons and similar compounds in the production process, such as Tetrafluoromethane (CF_4), Octafluoropropane (C_8F_{18}), hexafluoro-2-butyne (C_4F_6), Octafluorocyclobutane (C_4F_8), Fluoroform (CHF_3), Difluoromethane (CH_2F_2), Fluoromethane (CH_3F), Sulfur hexafluoride (SF_6) and Nitrogen trifluoride (NF_3), which are all high GWP GHG.

Greenhouse Gas Inventory

Since 2005, the company conducted an internal inventory and has generated a greenhouse gas inventory and report. In the same year, the company has obtained ISO 14064-1 third-party endorsement to ensure the integrity and credibility of the inventory data. Currently, the greenhouse gases are divided into three scopes: Scope 1 Direct emissions, Scope 2 Indirect energy emissions and Scope 3 Other indirect emissions. The emissions in 2017 are quantified for Scope 1 and Scope 2 only. In addition, to further strengthen the completed inventory of greenhouse gases, the company will quantify the emissions for Scope 3 from 2018 onwards. The preliminary plan is to conduct a trial for the removal and transportation of waste, employees' transportation vehicles and other transportation methods.

The boundary for which GHG emissions on Nanya Technology are reported by using operational control, the main source of greenhouse gas emissions are from energy using (about 84%) and PFCs using (about 7%). Greenhouse gas emissions from NTC in 2017 were 376,428.143 tons of carbon dioxide equivalent (ton- CO_2e). Scope 1 emissions are 61,287.318 tons of carbon dioxide equivalent (ton- CO_2e) and do not result from the combustion of biofuels; Scope 2 emissions are 315,140.825 tons of carbon dioxide equivalent (ton- CO_2e). The scope of investigation is Taiwan FAB-3A and FAB-3A-N.

Greenhouse gases emissions in 2017



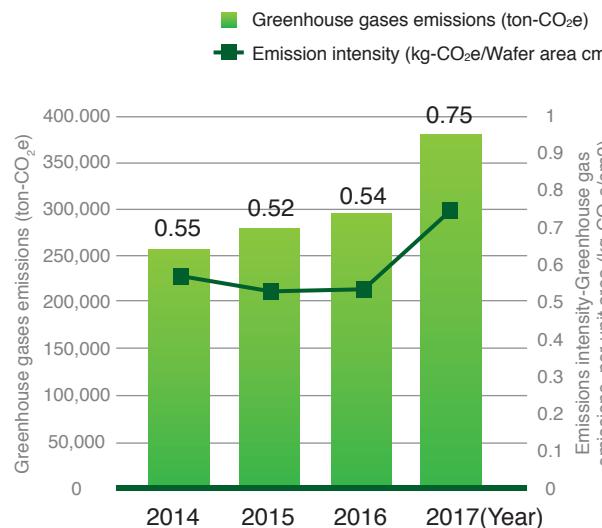
Greenhouse gases emission from 2014 to 2017.

	Scope 1 (ton- CO_2e)	Scope 2 (ton- CO_2e)	Total emissions (ton- CO_2e)
2014	44,757.779	208,190.960	252,948.739
2015	50,668.687	221,557.796	272,226.483
2016	51,584.827	238,436.600	290,021.428
2017	61,287.318	315,140.825	376,428.143

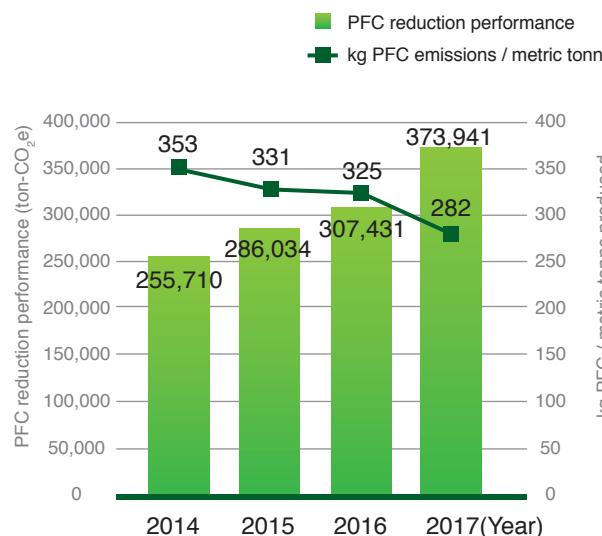
Remark:

1. Emissions of 9 types of PFCs including carbon tetrafluoride (CF_4), perfluoropropane (C_8F_{18}), hexafluorobutadiene (C_4F_6), tetrafluorocyclobutane (C_4F_8), trifluoromethane (CHF_3), difluoromethane (CH_2F_2), monofluoromethane (CH_3F), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3) and other process gases.
2. Other direct emissions including CO_2 , CH_4 , N_2O process gases, HFCs, non-processed SF6 such as fire extinguishing equipment, high-voltage power panels, refrigerators, freezers and etcetera.
3. Indirect emissions of energy including the usage of electricity and steam.

Greenhouse Gas Emissions



PFC Reduction Performance



FAB-3A was officially launched since 2008. The greenhouse gas inventory has also been calculated and verified since the beginning of the year. Therefore, the base year for NTC greenhouse gases inventory is selected as 2008. However, due to the company's expansion in 2017, new machines and auxiliary equipment were added, making the operations very different from those in 2008. Thus, it is proposed to change the base year from 2008 to 2017 to suitably fit the current situation. Compared with the previous year, the greenhouse gas emissions in 2017 increased by approximately 29.7% from 2016, and the production chips number decreased by approximately 6.7%. In terms of emissions per unit of product, the emission intensity in 2017 (Note 2) was 0.75 kg-CO₂e/wafer area cm² of product, which was higher than that of 2016.

In 2017, the production of wafers decreased, but the amount of greenhouse gas emissions increased largely due to the introduction of a new 20nm processing. While the production of wafers has been reduced, the production of chips per wafer has increased. In order to maintain a certain production capacity, the company has expanded its processing and auxiliary equipment, resulting in a significant increase in energy usage, which in turn has led to an increase in greenhouse gases emissions.

GHG reductions

Based on PFCs are the GHG of high GWP, NTC had been planning PFCs emissions reduction since 2006. In the planning of the factory construction, NTC has already devised a budget to purchase high destruction rate local scrubber (Note 3); currently PFC local scrubber is used in the thin film and etching processes as a direct combustion (Burn Type), where the high temperature generated by the combustion will destroy the PFCs. In order to reduce the emission of PFCs into the air, the company has devised local scrubber processing acceptance criteria for PFC destruction rate. The CF₄ gas treatment efficiency should reach more than 90%, the destruction rates for processing C₃F₈, C₄F₆, C₄F₈, CHF₃, CH₂F₂, and SF₆ must be above 95% and the destruction rate for NF₃ should be over 99%. After the local scrubber is set up, the destruction rate of various PFC gases is measured by FTIR (Note 4) to meet the future reduction trend.

Emissions of PFCs in 2017 decreased by approximately 16.7% compared to 2016, mainly because we changed the partial etching process from absorption type to a high destruction rate combustion type local scrubber in 2017, further increasing the overall local scrubber destruction ratio. Overall PFCs emissions in 2017 decreased compared to 2016 significantly.

Nanya Technology actively promotes voluntary reduction and participates in the annual industrial greenhouse gases voluntary reduction plan from the Industrial Bureau of the Ministry of Economic Affairs. The GHG reductions plan completed in 2017 and the expected implementation of the reduction plan in 2018, detailed plan in 4.3.

Note: 1. Global Warming Potential (GWP) is the gases' warming intensity relative to carbon dioxide (set the CO₂'s GWP = 1); the global warming potential referred in this article are those with a GWP value higher than 675. (Based on the GWP value of the IPCC Fourth Assessment Report (FAR))

2. Emission Intensity: The amount of greenhouse gas emitted by per unit wafer area output.

3. Local Scrubber: Local exhaust processor.

4. FTIR: Fourier-Transform Infrared Spectrometer

Carbon Disclosure Project (CDP)

NTC has taken an open approach to carbon disclosure. It has participating in the evaluation of the Carbon Disclosure Project (CDP) by a non-profit organization since 2009 that releases information on greenhouse gas emissions and reductions. Greenhouse gas emissions information includes Scope 1: Emissions directly generated from the factory and Scope 2: indirect emissions from outsourced electricity and steam. Related information is directly broadcasted on the CDP website.

In addition to the CDP and this report publicly revealing carbon emissions-related information, NTC voluntarily reports information on greenhouse gas emissions and reduction to the RBA (Responsible Business Alliance Code of Conduct) greenhouse gas reporting system, or provides carbon emissions-related Information to assist clients in assessing their product carbon footprint.



Building A Healthy and Happy Workplace

Our employees' well-being is our responsibility and we work together with all employees to build a healthy and happy workplace through a comprehensive system of compensation and benefits, education and training, and a two-way communication system.

- 5.1 Human Resources
- 5.2 Employee Remuneration and Benefits
- 5.3 Safe Workplace
- 5.4 Talent Cultivation and Development



Sustainable Development Goals and Key Performances

Material Issues	2017 Targets	2017 Achievements	2018 Targets	2021 Targets
Occupational Safety and Health	<ul style="list-style-type: none"> 1. Number of major occupational accidents: 0 2. Disabling Frequency Rate and Disabling Severity Rate: 0 3. Improvement on the number of safety and health management solutions: 5% 4. Occupational disease prevention and healthcare workshops: 5 	<ul style="list-style-type: none"> 1. Number of major occupational accidents: 0 2. Disabling Frequency Rate and Disabling Severity Rate: 0 3. Improvement on the number of safety and health management solutions: 5% 4. Occupational disease prevention and healthcare workshops: 5 	<ul style="list-style-type: none"> • Disabling Frequency Rate<0.34 • Disabling Severity Rate<11 • Self-inspection rate*>90% 	<ul style="list-style-type: none"> • Disabling Frequency Rate*1<0.14 • Disabling Severity rate*2<4.7 • Self-inspection rate*3>92%
Talent and Career Development	Completion rate of the main training courses in the Annual Plan $\geq 90\%$	<ul style="list-style-type: none"> 1. The completion rate of the main training courses in the Annual Plan was 90.8% (execution rate of the master plan was 124.2%, including unplanned execution rate) 2. Rate of open positions filled by internal candidate:43% 	<ul style="list-style-type: none"> • Win the National Talent Development Awards • Completion rate of the main training courses in the Annual Plan $\geq 92\%$ • Rate of open positions filled by internal candidate $\geq 50\%$ 	<ul style="list-style-type: none"> • The Company's strategic goal is to increase the annual output value of each employee • Completion rate of the main training courses in the Annual Plan $\geq 96\%$ • Offer employees diversified options of training and opportunities for advancement; Rate of open positions filled internally $\geq 60\%$ • Systematic planning of diversified learning courses and paths; average employee participation per year ≥ 7 person-times
Talent Retention and Employee Care	<ul style="list-style-type: none"> 1. Staff recruitment rate 100% 2. Turnover rate lower than 10% 3. Launch of the new headquarters building and multipurpose sports complex 4. Promotion of a healthy workplace environment 	<ul style="list-style-type: none"> 1. Staff recruitment rate was 107.4% 2. Turnover rate was 11.68% 3. The new headquarters building and the multipurpose sports complex were launched in August. 4. Received Healthy Workplace Certification from the Health Promotion Administration, Ministry of Health and Welfare 	<ul style="list-style-type: none"> • Staff recruitment rate 100% • Turnover rate lower than 10% • New employee counseling coverage 90% • Complete construction of the new employee dormitory 	<ul style="list-style-type: none"> • Salary level to be in the top 25% of the industry • Annual Employee Engagement Survey: identification rate ≥ 8.0

Notes: *1: Disabling injury frequency rate (FR) = (number of disabling injuries $\times 10^6$)/total work hours*2: Disability injury severity rate (SR) = (total days lost from disabling injury $\times 10^6$)/total work hours

*3: Self-inspection rate: (number of self-improvement proposals from each department/number of improvement proposals from the EHS Department)*100%

Management Approach

Visions & Goals

Employees are a company's most important asset, and they play a vital role in boosting the company's competitiveness. NTC takes care of our employees in all aspects and creates a workplace where employees can develop their careers on a long-term basis.

Material Issues

1. Occupational health and safety
2. Talent and Career development
3. Talent retention and employee care

Channels of Communication

1. Scheduled and unscheduled communication meetings
2. Two-way communication platform
3. Electronic surveys and multiple channels
4. The union holds monthly bilateral executive meetings

Management Flow

1. Occupational safety and health: The Safety and Health Committee meets at a higher frequency than the statutory requirement. A monthly meeting is held to discuss the progress of the EHS management goals, safety and health issues, as well as the setup and implementation of hazard identification, risk assessment and relevant control targets.
2. Talent and career development: Employees meet with their supervisors once a year to set their work targets based on the detail breakdowns of the organizational goals. The supervisors then give the employees feedback and assess their performance based on their work targets. Performance evaluation tools used include overall annual performance assessment, and 180/360-degree performance appraisals for supervisors.
3. Talent retention and employee care: The Employee Welfare Committee has been set up in accordance with relevant laws and regulations to provide the employees with diversified benefits and various activities. All employees are able to propose recommendations and carry out communication with the Company through regular meetings of the Employee Welfare Committee and employee-management meetings.

Relevant Policies and Actions

1. Occupational safety and health
 - Process Hazard Analysis (PHA)
 - Job Safety Analysis (JSA)
 - More than 5 regular healthcare workshops and blood donation activities every year
 - Workplace monitoring that takes place twice per year.
 - Cross-inspection: internal and external departments cross-inspect operations to reinforce self-checks
2. Talent and career development
 - comprehensive occupational training system and training/development management
 - advantageous training system catered to the semiconductor industry
 - systematic offerings of skills, knowledge, and attitude training for all employees
 - diversified development and learning approaches
 - 100% employee performance evaluation
3. Talent retention and employee care
 - leave policies surpassing regulations stipulated in the Labor Standards Act
 - comprehensive life and health care
 - unimpeded and transparent communication channels

5.1 Human Resources

Employees are considered NTC's most important asset and the key to the company's sustainable development. We treasure our talents and therefore strive to create a comfortable human-centered workplace. Our employees receive systematic training and learn and develop their careers through diversified resources. Additionally, employees accumulate professional knowledge and skills relevant to the semiconductor industry and gain reasonable salaries and remuneration from the moment they work at NTC. Additionally, the Employee Welfare Committee organizes various fun activities and recreational trips for the employees to achieve work-life balance.

We believe that stable human resources is the keystone to the success and sustainable development of a business. We will continue to plan and provide a workplace suitable for career development and develop talents that will help the Company achieve sustainable development.

Stable Human Resources

The Company's human resources structure is stable. In 2017, there was a total of 2,984 formal employees working in Taiwan and overseas subsidiaries. These employees accounted for 99.1% of the total workforce in the company. The remaining 0.9% of the total workforce was comprised of 27 non-formal employees, including contracted consultants, regular contract employees and interns. The workforce can be further broken down into 2,105 male and 879 female employees in a male to female ratio of approximately 2.39 to 1. The majority of the workforce (96%) comes from Taiwan and the average age is 35.8, with the largest percentage falling in the 30 to 49 age group. Formal employees are 100% recruited by the Company and no third-party agencies are involved. No part-time employees were recruited in 2017; 100% of our employees worked full-time. The nationality of employees is mainly Taiwanese. In addition to employees with a Taiwanese nationality, employees of eight different nationalities (i.e. French, German, Italian, Japanese, Korean, British, American and Chinese) are employed.

Workforce Structure

Category	Female	Male	Number of Employees
Formal Employees	879	2,105	2,984
Non-formal Employees	Interns	6	17
	Regular Contract Workers	2	1
	Contract Consultants	0	1

In 2017, 14.89% (21 individuals) of employees in primary management positions in Taiwan and overseas subsidiaries were female. 6% (3 individuals) of middle management was female. There were no female employees serving in a senior management position. The total number of female supervisors in production related departments (chief of section and above) was 17, which amounts to 11.33%. Based on the semiconductor industry characteristics and social culture in Taiwan, there are more male managers in the company. Supervisors for operations include production foremen and team leaders, and as high as 94.57% of these supervisors were female.

Note 1: Production related departments refers to all departments, excluding planning administration, operation support, quality , legal affairs and EHS.

The number and proportion of female in management level

Year	2015		2016		2017	
Number/percentage	Number of female	Proportion of female	Number of female	Proportion of female	Number of female	Proportion of female
All employees	817	33.09%	841	31.39%	879	29.46%
Management Level	17	11.64%	20	10.64%	24	12.57%
Junior management level	15	10.42%	17	12.06%	21	14.89%
Middle management level	2	4.35%	3	6.38%	3	6.00%
Top management level	0	0.00%	0	0.00%	0	0.00%
Department in revenue - generating	12	9.68%	13	8.67%	17	11.33%
Front-line Operations Supervisor	66	94.29%	66	94.29%	87	94.57%

To protect the rights and interests of both sides, employees will receive an official job offer before the date of initiation. On the day of initiation, the Company will sign a written employment commitment letter with the new employees. The signing rate is 100 percent. All employees of the Company are fully protected by employment contracts. All employees were hired under free will and mutually agreed terms. No employees have been forced or coerced into unwilling labor.

The semiconductor industry is a labor and technology intensive industry. Manufacturing plants and equipment that cost billions of dollars to build require technical and R&D talents to operate. Nanya Technology attracts numerous top-notch graduates with engineering backgrounds to contribute what they have learned. As of December 30, 2017, there were a total of 2,984 formal employees working in the Company; among them, 82.34% were professionals. The overall quality of manpower is considered very high, and the human resources structure is stable and growing steadily. This solid manpower forms the foundation of the Company's development of manufacturing process technology and new products. The table below shows the distribution by age and education:

Note: Professional manpower refers to non-production-line personnel.

Employee Distribution by Age and Education

Category	Group	Taiwan				Overseas Subsidiaries				Total			
		Female	Percentage of Total Female Employees in Taiwan	Male	Percentage of Total Male Employees in Taiwan	Female	Percentage of Total Female Employees in Overseas Subsidiarie	Male	Percentage of Total Male Employees in Overseas Subsidiarie	Female	Percentage of Total Female Employees	Male	Percentage of Total Male Employees
Age Group	Under 29	133	15.37%	557	27.52%	4	28.57%	16	19.75%	137	15.58%	573	27.22%
	30-39	440	50.87%	868	42.89%	5	35.71%	18	22.22%	445	50.63%	886	42.09%
	40-49	267	30.87%	491	24.26%	3	21.43%	21	25.93%	270	30.72%	512	24.32%
	50-59	23	2.66%	103	5.08%	2	14.29%	21	25.93%	25	2.84%	124	5.89%
	Over 60	2	0.23%	5	0.25%	0	0.00%	5	6.17%	2	0.23%	10	0.48%
Education	Ph.D.	0	0.00%	25	1.24%	0	0.00%	1	1.23%	0	0.00%	26	1.24%
	Master	171	19.77%	793	39.18%	1	7.14%	19	23.46%	172	19.56%	812	38.57%
	Bachelor	339	39.19%	1046	51.68%	13	92.86%	52	64.20%	352	40.05%	1098	52.16%
	Associate	157	18.15%	105	5.18%	0	0.00%	8	9.88%	157	17.86%	113	5.37%
	High School	198	22.89%	54	2.67%	0	0.00%	1	1.23%	198	22.53%	55	2.61%
	Junior High School	0	0.00%	1	0.05%	0	0.00%	0	0.00%	0	0.00%	1	0.05%

Every year, we organize several recruitment events at colleges and universities throughout Taiwan, seeking talents of all levels with bachelor, master's and PhD degrees. Placements often is often done on-site at the events when outstanding talents are discovered. Manpower for front-line manufacturing operations is sourced mainly from the local Employment Service Station. We send staff to Employment Service Station for on-the-spot interviews from time to time and make it a priority to hire local residents. We are committed to creating job opportunities for local communities, and as an effort to achieve this commitment, all management positions in Taiwan are filled by local Taiwanese population.

Talent Attraction

Our recruitment policy is set to comply with the labor laws and regulations enforced in Taiwan and the Company's labor and ethics policies. We offer equal opportunities and a workplace where our employees are chosen based solely on their professional abilities and experiences without discrimination against age, race, gender, sexual orientation, religion, political inclination, place of origin, marital status, appearance or physical disabilities. We have also set up clear guidelines for the promotion, performance evaluation, training, and reward and punishment system. From recruitment and shortlisting to posting, we follow a set of equal, just and open procedures that ensure we place the right person in the right position. Everyone in the Company has fair chances to apply for any position and enjoy equal opportunities in education and training.

In response to our organizational reform and transition to 20- nm production lines, in 2017, we opened 218 positions in the engineering category, targeting junior engineering talents. To fill these vacancies, we organized 22 recruitment events at major colleges and universities throughout Taiwan under the theme - "Future Unlimited". We recruited on campuses and communicated face-to-face with the young talents through interactive talks, aiming to encourage young talents interested in the technology industry to pursue their dreams and contribute to the growth and development of the semiconductor industry in Taiwan.

2017 Campus Recruitment Events

Category	Session
Campus Recruitment Fair	12
Recruitment Orientation on Campus	10

Campus recruitment photo album



We welcome earnest, positive, enthusiastic, and innovative talents to share our dreams in the semiconductor technology and achieve success with us. In 2017, around 17% of the employees were new recruits, and the male to female ratio was 5.3 to 1.

New Employees in Taiwan - Distribution by Age and Education

Category			Female		Male		Total		
			Number of Employees	Percentage	Percentage	Number of Employees	Percentage	Number of Employees	
Recruits	Age	Under 29	56	71.80%	300	73.17%	356	72.95%	
		30-39	20	25.64%	78	19.03%	98	20.08%	
		40-49	2	2.56%	26	6.34%	28	5.74%	
		50-59	0	0.00%	6	1.46%	6	1.23%	
		Over 60	0	0.00%	0	0.00%	0	0.00%	
	Education	Ph.D.	0	0.00%	7	1.71%	7	1.43%	
		Master's	48	61.54%	178	43.41%	226	46.32%	
		Bachelor	22	28.21%	207	50.49%	229	46.93%	
		Associate	2	2.56%	3	0.73%	5	1.02%	
		High School	6	7.69%	15	3.66%	21	4.30%	
		Junior High School	0	0.00%	0	0.00%	0	0.00%	
Total New Recruits			78	-	410	-	488	-	
Percentage of All Employees in Taiwan			-	2.70%	-	14.19%	-	16.89%	

New recruits refer to employees that were hired in and have been working in the Company since 2017 (excluding employees who left in the year).

In 2017, there were no reported incidents involving violation of human rights or discrimination perpetrated by our current employees. Furthermore, we have not engaged any child labor for any part of our operations. We abide strictly to the relevant laws and regulations and the principles of the Responsible Business Alliance Code of Conduct (RBA).

In response to the government policy of encouraging businesses to employ people with disabilities, as of December 2017, we have recruited 25 employees with disability cards, which accounts for 0.86% of the total employees. Due to the nature of the industry and the remote location, issues deter us from hiring more people with disabilities. We met the quota before October 2017, but vacancies began to emerge after October due to contract renewal. We will continue to assess our jobs and openings, and seek more opportunities to hire people with disabilities. We strive to meet the quota and achieve the standards set by government policies.

Recruitment of People with Disabilities in Taiwan by Year

Year	2014	2015	2016	2017
Number of Employees with Disabilities	25	23	27	25

Comprehensive Employee Rights Protection

In response to changes in the industry and the overall business environment, we continue to evaluate our operations and strive to find the right balance. With the priority of protecting employees' work rights, we worked with our employees to consolidate overall human resources and adjusted human resource allocation. Even in the harshest times, we make reassignment a priority consideration rather than engaging in immediate layoffs. When reassignment or layoff is eventually decided, we notify the affected personnel under the guidelines provided by the Labor Standards Act and relevant regulations, as well as carry out sufficient communication with the affected personnel. To encourage our employees to achieve organizational goals and to retain talent, we set up an incentive program which provides quarterly rewards for goal achievement. Employees are encouraged to challenge the business goals and share in the fruits of success with the Company.

Upholding the Formosa Plastics Group's corporate motto of "consistent pursuit of truth", NTC strives for sustainable development by winning the employees' trust and recognition in the company's operations with a great work environment and guaranteed livelihood. As a result, the employee turnover rate is relatively low compared with other companies in the industry. In 2017, the annual turnover rate in Taiwan was approximately 11.68%, among which the male to female ratio was approximately 12 to 5. Beginning in 2017, the rising semiconductor industry in China has been draining talents from the industry in Taiwan. To stabilize our human resources, we have set up various methods to keep our talents and control turnover, including employee remuneration, employee stock options, pay adjustment, and retention bonuses.

Employee Separation/Retirement in Taiwan by Age Group and Education

		Category	Female		Male		Total		
			Percentage	Number of Employees	Percentage	Number of Employees	Percentage	Number of Employees	
Turnover	Age Group	Under 29	16	20.00%	101	42.44%	117	36.79%	
		30-39	50	62.50%	101	43.35%	151	47.48%	
		40-49	12	15.00%	32	13.73%	44	13.84%	
		50-59	2	2.50%	3	1.28%	5	1.57%	
		Over 60	0	0.00%	1	0.43%	1	0.32%	
	Education	Ph.D.	0	0.00%	0	0.00%	0	0.00%	
		Master's	8	10.00%	99	41.60%	107	33.65%	
		Bachelor	32	40.00%	118	49.58%	150	47.17%	
		Associate	13	16.25%	9	3.78%	22	6.92%	
		High School	27	33.75%	12	5.04%	39	12.26%	
		Junior High School	0	0.00%	0	0.00%	0	0.00%	
Total Departed/Retired Employees			80	-	238	-	318	-	
Percentage of Total Employees			-	2.77%	-	8.24%	-	11.01%	

Employee Turnover Rate over the Past 3 Years in Taiwan

Employee Turnover Rate	2015	2016	2017
Voluntary Turnover Rate	6.39%	6.59%	10.86%
Total Turnover Rate	7.74%	7.47%	11.68%

Talent Cultivation through Internship

The Company values talent cultivation and actively seeks opportunities to advance industry-academia cooperation. In 2017, we offered 20 internship openings to the Ming Chi University of Technology, an affiliate institution of the Formosa Plastics Group. This program brought the students into the actual operations of a business through internship work. In addition, we have also offered internship opportunities to other schools and intern students have the opportunity to work at our manufacturing plants. Through sponsoring the seed talent development program, we recruited outstanding college students to intern at our manufacturing plants, launched the corporate mentor program and researched to nurture cross-field leaders in Taiwan. Through the internship programs, we brought in students to teach them the corporate culture and the enterprising spirit - diligence and pragmatism - of the Formosa Plastics Group. The programs helped the students develop a positive attitude about working before they entered the workplace and explore their aptitude in professional career development. Several interns have also chosen to stay at the Company after graduation. This demonstrates the win-win scenario we created to enable seamless transition from school to work for the students and help speed up the process of filling vacancies in the Company.

5.2 Employee Remuneration and Benefits

NTC regards employees as family; therefore, we are committed to creating an environment where the employees can work with a sense of security and develop their talents without impedance. In the Taiwan plant, we built basic facilities for dining, accommodation, and recreations, and planned comprehensive welfare systems and programs with employees' long-term welfare in mind. Since NTC is part of the Formosa Plastics Group, the employees are entitled to use the facilities of the Group and to the same level of stable remuneration and benefits. As a member of the semiconductor industry, we continue to plan and develop competitive remuneration and benefit systems, as well as upgrade the plants and facilities, striving to continuously upgrade the corporate image.

Competitive Remuneration

The Company negotiates employment contracts based on personal qualifications, industrial standards, outlook of the local economy, and market demand and supply. We offer the same remuneration and benefits to all employees with the same job responsibilities and educational background, regardless of gender. And work performance serves as the primary basis for adjustments in salaries and benefits.

The Company's remuneration and benefits system has been reviewed and planned based on the information collected from surveys on the local standards and regional associations, with considerations given to industrial competitiveness, macroeconomic outlook, and sustainability of corporate culture. This is to ensure the overall remunerations are competitive in the industry. A full remuneration package includes salary, meal/transportation/regional subsidies, and performance bonus. Additional variable pay, such as bonuses, is also offered based on employees' personal performance and the Company's goal achievement rates (or profitability). All employees are assessed by the same standards, regardless of gender. As a token of appreciation to our employees' outstanding performances, we share the results of our successful operations with our employees. We offer our employees basic protections for their work rights and reasonable remunerations to ensure that they live with a sense of security and are unimpeded in their ventures to maximize their potential. Through the bonus system, we encourage our employees to maximize the performance of their departments and the organization, and the results are used to calculate the quarterly bonus and annual employee remunerations. In 2017, each of our employees received bonuses equivalent to 4 months' salaries.

Remunerations and bonuses include:

- Competitive salary
- Year-end bonus, holiday bonuses, Dragon Boat/Mid-Autumn Festival diligence bonuses, grade-based bonuses
- Long-term incentives: employee remunerations, stock options and tenure bonus. Employee remunerations and stock options are applicable to all employees, and tenure bonus are offered annually to formal employees working in the Company for over 2 years.

The starting salary for employees in front-line operations is NT\$23,520, which is 11.9% higher than the minimum salary of NT\$21,009 stipulated in the Labor Standards Act in 2017. Employees with bachelor degrees in engineering positions have a starting salary of NT\$34,620, which is 64.7% higher than the minimum salary stipulated in the Labor Standards Act. All employees in Taiwan start with same salary and benefit standards and criteria. All male and female employees in Taiwan have the same starting salary and remuneration standards, but the average salary of female management is slightly lower than that of men. In 2017, the average base salary ratio of women to men was 70.01 percent and the average remuneration ratio was 66.42 percent. This is mainly due to the fact that the average tenure of men is higher than that of women, leading to a higher average salary for men. In 2017, non-management woman to men average base salary ratio was 110.35 percent, indicating that the salary of women was slightly higher than that of men. The main reason was that the average tenure of non-management female employees is higher than that of males, leading to a higher average in the salary of female employees. Overall, the Company's remuneration and benefits are considered competitive, and the various welfare programs and facilities provide our employees with stable work and a good quality of life. To meet the work-hour standards laid out in the Labor Standards Act and fulfill our commitment to ensure our employees have good work and life quality, we have configured our time and attendance management system to alert our employees when abnormal attendance is detected and this mechanism has achieved good results.

Female to Male Remuneration Ration in Taiwan

Ratio of average remuneration	2015	2016	2017
Senior management female to male base salary ratio	-	-	-
Management female to male base salary ratio	83.96%	83.92%	86.77%
Management female to male remuneration rate	84.95%	86.65%	89.43%
Non-management female to male base salary ratio	99.86%	107.54%	110.35%

Note:

"Average base salary" refers to the average of recurrent salary, including actual monthly salary, efficiency bonus, meal allowance, subsidies for location accessibility and commute, bonuses for operations and professional skills and payable items) plus grade bonus.

"Average remuneration" refers to the average of recurrent salary + grade bonus + incentive bonus + employee reward + holiday bonus + Moon Festival and Dragon Boat Festival bonus + year-end bonus.

"Senior management" refers to management ranking assistant vice president and higher. The number of women senior managers in the recent three years is 0.

"Management" refers to section + department + division level supervisor.

Unpaid parental leave is also available as part of our leave system. All employees in Taiwan are eligible to apply. Our comprehensive leave system provides our employees with the means to balance family and work. Our employees do not need to agonize over the problems of raising a family, nor do they need to give up their jobs for family. In the long run, we indirectly achieve stability in society. In 2017, a total of 279 employees (103 female and 176 male) were eligible to apply for parental leave, and 39 (37 female and 2 male) applied.

Number of Employees Who took Parental Leave, Return to Work Rate and Retention Rate

Item	2015			2016			2017		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
Actual Number of Applications for Parental Leave	33	1	34	38	2	40	37	2	39
Number of Employees Expected to Reinstate in the Year (A)	11	0	11	15	1	16	18	1	19
Number of Applications for Reinstatement in the Year (B)	10	0	10	11	0	11	11	1	12
Reinstatement Rate % (B/A)	91.91%	-	90.91%	73.33%	0.00%	68.75%	61.11%	100%	63.16%
Retention Rate %	71.43%	-	71.43%	100.00%	-	100.00%	90.91%	-	90.91%

Notes:

Retention Rate refers to the rate of reinstatement for over 1 year after parental leave ends.

Number of Employees Expected to Reinstate in the Year: it excludes employees who applied to continue parental leave in the year.

Employee Welfare Committee

The Company is committed to building a harmonious relationship with our employees. All employees are eligible to propose recommendations and carry out communication with the Company through the regular meetings of the Employee Welfare Committee and the employee-management meeting. In an aim to unify, help our employees achieve work-life balance and boost morale, the Employee Welfare Committee was set up in accordance with the relevant laws and regulations to provide employees with diversified benefits and plan various activities. The committee is comprised of 9 members. One member is appointed by the Company and the other 8 are elected from various departments. The Chairman, Deputy Chairman and Finance Executive are then elected from the panel of committee members. The Committee works with the administrative staff of the Company to plan and implement various activities.



Comprehensive Employee Benefits

NTC sees all employees as family. Under this concept, the Company has planned diversified welfare policies, covering a range of services from dining and accommodations to transportation and parking. Services include an array of food selection, a spacious and comfortable dining environment, and dormitories for single employees and dwellings for employees with families. Ample parking spaces for motor-scooters and cars, and multiple routes of commuter buses. NTC offers hygienic and healthy food services, safe accommodation and convenient commuting options. NTC has also brought in convenience stores (7-11 and Family Mart), a coffee/fruit bar, insurance, banking, telecommunication, skincare products, and travel services to fulfill the daily needs of our employees. The section below presents a summary of the overall welfare services provided to our formal employees:

- **Leave Benefits:**

- (A) Employees are provided with annual leaves and special leaves for wedding, funeral, company business, duty-relate injuries, maternity (for both male and female employees), sickness, menstruation, family care, epidemic prevention and family visit (for externally posted staff).
- (B) Leaves due to sickness and typhoon are paid higher than stipulated by the labor laws and regulations.

• Insurance Benefits:

- (A) NTC provides our employees with the Labor Insurance and National Health Insurance.
- (B) The Employee Welfare Committee covers all employees with group insurance.
- (C) NTC engages insurance companies to offer the employees various options of insurance combinations at discounted premiums.

• Wedding and Childbirth Benefits:

- (A) Employees receive congratulatory gift money (or condolence money/gift) for Wedding or funeral involving themselves, their spouses, parents, and children; managers at all ranks receive subsidies for offering congratulatory (condolence) money.
- (B) Breastfeeding rooms are provided to our female employees for nursing (milk collecting) during work hours.
- (C) NTC offers parental leaves as required by relevant laws and regulations, and employees who meet the eligibility requirements may schedule their work hours flexibly as needed.

• Health Care Benefits:

- (A) NTC offers regular employee checkup packages that are more comprehensive than the statutory requirements.
- (B) NTC subsidizes medical care and health checkup at Chang Gung Memorial Hospitals.
- (C) Gyms and recreational facilities, including basketball, badminton and volleyball courts, are available at our plants and open to all employees.
- (D) NTC distributes health information frequently, offers medical consultation services, and organizes healthcare workshops.
- (E) A health center staffed with medical professionals has been set up at each plant to provide medical consultation and organize health promotion activities.

• Retirement Benefits:

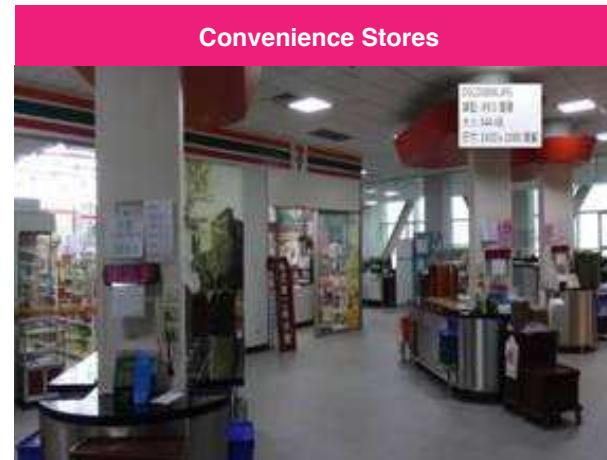
NTC's retirement system has been set up in accordance with the Labor Standards Act and the Labor Pension Act promulgated in Taiwan. Employees who chose to stay with the old pension system contribute 2% of their monthly salary to the dedicated retirement pension account at the Bank of Taiwan, which is monitored and managed by the Employee Retirement Pension Supervision Committee within the company. In 2017, the employee retirement pension fund had accumulated up to NT\$457.32992 million contributed in full. Employees who chose the new retirement pension system contribute 6% of their monthly salary to their respective retirement pension account based on the Monthly Contribution Wages Classification of Labor Pension. Employees may also opt for voluntary contribution and this amount is also deposited into the dedicated retirement pension account along with the standard contribution. Overall, the system has been operating in an orderly and effective manner.

• Benefits for Everyday Living:

- (A) Birthday and holiday gifts (vouchers) and year-end party allowance.
- (B) The Employee Welfare Committee provides subsidies for company trips, scholarships for employees' children, recreational activities, and employee clubs, as well as discounted rates with contracted businesses and banks.
- (C) Cafeterias are set up at all plants to provide the employees with healthy and hygienic meals. Convenience stores (7-11 and Family Mart), as well as coffee and fruit bars, have also been set up to meet the diversified needs of the employees. Special dishes are offered during holidays, especially the Lunar New Year, as a token of appreciation to the employees on duty.
- (D) To provide the employees with safe and affordable accommodation, dormitories for singles and families are available at discounted prices.
- (E) Ample parking spaces are available for motor-scooters and cars, and multiple commuter bus routes provide extra options for everyday commute.

• Personal Safety and Family Care:

- (A) Compensation exceeding statutory standards is given to the families of employees deceased due to work-related accidents. Families of employees deceased due to non-work-related accidents also receive financial assistance no less than the sum of six-month pay, which is superior than the statutory requirement.
- (B) Additional condolence money is also given outside of the statutory requirements to families of deceased employees.



To help the employees achieve work-life balance, NTC organizes sports and recreational events from time to time and encourage employees to form sports clubs. NTC has also built facilities for sports and exercises and brought in masseurs to help the employees relax. A comprehensive range of activities and facilities have been implemented to promote physical and mental health.

- **Developing an active lifestyle:**

Every year, NTC organizes sports events or participates in competitive events organized by the Formosa Plastics Group and Hua Ya Technology Park, including basketball, badminton, swimming, table tennis, volleyball, tug of war, dodgeball, and track and field competitions (high jump, long jump, shot put and long/short distance running). To encourage the employees to participate in sports events, NTC provides funds to train athletes and high rewards to athletes who compete for the honor of the Company and themselves personally.

- **Diverse club activities:**

Various clubs have been set up, including mom's club and clubs such as, jogging, basketball, table tennis, badminton, softball, mountaineering, and camping. In 2017, over 900 employees participated in the aforementioned club activities. In addition, to encourage participation in the clubs, member recruitment activities are held every year.

- **Departmental outdoor recreational activities (trips):**

Recreational activities organized by departments are effective means to encourage employee-management interactivity and develop solidarity within the department. In 2017, over 640 employees participated in recreational activities organized by their departments. In addition, NTC also teams up with other companies to organize social events for singles, aiming to expand the employees' interpersonal network outside of work.

- **Gym/Fitness Center:**

The manufacturing plant is equipped with various sports and exercise facilities, including a multipurpose sports complex, KTV, billiards room, basketball court, badminton court, table tennis room, aerobic classroom, and a full range of workout equipment to help the employees develop balanced physical and mental health.

- **Massage services provided by visually-impaired masseurs:**

NTC brought in visually-impaired masseurs to provide professional upper-body massage services, with the aim of helping employees relieve stress from work as well as provide work opportunities to the visually-impaired professionals.

- **In-plant services:** NTC arranges providers of various services, including insurance, banking, securities, and travel, to provide instant access to services on the plant site.



A Healthy and Caring Workplace

To provide female employees with a comfortable workplace, NTC provides priority parking spaces for pregnant employees and a breastfeeding room to nursing mothers. NTC is committed to building a workplace of gender equality. The health center also conducts maternal health hazard assessments for pregnant and nursing employees.

NTC adheres strictly to the Occupational Safety and Health Act, which stipulates that employers shall carry out hazard assessment, control, and classified management for jobs involving potential maternal health hazards. And women who are pregnant or gave birth within preceding year shall be advised by physicians to determine whether protection measures, such as adjustment to or replacement of work, are necessary and records shall be kept for future reference. In addition, NTC provides health information and organizes women's healthcare talks on a regular basis, and the nurses stationed in the plant provide maternity care related consultations. Lastly, the nursing room set up at each plant is equipped with lockers, refrigerators and water heaters to provide nursing mothers with quiet and comfortable environment for milk collection.

Labor-Management Relations and Communications

To develop harmonious labor relations, promote labor-management cooperation and improve employee welfare, NTC has established diversified and transparent communication channels that are open to employee feedback for labor criteria, such as health, safety, and welfare. The channels also provide management with an effective means to listen to the employees and respond to their inquiries in a timely manner. NTC strives to achieve positive communication between employees and management. For reporting of criminal acts, several facilities, including a mailbox, a reporting hotline and a sexual harassment prevention hotline, are available. Any comments on the Company's rules and regulations can be forwarded through the "Management System Improvement Opinion Form". Our employees are provided with effective means to communicate with management openly on through various means of communication and share their ideas on topics including working conditions, salary and benefits, and personal opinions. The following communication channels are available to our employees:

Communication Meeting	Two-way Communication Platform	Electronic Survey
<ul style="list-style-type: none"> company-wide meeting online quarterly staff meetings unscheduled departmental meetings 	<ul style="list-style-type: none"> garden of life in Nanya Nanya Technology Newsletter feedback 	<ul style="list-style-type: none"> course satisfaction rate food and beverage satisfaction Rate activity satisfaction rate Employee Engament Survey

In 2017, NTC conducted an Employee Engagement Survey for all employees in order to explore to what degree the employees recognized the Company. The respondent rate for this survey was 44% and the average employee recognition rate was 70%. This survey included a total of 23 questions expanded from six dimensions to inquire employees' opinions. The results of this survey will serve as a basis for subsequent improvement of the management system, aiming to unify the employees and achieve the goal of long-term talent retention.

Employees' personal attitude	The average employee recognition rate is 68%.
Employee and supervisor's management	The average employee recognition rate is 71%.
Employees' understanding of the organization's vision and culture	The average employee recognition rate is 69%.
Employees' opinion on the performance of the management team	The average employee recognition rate is 69%.
Employees and peers	The average employee recognition rate is 78%.
Employees' satisfaction towards promotions and remuneration	The average employee recognition rate is 65%.

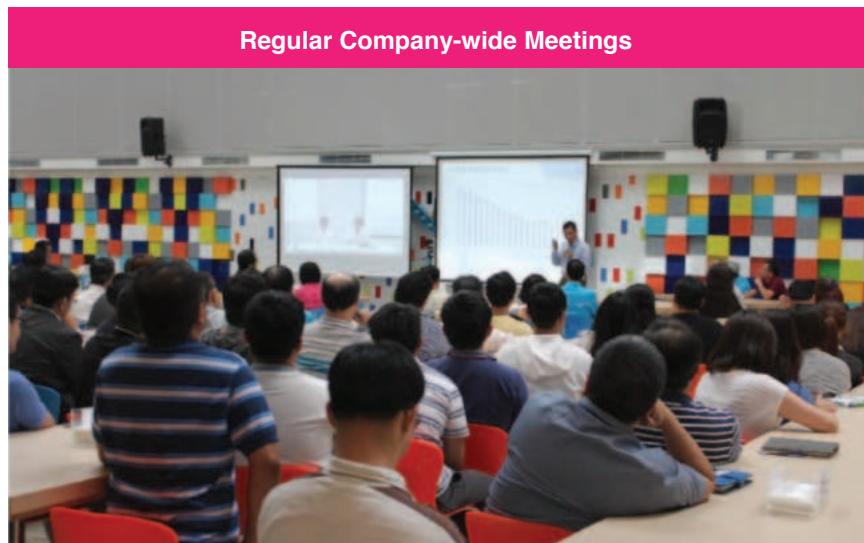
Note:1. This survey was designed on a 10-point scale 2. Recognition is defined as obtaining 7 points or more)

2015-2017 Employees Joining NTC Labor Union in Taiwan

Employees joining the Union	2015	2016	2017
Percentage of Employees Joining the Union	14	32	64
Percentage of All Employees	0.59%	1.23%	2.22%

In addition, NTC Labor Union initiated by the employees has been established since April 2012. Although the Company has not signed a collective bargaining agreement with NTC Labor Union, in the spirit of the "Labor-Management Meeting Implementation Guidelines", a regular meeting is held monthly to openly discuss an extensive scope of labor issues and work conditions. Within the scope of law and reasonableness, NTC gives the Union full rights to operate and express opinions, as open communication is an effective way to promote labor relations and provide effective planning of labor welfare policies.

To convey the Company's determination in fulfilling its corporate social responsibility and various actions, NTC organized the CSR Promotion monthly activities to raise awareness within the company and motivate employees to participate in the events.



Regular Company-wide Meetings

Two-way Communication Section

日期	類別	標題	回應人
2017/01 上午 11:10:53	電子意見反映信箱	1 汉水断流未可用	
2017/01 上午 08:16:40	電子意見反映信箱	1 機車禁行問題	
2017/01 下午 04:49:05	電子意見反映信箱	1 1門禁查詢系統 打開	
2017/01 下午 12:54:15	電子意見反映信箱	1 洪水池原水黑潮陸海交界處若遇到枯水期	
2017/01 下午 01:19:00	電子意見反映信箱	1 (台)立新大樓辦公室 7樓 雜貨室為台灣之父女神頭像，是否請相關人員移除台灣之父，徵詢基隆市府協助改善，謝謝	
2017/01 下午 02:13:30	電子意見反映信箱	1 請問室內裝修半位問題	
2017/01 上午 10:35:57	電子意見反映信箱	2 PARIS H 黃士維辦公室 10樓 中堅面積占總大樓大約3成請問	
2017/01 上午 09:13:59	電子意見反映信箱	3 片口橫濱江泰山森林系/樹冠式樹屋紅葉左側是否有可訪視窗並評估拆移計畫	
2017/01 下午 01:52:55	電子意見反映信箱	2 七樓男廁牆面問題及格	
2016/12/19 上午 10:30:51	電子意見反映信箱	2 為緊急需求,申請使用outlook Shared Mailbox, Nanya資料夾之啟用	
2016/12/19 上午 08:46:14	電子意見反映信箱	2 代表處TA 請問廠長行政問題	
2016/12/19 下午 01:27:31	電子意見反映信箱	2 Office空間有問題?	

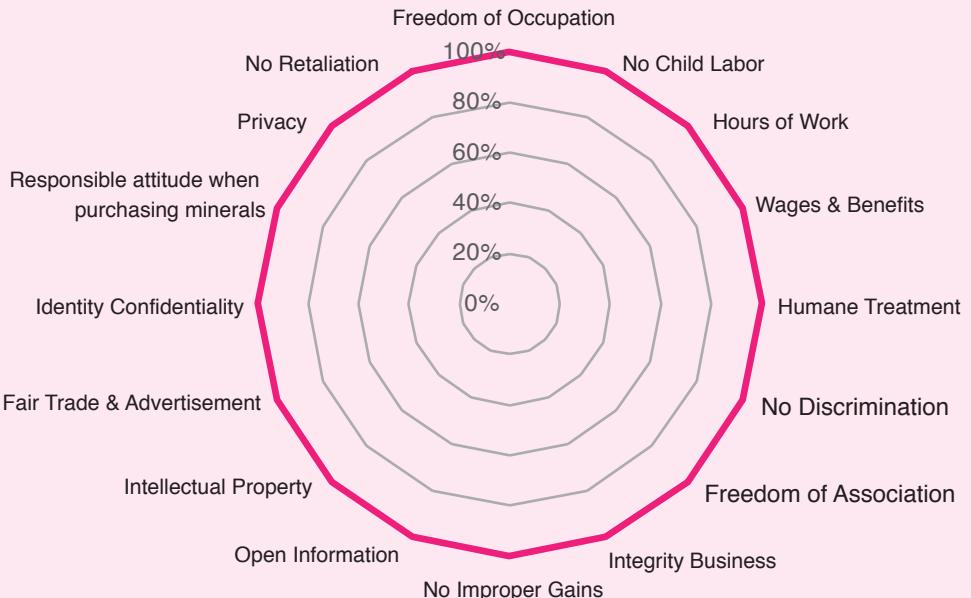
Human Rights

NTC emphasizes the importance of labor rights. To safeguard the rights of our employees, we formulated labor and ethics policies, following the Responsible Business Alliance (RBA) Code of Conduct, SA 8000 Social Responsibility Standards, International Labour Organization (ILO) guidelines, the UN Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights, as well as the laws and regulations promulgated by the local government. We have also implemented a human rights risk assessment and management system, striving to build a tolerant and friendly workplace.

100% employees assessed for human rights risks
10.9% have human rights risk issues

Nanya Technology adopts RBA standards for human rights risk assessment. Through an internal audit mechanism, we assess the risks our employees are exposed to on a regular basis to mitigate the potential impact. Regarding the human rights risk assessment, we update the labor issues regularly to identify the subjects and units prone to risks. After the assessment, the results are reviewed and improvement measures are planned to mitigate the human right risks.

Human Rights Risks Assessment Items



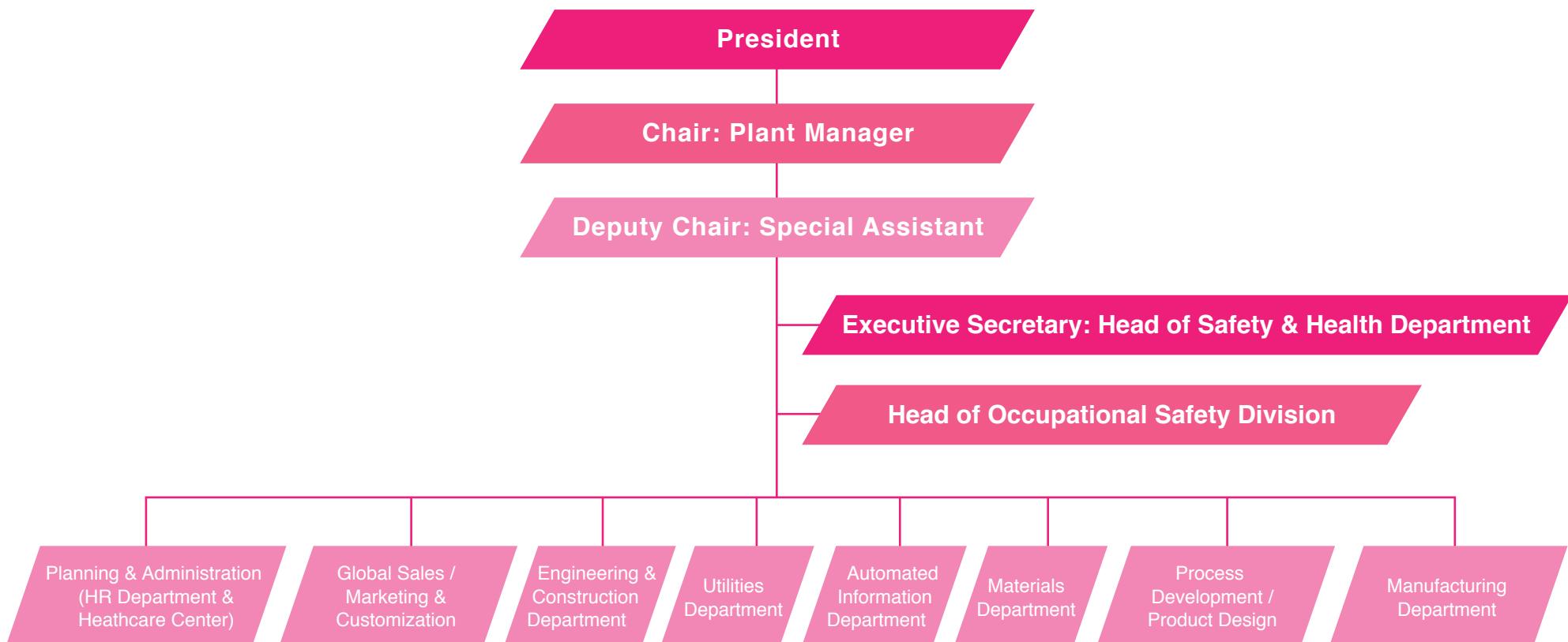
Nanya Technology Human Rights Risks

Human rights issues	Vulnerable subjects	Risk level	Risk value	Major risks in the past three years	Improvement measures implemented in 2017 and effectiveness
Work hours	Process engineer/technician/R&D staff	Medium			
Work injury	Manufacturing process/ new employees	Medium			
Occupational disease	All employees	Low			
Labor dispute	All employees	Medium	10.9%	<ul style="list-style-type: none"> Employees in production engineering unit work for abnormal amount of time. One case of accidental chemical splash occurred in 2016. Cognitive differences in the definition of overtime pay. 	<ul style="list-style-type: none"> Units which are identified to have employees linger in the plant over the reasonable amount of time analyzed the cause and proposed improvement measures. As of end of 2017, 50 percent of the units have made improvement to this situation and the remaining are under continuous tracking. An investigation was launched and the cause of the accident was reviewed. A job safety analysis (JSA) was completed and the work-site safety protection was improved. In 2017, we achieved the goal of zero work related injury. Over-time issues were discussed in the new employee onboarding training courses. The issues have also been raised in the management meeting for thorough communication and the managers have also deliver the messages to the employees in their respective department meeting.
Sexual harassment	Female employees	Low			
Child labor	Employees under 18	Low			
Coerced labor	Foreign workers	Low			

Notes: The labor dispute occurred in 2017 was mainly due to employees' early arrival at the plant, which the competent authority recognized as extended work hours unpaid and imposed a fine on the Company.

5.3 Safe Workplace

Occupational Safety and Health Committee



The Occupational Safety and Health Committee is chaired by the plant manager with full participation of the senior executives, department heads and committee members. Members of the Occupational Safety and Health Committee meet at a higher frequency than the statutory requirement. A monthly meeting is held to review the status of safety and health management goals, various safety and health issues, control targets identified through hazard identification and risk assessment and implementation of these targets. Additionally, issues regarding the formulation and implementation of occupational safety and health management plans, including full employee participation and occupational safety and health policy commitments, and compliance with applicable regulations and health promotion are discussed. As required by relevant laws and regulations, the panel of committee members is formed 34% by employee representatives to ensure substantive implementation of occupational safety and health management. The following issues are discussed during the monthly committee meetings:

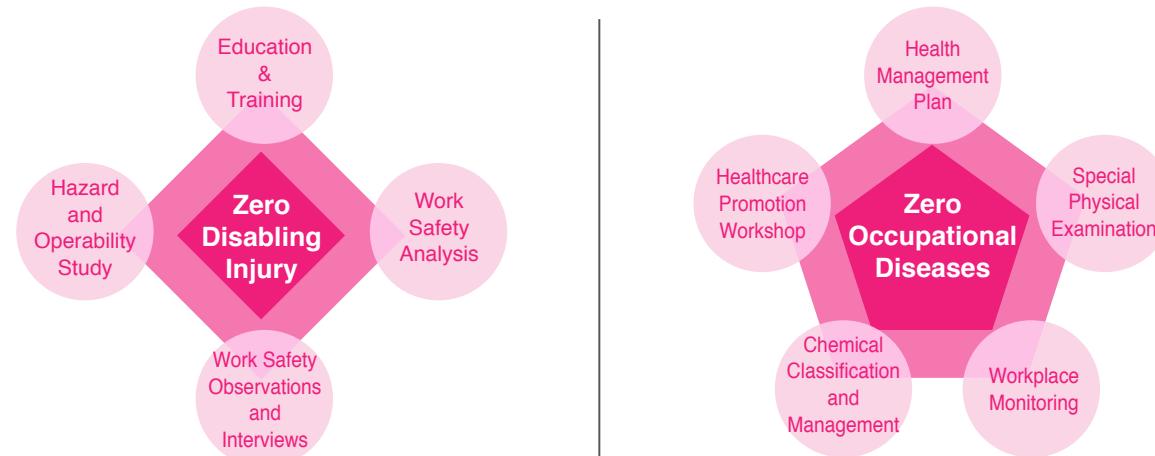
The following issues are discussed in the monthly committee meetings:

1	Occupational safety and health management program and performance evaluation
2	Annual occupational safety and health education and training program
3	Annual workplace monitoring and result analysis
4	Accidents and improvement measures
5	Regulatory changes and response measures
6	Work safety observations and interviews and emergency response
7	Health management and health promotion
8	Policies announced by the General Administration Office of the Formosa Plastics Group

Occupational Safety and Health-Incidents Prevention and Management

In 2017, the frequency of disabling injuries (number of disabling injuries/million work hours) and severity rate of disabling injuries (number of lost work days/million work hours) are 0. NTC had disabling injuries in our manufacturing plants.

Nanya Technology Occupational Injury Prevention Objectived



Despite the fact of achieving zero disabling injury, NTC has never overlooked the importance of disaster prevention. NTC continues to request new employees and suppliers to raise their awareness on safety, taking the following measures to prevent occupational Injury

1. Collaborate with Formosa Plastics Group to promote process safety management (PSM)
2. Carry out hazard and operability analysis (HazOp) to assess potential equipment risks
3. Conduct job safety analysis to assess potential job risks
4. Implement occupational safety and health education and training programs
5. Carry out work safety observations and interviews (safety walk and talk, SWAT)

To prevent occupational health hazards and protect employees, NTC implements the following measures:

1. Special health hazard inspection (noise, free radiation, arsenic, indium, mercury, inorganic compounds, etc.) and graded health management
2. Health management plan (work hour overload, repetitive musculoskeletal risk prevention)
3. Maternal health hazard assessment for pregnant women
4. More than 5 healthcare talks and blood donation activities held every year
5. Workplace monitoring twice a year
6. Graded chemical management system

Year		2015		2016		2017	
Item	Disabling Frequency Rate (Male and Female)		0		0.61		0
		0	0	0.40	0.20	0	0
	Disabling Severity Rate (Male and Female)		0		5		0
		0	0	5	0	0	0
	Major Occupational Accidents	1. Fatal accident	0		0		0
	2. Accident causing more than 3 casualties	0		0		0	0
	3. Accident causing more than 1 casualty and requiring hospitalization	0		2		0	0
	Work Days Lost (Male and Female)		0		27.75		0
		0	0	25.75	2	0	0
	Number of Disabling Injuries Caused by Suppliers		0		0		0
Absence Rate (AR) (Male and Female)		0.33%		0.23%		0.34%	
		0.20%	0.13%	0.11%	0.13%	0.24%	0.10%
Number of Occupational Diseases Diagnosed by Physician (Male and Female)		0		0		0	
		0	0	0	0	0	0
Number of Employment Terminations Due to Occupational Accidents (Male and Female)		0		0		0	
		0	0	0	0	0	0

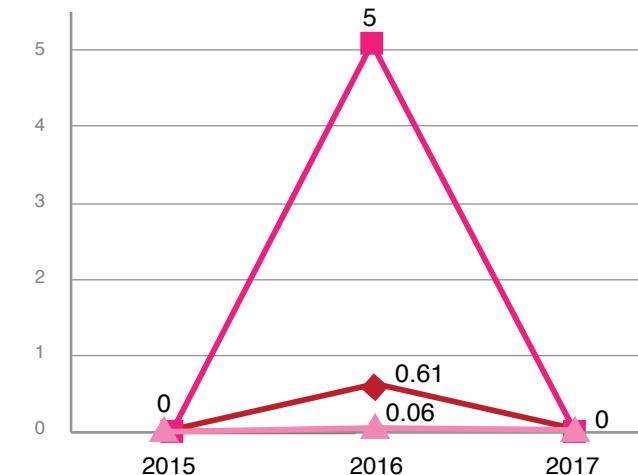
Notes:

1: Statistics of frequency rate of disabling injury (FR) and severity rate of disabling injury (SR) provided here contain only the data reported by the Company and do not include accidents of contractors/traffic accidents/minor injuries (resolved by on-site first-aid).

2: Absence Rate (AR) = total number of absences (including sick leave inpatient + sick leave outpatient + sick leave due to business operation + mensuration leave) / total work hours*100%

3: NTC currently has FAB-3A and FAB-3A-N in Taiwan.

- ◆ Disabling Frequency Rate
- Disabling Severity Rate
- ▲ Frequency-Severity Indicator



Occupational Safety and Health Management System

NTC pushed forward implementation of the OHSAS 18001:2007 and TOSHMS Management System and has been successfully certified. In 2018, NTC will continue to implement switch-over to ISO 45001:2018 system, following the standards of the ISO. In 2017, the Company continued its PDCA process to allocate high risk operations faced by the employees and set the goals for improvement of the management program, targeting at the hazard category identified. In 2017, NTC implemented 25 projects to reduce risks involving chemical contact, fall, collision, hypoxia, electrical shock, and 5S fall:



P (Plan): the Occupational Safety and Health Committee holds a monthly meeting to review the status of the EHS management targets and implementation of control target setting for the various occupational safety and health issues, hazard identification and risk assessment, as well as formulating and implementing the occupational safety and health management plan.

D (Do): hazard identification is carried out to pinpoint the presence of hazards in the workplace, identify any adverse effects that may accompany these hazards and determine whether our employees are exposed or likely to be affected by these hazards, based on the inspection records, safety data, records of accidents and disasters, work safety analysis, safety walk and talk (SWAT), standard operating procedures, equipment manuals and maintenance records, and followed by an risk assessment.

C (Check): Checks are implemented on employees exposed or potentially exposed to hazards to verify whether their exposure is in compliance with regulations and determine whether the control equipment or management measures meet the requirements. Hazard identification and risk assessment are carried out to identify high-risk operations and the assessment results are reviewed regularly and ad hoc every year.

A (Action): Hazard control is achieved through control of hazard sources, from the path of causes to the exposed workers, and establishment of safe operating procedures. Assessment is then implemented to identify high-risk areas and management plans formulated to facilitate continuous improvements.

Occupational Safety and Health Education and Training

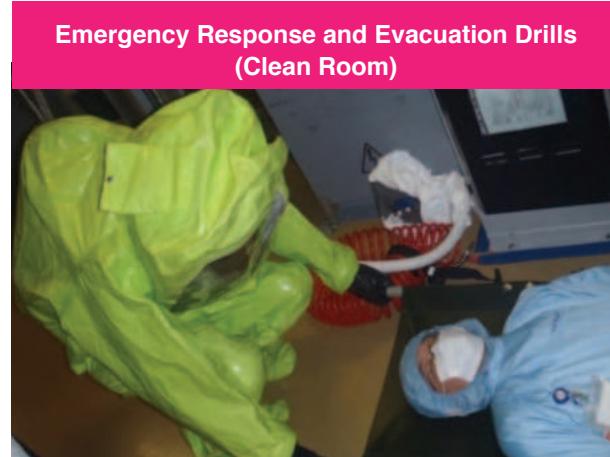


Courses for new employees, senior staff/supervisors, statutory licensing requirements, special hazard operations, and disaster emergency response are included in the annual training plan and scheduled for implementation. In addition to the planned training courses, emergency response drills are implemented for high-risk operations to raise safety awareness and achieve maximum lateral reach.

In 2017, NTC invited the Taipei Motor Vehicles Office to give road safety talks, targeting at reducing accident rate of the daily commute through raising the awareness on road safety and defensive driving. The occupational safety and health training and emergency response drills are aimed to enhance the capabilities in emergency response and reduce the incidences of accidents caused by unsafe acts, as well as develop safety culture and habits in the day-to-day operation, and these objectives are achieved through continuous education and training, emergency response drills, training courses for statutory licensing and regular retraining.

Item	Category	Training Course	Total Hours (hour)	Total Participants
1	Training and Education	Occupational Safety and Health Training Plan	248.1	4,053
2	Emergency Response Drills	Plant Evacuation Drills	1	1,873
3	Road Safety Talks	Motor-scooter Safety - Defensive Driving Training	3	184
4	Statutory Licensing	Occupational Disaster Emergency Response Personnel On-job Training	3	167
5	Statutory Licensing	Occupational Disaster First-aid Personnel Training	18	36
6	Statutory Licensing	Organic Solvent Operations Supervisor Training	18	29
7	Statutory Licensing	Special Chemical Operations Supervisor Training	18	29

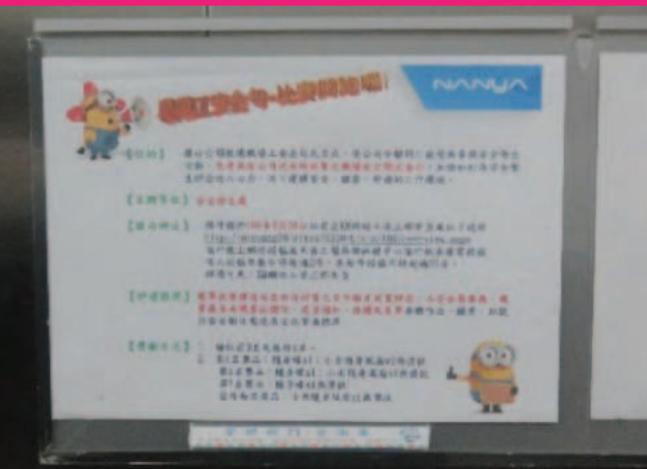




• Occupational Safety Month

An awareness-deepening campaign, entitled "Disaster Prevention Month, Work safety Month", was held in January and February of 2017. Several activities, including the slogan contest, advocacy posters, evacuation drills, health promotion talks, and safety inspection/advocacy projects, were launched, targeting at raising awareness on safety and achieving the goal of zero disabling injury. The slogan contest was open to all employees and the winner slogan was Working by the rules gets zero injury, safety, and health with everywhere and everyone!

Awareness-deepening Month Campaign



Employee Healthcare

NTC partners with the Chang Gung Memorial Hospital medical team to conduct the annual health check. In 2017, a total of 980 employees underwent health checkups at a total cost of NT\$1.147903 million.

Employees found to have health issues are entered into continuous tracking and health management. A clinic staffed with visiting physicians has been set up at every plant to provide professional medical and consultation services to employees. Medical and health talks are arranged regularly to provide employees with updated information on mental and physical health.

Epidemic Emergency Response

To ensure a quick response during an outbreak of infectious diseases, such as influenza, the Company set up an epidemic response team based on the response practices for SARS and bird flu and continues to develop and update the response measures. Epidemic prevention advocacy and measures implemented in the Company include:

Epidemic Prevention Advocacy

- Announce influenza response measures
- Raise awareness on epidemic prevention through large and informative posters
- Distribute self health management guides

Epidemic Prevention Measures

- Implement reporting, medical control, and office close-down for epidemic prevention
- Supplier and visitor quarantine management

Epidemic Prevention Poster



民衆疫情通報及諮詢專線

1922

衛生署疾病管制局
TAIWAN CDC

疫情通報及諮詢專線：1922

<http://www.cdc.gov.tw>

Employee Health

Aside from required health checkups, a health center is set up at each plant to provide the employees with easy access to preliminary treatment, disease prevention of health care information, weight management resources, and smoking cessation consultation. NTC has also engaged the Chang Gung Memorial Hospital, a member of the Group, to provide top-grade medical and health services. NTC further takes steps to promote preventive medicine and disease prevention to help our employees achieve physical and mental health. In addition, NTC has also launched a series of activities, including health talks, blood donations, pap smears, and flu inoculation. Every year, over 300 employees participated in each of the events.

- NTC offers better health checkup benefits than the statutory requirements and adds 3 cancer screening programs, Alpha-Fetoprotein (AFP), Carcinoembryonic Antigen (CEA) and oral cancer, and waistline measurement.
- At Chang Gung Memorial Hospital, the employees and their family are offered discounts when using services not covered by the National Health Insurance and health checkup services.
- Staff stationed in China and Vietnam are provided with overseas trips for health checkups and regular check-ups, as well as subsidies for general medical care.

Take Care of Your Liver and Live A New Life



Spine Care Exercise Workshop



Blood Donations



Pap Smears and Flu Inoculation



Heart Care Workshop - Cardiovascular Disease Prevention



5.4 Talent Cultivation and Development

Talent Cultivation System

Management Policy for Training and Development

Idealogy

NTC is people-oriented, sustainable development-centered, advocating lifelong learning and promoting employee life development, to build an advantageous training system for the semiconductor industry.

Policy

NTC aims to improve the employee quality and to continue talent cultivation and development.

Objective

NTC optimizes the training and development system, offers diverse training and systematically provides all employees with required skills, knowledge and abilities, to increase individual training effectiveness and achieve the company's annual strategic goals.
2018 objectives: annual training plan completion rate $\geq 92\%$; Rate of open positions filled by internal $\geq 50\%$
2021 objectives: annual training plan completion rate $\geq 96\%$; Rate of open positions filled by internal $\geq 60\%$

System

Training Management Procedure, Training Development Policy, Structured On-the-Job Training Instruction, Continue-in-Education Management, Internal Lecturer Development and Management Procedure, and Training Materials Management Instruction

Implementation

Annual training and development plans are formulated and executed in accordance with the company strategy. Training performance indicators are reviewed monthly; plan execution and training results are reviewed by the Training & Development Committee on a quarterly basis.

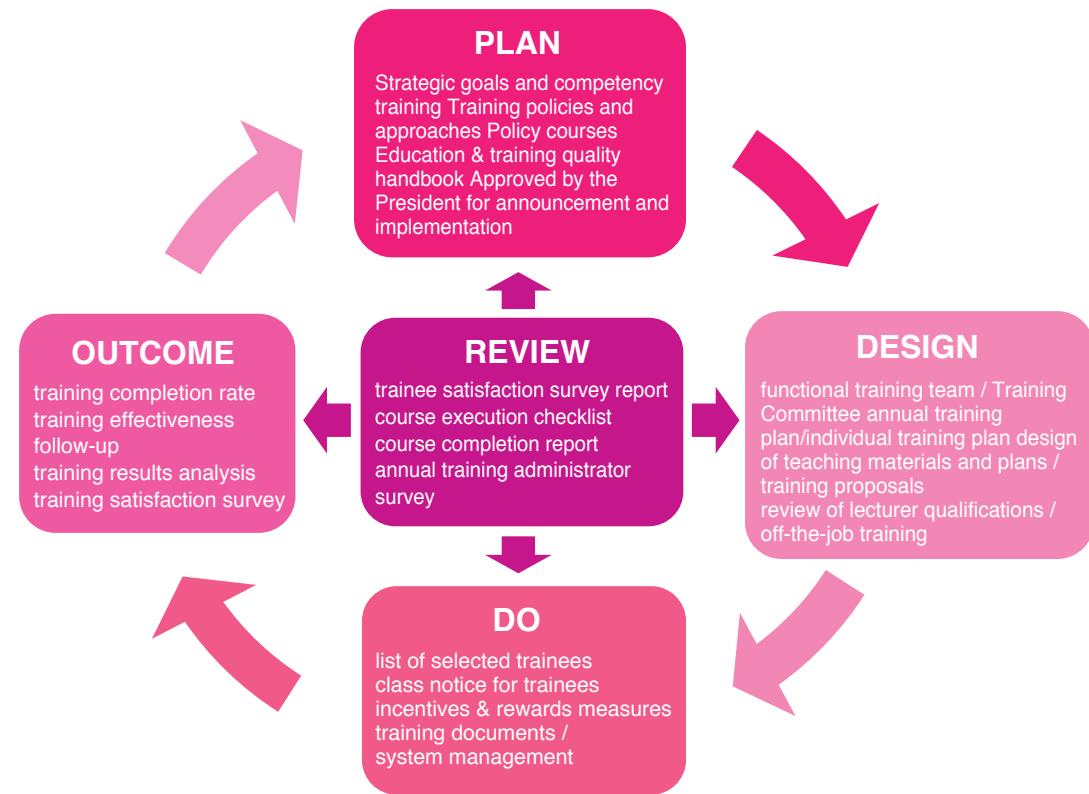
Training and Development System and Management

To provide a better and more effective talent development system, NTC established a comprehensive competency training system and training development management system . A wide range of training courses are offered, including new employee training, general training, individual competency training, supervisor training, internal lecturer training, direct staff training, and self-development courses. These courses are offered in physical classrooms or through an online platform. In addition, the training and development system and the knowledge management system have enriched the Company's competency training system and helped promote developing links for internal knowledge and creative ideas. These systems enable the employees to access, share, and create knowledge. Additionally, employees can create courses and literature relating to specific areas over the internal network. Various learning resources and information regarding external training and workshops as well as social media for professional and technical discussions are also available on the network. The abundant resources make this portal an effective tool for organizational learning. The section below shows the main training programs.

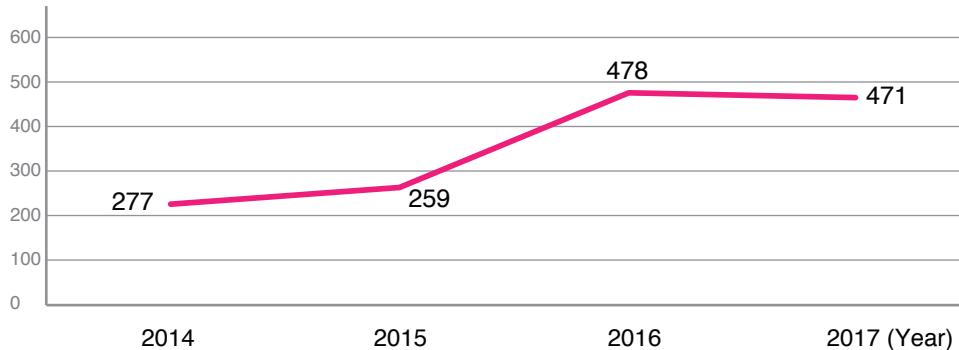
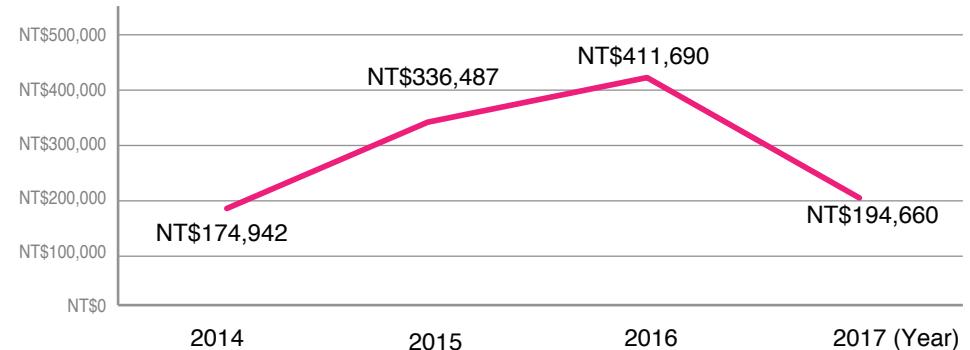
Competence Training System



Training and Development Management System



New Employee Training	New Recruits Training	The training gives new employees an orientation to the Company and the semiconductor industry to help them quickly integrate into the organization and cultures. A comprehensive series of high-quality on-job training courses effectively shortens the learning curve and helps the newcomers successfully complete the basic training requirements. In coordination with the Company's expansion in 2017, a total of 625 new employees were trained during the year.
	General Course	The course includes courses designed to meet the statutory requirements of labor safety and workplace health, or meet customer requirements of product quality, or inform the Company's operational or development goals.
	Function-specific Training	The training targets at helping the employees build professional knowledge. Systematic competency training is implemented through position-specific mandatory courses and one-on-one mentor system, operations certification system, and outstation training programs, aiming to enhance the employees' professional competencies.
Professional Training	Direct Personnel Training	The training aims to provide direct employees with professional skills and pre-operation training. The courses help them successfully obtain certifications for machine operations, and a coordinating trainer system and incentives are also implemented to encourage direct front-line production personnel to adapt to the clean room environment and start production as soon as possible.
	Internal Lecturer Training	The training develops high-quality internal lecturers and accumulates knowledge and energy for internal sharing and training. In 2017, a total of 16 employees were certified as internal lecturers. In appreciation of their contribution to the Company's continuous improvements on the quality of internal courses, an event is held under the support and with active participation of the senior executives to commend outstanding lecturers on Teachers' Day every year. In 2017, a total of 15 outstanding lecturers were nominated and commended.
Management Training	Function-specific Supervisor Training	In addition to the Company's management competency development program, which provides management competency training to managers of different ranks, tier 1 and 2 supervisors are required to participate in the function-specific supervisor advanced level training camp. This program aims to enhance the competencies of the supervisor trainees to handle interpersonal and problem-solving skills, as well as passing down the essence of corporate management within the Company.
Individual Development	Personal Development	To continue the employees' development, advocate lifelong learning and assist in the employees' career development, the company's on-the-job training measures provide administrative resources and incentives to encourage the employees to continue advanced studies. In 2017, the rate of vacancies filled internally was 43%.

Number of patents**Subsidies for continuous education****Direct Staff Training****Product Line Managers Training****Professional Skills Training****Managerial Training**

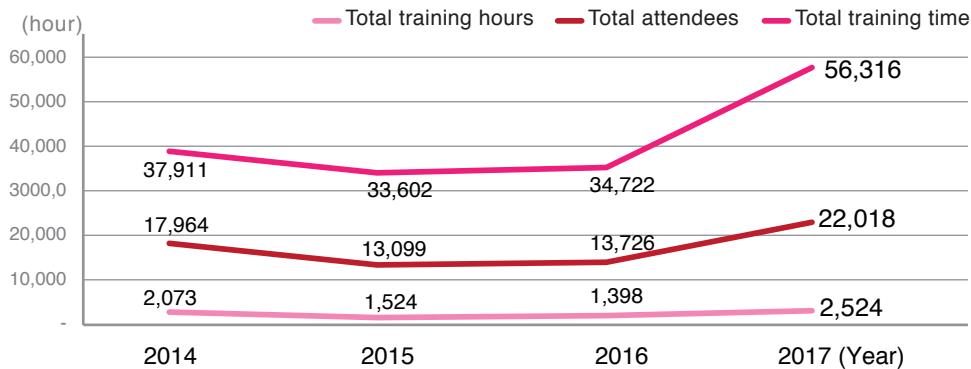
Outstanding Lecturer Award Ceremony



Training and Development Effectiveness

In 2017, a total of 981 courses were launched, accumulating to a total of 2,524 training hours. The courses have been participated in a total of 22,018 times, which amounts to 56,316 hours. The average per-person training hours came to 18.9 hours and the total cost of training reached NT\$ 7,537,561.

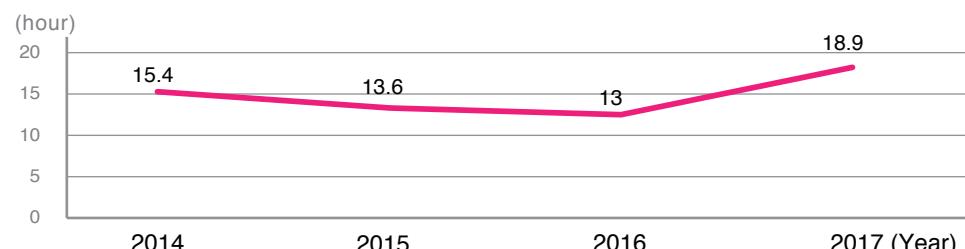
Training hours by year



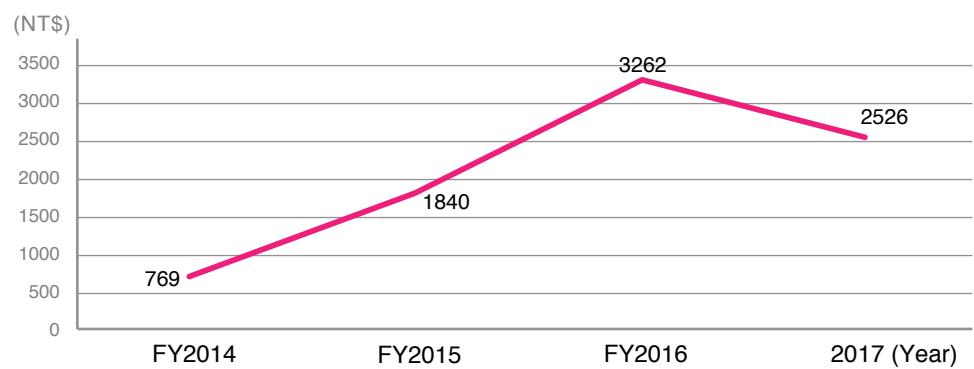
Total and Average Training Hours by Gender

Item	Male	Female	Total
Total Number of Training Hours (hour)	41,446	14,870	56,316
Total Number of Employees (person)	2,105	879	2,984
Average Training Hours Per Person (hour)	19.7	16.9	18.9

Average training hours per person



Training cost per person



Note: In 2016, the training cost includes the training fees for advanced process technology transfer; therefore, the training cost for each person in that year increased.

Total and Average Training Hours by Function and Gender

Category	Total Training Hours	Male	Female
Supervisors	3,908	13.2	12.2
Technical Personnel	34,981	22.5	21.0
Administrative Support	10,891	16.7	21.8
Direct Personnel	6,536	12.4	12.4

Note: employee training hours do not include on-job mentoring.

To ensure that the Company's training programs targeting on the strategic goals yield effective results after implementation, the Kirkpatrick assessment model (L1 - L5) was used to assess each course when proposed by the respective education and training work team and after course implementation to gain in-depth information for future improvement and boost the willingness of the stakeholders to participate. And under the guidance of the President, each education and training team launches its annual training programs and course, which are evaluated after implementation for effectiveness.

The courses are classified into different levels for effectiveness evaluation according to the Kirkpatrick evaluation model as follows:

(A) Level 1 Response Assessment (Awareness - Feeling Good or Bad)

- (a) Method: Questionnaire/Interview
- (b) Content: Post-training satisfaction/training content, teaching materials, lecturer, venue and time, etc. (Average satisfaction rate in 2017 was 4.51 [on 5-point scale])

(B) Level 2 Learning Assessment (Understanding ~ Understanding of the Content)

- (a) Method: Test/operation skills assessment/post-training report
- (b) Content: test/hands-on operation/written report/skill certification

(90.6% of the trainees passed the courses in 2017)

(D) Level 4 Outcome Evaluation (Effectiveness ~ Specific Benefits)

- (a) Method: Performance/sales/productivity
- (b) Content: productivity/product development/sales/work performance/results of competitions and presentations

(C) Level 3 Behavioral Assessment

- (Application ~ Skills linking to work)
- (a) Method: post-training tracking/performance
- (b) Content: Supervisor-trainee interview/project output

2014	2015	2016	2017
Production cycle cut down by 66 days. Production system completed 3 weeks ahead of time.	Product development die cost reduced by 18%.	Won silver medal in TTQS Evaluation organized by the Ministry of Labor.	717 proposals for productivity improvement were raised.

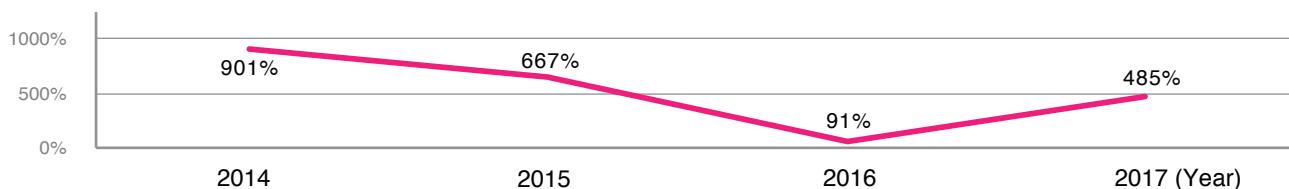
	2014	2015	2016	2017
Improvement proposal (item)	47	44	51	38

TTQS:Talent Quality-Management System

(E) Level 5 ROI of Employee Training

$$\text{ROI\%} = \frac{\text{Net Profit-Training Cost}}{\text{Training Cost}} \times 100\%$$

Training cost per person



Note: The ROI in 2016 is lower. This is mainly due to the fact that the training plan in 2016 was focused on low power consumption products related skills and such products currently take a smaller share in the Company's overall production.

Employee Development Programs

Year	Program	Significance to the Company's operations	Training effectiveness (NT\$)	Employee participation rate (% of total employees)
2017	Advanced Manufacturing Process Dynamic Memory and Product Development Training Program	This program successfully moves the Company into the next-generation advanced 20-nano process. It sets the cornerstone for the Company's proprietary R&D, effectively lowers the costs of products, increase production capacity, boosts the Company's competitiveness and helps the Company to achieve the goal of sustainable development.	NT\$ 3,602,699,075	86%
2017	Professional Competency Upgrade Program	This program responds to the Company's needs to pursue products of higher functions in the dynamic memory market. It provides training of relevant professional competencies, targeting on the different operations, and is expected to continuously reinforce employees' professional abilities in the new generation products. The result is projected to bring the Company complete product lines, boost sales and enhance the Company's overall competitiveness.	NT\$ 60,770,075	32%
2016	New Low-power Consumption Dynamic Memory Development Training Program	This program plays a key role in the Company's upgrade and transformation. It is expected to provide the Company the design modules for proprietary technology development, which will enable the Company to diversify products, expand the market of portable mobile memory, increase the Company's product value and expand customer base. Development of this niche is expected to balance the Company's product sales and minimize the impact on the Company's sustainability brought by over-concentration on a niche market and a few customers.	NT\$ 804,042,459	85%
2015	Shrinking Process for Development of Dynamic Memory Training Program	The Company launched proprietary R&D on the shrinking process without technology licensing and transfer. Successful development of this technology is expected to increase production volume and productivity, as well as lowering the costs to bring Nanya Technology continuous profitability.	NT\$ 3,033,287,583	65%

Human Capital ROI

NT\$ (in thousands of)	2014	2015	2016	2017
(a.)Total revenue	49,107,622	43,875,905	41,632,505	54,918,224
(b.)Operating expenses	3,364,456	3,820,610	4,298,858	5,852,547
(c.)Labor costs	3,056,569	2,966,302	3,119,440	3,419,910
Resulting HC ROI (a-(b-c)) / c	16.0	14.5	13.0	15.3

**Year-on-year replacement rates for open positions
(including promotion, vacancy replacement and job rotation)**

2014	2015	2016	2017
70.8%	38.6%	23.7%	43.0%

Note: In 2014, open positions were replaced by internal staff due to downscale, organizational reform and suspension of recruitment.

Diversified Development and Learning Approaches

NTC advocates continuous talent development and lifelong learning. To help the employee develop their careers and achieve diversified learning, NTC planned a series of comprehensive and versatile on-job training and education programs, as shown in Figure 6 below.

Online Learning Media Center

This audio-visual center is part of the Company's internal training and development system. It provides a more flexible learning mode in a versatile online environment to the employees. In 2017, the Company completed production of a total of 72 digital courses and online reading reached 10,958 hours.

Language Learning Subsidies

The Company's Language Learning Subsidies Program offers professional language training courses conducted by external collaborating institutions. Subsidies and incentives were offered to encourage the employees to enhance their proficiency in foreign languages. Language proficiency is further linked to position requirements and the advancement system with set TOEIC targets. The Company also offer English training classes at language schools near the employees. A TOEIC Test Simulation System has also been set up to provide the employees with more practicing and simulations of real on-site TOEIC test were also held in the Company.

On-job Degree Programs

In addition to the industry-academia cooperation programs or technology development projects, NTC has set up on-job training management guidelines, offering subsidies and incentives to encourage the employees to continue their education in their spare time. Up to date, a total of 696 employees completed degree programs, including 201 associate degrees, 381 bachelor degrees, and 114 masters degrees or higher.

External Courses

NTC encourages the employees to participate in external training courses to enhance their professional competencies and work-related certifications, as their growth and development will bring the Company enhancement in the product development and expansion and continuous creation of product values. In 2017, a total of 113 employees participated in external training courses.

Figure 6. Diverse on-job training and learning programs**TTQS Corporate Silver Medal Certification**

Besides the diversified physical classroom courses, the Company has also planned a complete professional certification system, shift training, and assignment-based training to expand the options and modes for learning of professional and technical skills. To effectively manage our internal on-job training (OJT) materials, NTC has set up a training material management procedure, which is coordinated with the update of the knowledge management system and the new teaching material approval procedure to reinforce and manage the teaching materials update mechanism. This system provides our employees with quick access to inquiry and speeds up file sharing. The accumulated internal training materials have reached a total of 724 modules.

The Company continues to reinforce the links between organizational goals and training needs, aiming to improve and enhance the effectiveness of the programs and achieve more concrete and quantified performance results in training effectiveness and program structure. Since 2008, the Company has been an active participant in the Talent Quality-Management System (TTQS) certification program managed by the Bureau of Occupational Training, Council of Labor Affairs (currently Workforce Development Agency, Ministry of Labor). In 2016, NTC continued to win the Corporate Silver Medal. It is an affirmation of our efforts in talent education and development. In mid 2018, NTC will once again participate in the Talent Quality Management System Certification and the National Talent Development Award nomination to continuously enhance our talent cultivation and development practices.

Employee Performance

NTC's performance management aims to continuously explore and develop the employees' potentials. Therefore, in addition to providing a quality learning environment and a well-designed performance management system, NTC also emphasizes positive interaction between management and employees. Supervisors meet with the employees quarterly to review their performances, as an addition to the annual performance evaluation. Through interactive discussion and communication between supervisors and employees, NTC provides necessary assistance and care to help each of the employees achieve the goals of improving personal and organizational performance.

Employees meet with their supervisors to set their work targets based on the detail breakdowns of the organizational goals. The supervisors then give feedback to the employees and assess their performance based on their work targets. From 2015 to 2017, the target management coverage rate is 100%, and all employees are included in the performance rankings. Up to 2017, the target management coverage is 100%. Performance evaluation tools used in 2017 include overall annual performance assessment and 180/360-degree performance appraisals for supervisors. Different tools are used to evaluate different ranks of employees to give the most relevant suggestions. The 180-degree performance appraisal was conducted on 4 to 6 peers or higher-rank managers who have business contacts, considering that department managers and managers in higher positions were frequently occupied to contact and communicate between different units. The 360-degree feedback was conducted on the plant director and division managers (or higher). Feedback was given by the employees under their management, targeting at their management competencies. Items evaluated in the peer 180-degree appraisal and 360-degree feedback are provided in the table below. In 2017, 10% of the employees were assessed with multi-dimensional performance evaluation. The decrease in the ratio, compared with the previous two years, is due to the increase in the number of new employees, meaning that a larger denominator was used to calculate the ratio and thus causing a smaller percentage. NTC awards those with better performance and encourages them to excel. For those with weaker performance, the system alerts their supervisors to take actions until notable improvements are achieved, regardless of gender.

180/360-degree Performance Appraisal

Category	180-degree Appraisal by Peers	360-degree Feedback
Assessment Items	<ul style="list-style-type: none"> • Work attitude • Teamwork • Communication skills • Execution abilities 	<ul style="list-style-type: none"> • Excellence • Decision-making • Innovative thinking • Leadership • Communication



Building a Better Community

Aside from stable operations, Nanya Technology looks forward to actively participating in public affairs and cultivating industry talents, as well as building a better community.

- 6.1 Community Engagement
- 6.2 Cultivating Technology Talents



Sustainable Development Goals and Key Performances

Material Issues	2017 Targets	2017 Achievements	2018 Targets	2021 Targets
Community Participation	<p>1. Offer 20 internship placements</p>	<p>1. Offered 20 internship placements 2. Donated total 5,100 fire distinguishers to 17 villages in Taishan District</p>	<ul style="list-style-type: none"> • Offer minimum 30 internship placements • Give minimum 3 school talks 	<ul style="list-style-type: none"> • Categorized into two domains, ecological and humanistic, the Company's objectives of corporate social responsibility are to establish roots, development/growth, and co-prosperity. • To cultivate technology talent, the Company will promote industry-academia links through talent cultivation/retention on campus and industry-academia cooperation. • Promote charity activities including volunteer programs, cash contribution, and goods donation.

Management Approach

Visions & Goals

A happy society is the most important cornerstone of corporate sustainable development. NTC seeks sustainable operations through upholding the founder Mr. Yung-Ching Wang's philosophy of giving back to society. The Company will also focus on cultivating technology talents in Taiwan and promote industry-academia cooperation and exchange based on core competencies and values. The Company aims to share its technological developments and breakthroughs with Taiwanese society.

Channels of Communication

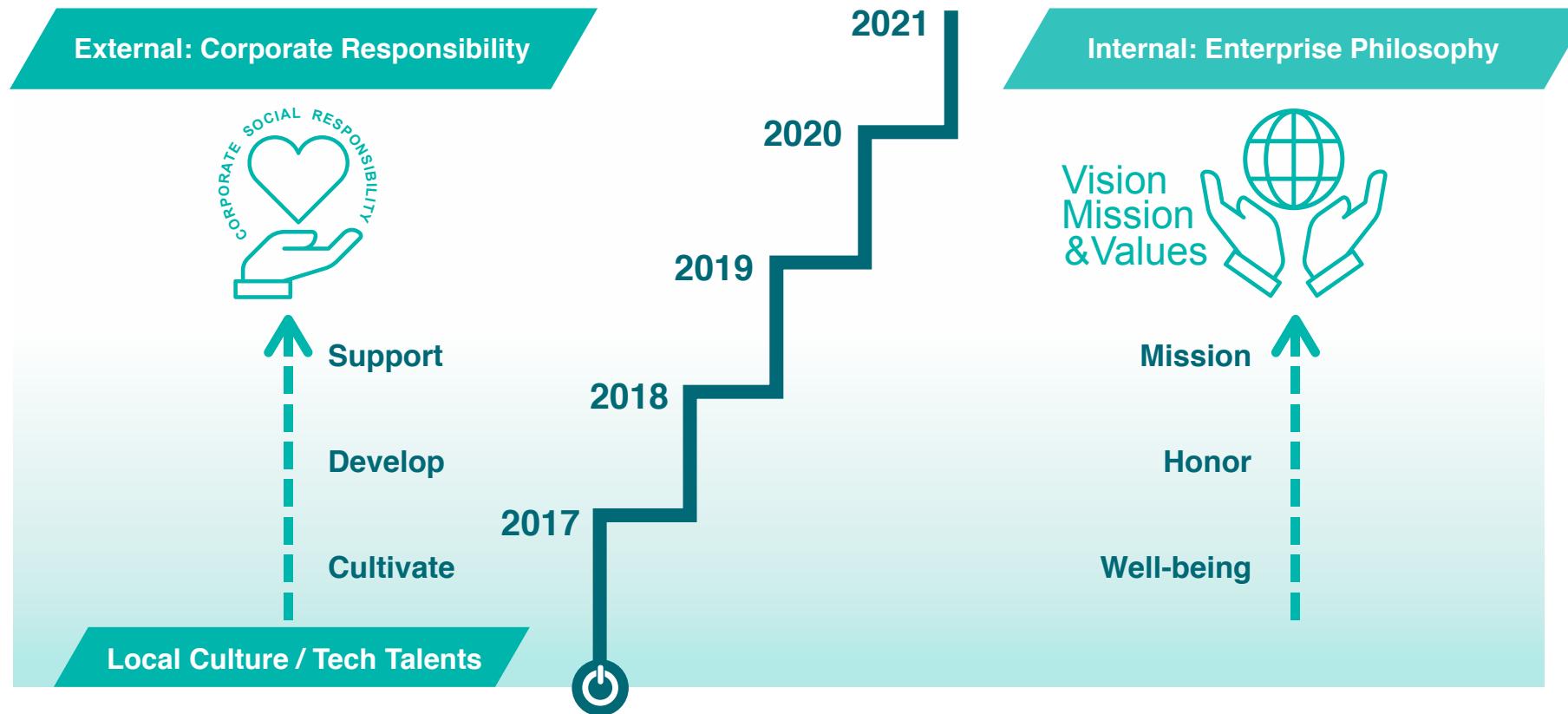
- 1. Long-term contact with communal organizations
- 2. Employee Welfare Committee
- 3. Cooperation between nonprofit organizations and public associations
- 4. Talent recruitment/retention on campus

Management Flow

- 1. Understand the needs of local communities and corporate demand for talents
- 2. Evaluate available resources from the Company
- 3. Design community and internship programs
- 4. Improve stakeholder participation
- 5. Maintain records of participation and social benefits
- 6. Plan for social programs for next year

Relevant Policies and Actions

- 1. Being a good neighbor/member of the community
- 2. Charity photography
- 3. Student internship programs
- 4. Industry-academic exchanges



6.1 Community Engagement

Mr. Yung-Ching Wang, the founder of Formosa Plastics Corporation, said "It doesn't matter how much money a person makes in a lifetime but how much he can do for society". The Company works hard to uphold the founder's philosophy of giving back to society and takes many actions to do so. The Company seeks sustainable operations through proactive R&D and innovation, talent cultivation, and giving back to society. The Company's objective is to become a Best Company to Work For, and a 5-year project is stipulated in the hope of developing a sense of happiness, honor, and mission among the employees. Externally, the Company's objectives are to form roots, develop/grow, and co-prosper. The company focuses on being a good neighbor/member of society and participate in charity activities to proactively build a friendly community and promote social caring.

In order to deepen the Company's long-term influence on society, NTC focuses on its own operational core capabilities and social needs and proposes three main goals for charity: talent cultivation, environmental conservation and humanistic care. NTC strives to use its most competitive operational core to tackle social issues and create a harmonious community. The value of sharing is Nanya Technology's core value that drives the Company to invest in social care and philanthropy. In the short run, we hope that our resources will be able to bring forth the greatest benefits; in the long run, we hope that the behavior, awareness, and well-being of those who we have assisted will generate positive influences. To this end, Nanya Technology adopts the London Benchmarking Model (LBG) to measure the effectiveness and impact of each charitable activity, to gradually adjust charity projects and allocated resources, and to review the outcomes and results, and closely connect operational core values with social issues.

In the past three years, cash and goods were the main allocated resources of NTC's charitable activities, accounting for as much as 90% of the total resources, and the remaining part were volunteer inputs. The types of charitable activities are mainly commercial activities that nurture scientific and technological talents, and long-term community engagements are the second most important activity, while a minority of them is purely charitable donations. In the future, we will continue to examine the effectiveness of charitable activities through LBG and focus on the ratio of commercial activities to long-term community engagements, as well as consider adjusting the proportion of volunteer resource inputs.

Main Theme	Core Values and Actions	Commercial Benefits	Social Benefits	Social Impacts
Talent cultivation	<ul style="list-style-type: none"> Cooperation in innovative technologies Hold seminars and create exchanges between the industry and universities/colleges Provide internship and visit opportunities 	<ul style="list-style-type: none"> R&D of innovative technologies (number of patents) Supervisors as instructors Talent recruitment 	<ul style="list-style-type: none"> Number of scholarship recipients Number of internship for university/college students (20 students worked as interns in 2017) Number of students visiting the Company (60 students visited the Company in 2017) 	<ul style="list-style-type: none"> Focus on education and talent cultivation
Environmental conservation	<ul style="list-style-type: none"> Propose initiatives tackle environmental issues Protect ecosystem and environment Assist communities 	<ul style="list-style-type: none"> Enhance brand image Build up harmonious relationship with community members Raise employee's awareness in environmental protection 	<ul style="list-style-type: none"> Number of times of communicating to community members Reduce environmental impacts Bridge the gaps between the haves and have-nots 	<ul style="list-style-type: none"> Build a low-carbon and inclusive society
Humanistic care	<ul style="list-style-type: none"> Collaboration with NPOs Care for community members Charity sales 	<ul style="list-style-type: none"> High employee coherence Certificate of Appreciation from communities (Taishan District) CSR Awards 	<ul style="list-style-type: none"> Number of NPOs (The Society of Wilderness, Mustard Seed Youth Home in Xinzhuang) Number of community engagements (Taishan District) Total amount of charity sales (NT\$214,200) 	<ul style="list-style-type: none"> Increase social well-being and charity participation

	Cash contributions	Donation of goods	Employee volunteering	Management fees
2015	NT\$1,995,740	NT\$0	NT\$77,500	NT\$24,250
2016	NT\$1,999,048	NT\$0	NT\$5,000	NT\$0
2017	NT\$4,946,200	NT\$2,142,000	NT\$8,500	NT\$0

	Charity	Long-term Community Investments	Commercial Initiatives
2015	10.52%	3.66%	85.82%
2016	10.18%	0.00%	89.82%
2017	3.02%	30.30%	66.68%

Community

Besides maintenance of adjacent roads and environment, the Company maintains communication with local residents and does its best to provide assistances. The Company also continues to be involved in various local community activities such as temple fairs, elderly clubs, weddings and funerals, and invites residents to participate in factory activities. The goal is to establish harmonious relationship with residents and local elites.

- Donation of fire extinguishers: The Company seeks out opportunities to contribute to the community and be a helpful neighbor. Thus, the Company donated 300 ABC dry chemical extinguishers to each of the 17 villages in Taishan District, a total of 5,100 fire extinguishers. A fire extinguisher costs NT\$420; thus, the total donation made was NT\$ 2,142,000.

Donation of fire extinguishers to Yi Ren Village in Taishan District



Donation of fire extinguishers to Yi Xue Villiage in Taishan District



A total of 17 villages were beneficiaries of donations worth NT\$2,142,000.

Charity Activities

• Charity Photography

In early 2017, the employees of NTC that previously worked in three different locations merged into one campus at the new headquarters located at Nanlin Technology Park in Taishan District. The employees officially became part of this beautiful technology park. Nanlin Technology Park is near Taishan and Xinzhuang Districts, surrounded by several trails with beautiful scenery, such as Chitou Trail, Chiungtu Lake Park Trail, and Yi Xue Keng Trail. The area that these trails are in has been the home to black bulbuls, Taiwan barbets and Formosan swallowtails for a long time.

To be respectful residents of the community, it is important to greet the neighbors that have lived in this mountain the longest. Therefore, the Company worked with the Employee Welfare Committee's photography club to hold an eco photography contest at Nanlin Technology Park. Photography enthusiasts in the company were invited to take pictures of mountains, forest, insects, birds, flowers, and trees in the natural landscape in Taishan District to showcase the beauty of the community and pay our respects to our neighbors.

Besides promoting forest protection and environmental responsibility, this event also helped charitable organizations. Selected works were exhibited and each employee cast a vote on which work they thought was the best. As an incentive to employees, the Company announced that a NT\$100 donation to the Society of Wilderness and Mustard Seed Youth Home in Xinzhuang would be made for each vote cast.

The one-month event started in early December 2017. With the participation of photography enthusiasts, a total of 38 pieces of work were entered the contest. After an initial selection by the organizer, 13 pieces of work were chosen for the final round of selection. The 13 pieces were displayed in the company cafeteria on the 6th floor of the headquarters and on the first floor of the Support Building for voting and a two-day exhibition. 2,142 votes were cast in 4 days, the equivalent of a NT\$214,200 donation from NTC. Afterwards, these photographs became regular exhibits in the lobby on the first floor and in the hallway on the 9th floor of the company.

Pei-Ing Lee, President of NTC, cast his vote.



Employees participated enthusiastically in the charity activity held by NTC, "We Donate NT\$100 for Each Vote You Cast".



These photographs became regular exhibits in the lobby on the first floor and in the hallway on the 9th floor of the company.



First Prize: "NTC Car Light Leading Way to the Future"



A total of 2,142 employees participated and NT\$214,200 was donated.

6.2 Cultivating Technology Talents

Upholding the founder's intent on giving back to society, the Company has been cultivating technology talents through recruitment and retention on campus and industry-academia cooperation. The main approaches to cultivating talent are through student internship programs, mentor experience sharing, and promotion of industry-academia exchange.

Student Internship Programs

To recruit exemplary students, the Company started student internship programs in 2017 to encourage excellent students and carry out corporate social responsibility. In 2018, the Company continues to promote student internship programs for colleges and universities as well as new scholarship programs. By providing subventions on tuitions and general expenses, the Company aims to integrate capabilities of schools and industry to educate young talent and recruit student who can contribute to the Company's R&D knowledge pool.

Through the internship programs, the Company will have an effective and elastic channel to continuously recruit new employees to support the medium and long-term needs for manpower, which will indirectly increase employment opportunities. A total of 20 interns reported to the factory in 2017. Students will have an early start in the job market through this internship opportunity. They will be able to learn the skills required in the workplace and determine areas of improvement. This will also further enhance their competitiveness and help them identify their desired future career paths. Through this internship program, the Company plans to train the students on how to be independent and use proper etiquette in the workplace. Moreover, the Company will evaluate the students' performance at work and create a talent pool of future employees. In the long run, the programs will enhance corporate image and cultivate talent for the technology industry.

Mentor Experience Sharing

To integrate what students learn in school with actual workplace situations, the Company plans to have mid-level and senior management share their experience as mentors with students on campus starting in 2018. Certain schools in northern Taiwan are selected for mentor experience sharing. Current talks include topics such as "Tips for Resume Writing and Interviews", "Industry Experience Sharing by Senior Management", "Prospect and Development of Technology Industry" and more. The talks will be given in simple language to introduce to students advanced process and IC design of new vision and higher level in technology. The mentors will answer the questions students have about workplace through interactions in person. This helps students be more confident in the future in the job market: time and efforts will be saved when they understand their competencies and interests as well as industry prospects and current situations.

Sponsorship for Academic Activities

To uphold the corporate spirit of giving back to society, scholarships and activity sponsorship are adopted to encourage students to learn and organize various activities on campus for promotion of comprehensive development. The Company plans to offer scholarships to colleges and universities starting in 2018, and sponsor the following activities on campus: Hackathon Experience Activity- Integration of Software and Hardware by Department of Electrical Engineering of NTU; ICS Camp by Department of Electrical Engineering of NTU; Friendship Sports Competition by Graduate Institute of Electronics Engineering at NTU, AmazEEing Night by NCTU, and Micro Electronic Camp by NCTU, etc.

Through various experience and meet-up activities, the industry-academia exchange can be increased and the corporate image of being enthusiastic, young and energetic can be conveyed. Additionally, excellent students with electrical engineering background in Taiwan are brought together to share and create new technology ideas. The Company will do its best to bridge enterprises and students, nurturing students' interest and enthusiasm in technological engineering and advanced technology. This will hopefully encourage more outstanding students to enter the industry of electronics technology. The Company will offer internships and jobs to students to extend the value of activities. As a result, industry-academia links will be enhanced and the company's responsibility to cultivate technology talents will be fulfilled.



Promotion of Industry-Academia Exchange

To increase students' understanding and knowledge of industry development, the students were invited to visit the Company. Students were introduced to the work environment, workflows, and development and application of products in the production engineering department. Visits in the clean rooms were also arranged. This experience helped students to understand the Company's operations and characteristics of enterprises and learn more about the future trends to plan for personal learning. In 2017, the Company arranged a corporate visit for students in Department of Electronic Engineering and Department of Computer Information and Network Engineering at Lunghwa University of Science and Technology. A total of 60 students participated in this event. In addition, with the rapid development of machine learning and artificial intelligence, there have been significant breakthroughs in many fields. Academia has invested immensely in R&D and activities of AI technologies and applications, cultivating talents in AI domain. As AI applications takes a significant amount memory, in 2018 the Company also plans to participate in and assist with relevant activities to help with talent cultivation.



Appendix

Appendix 1
2014-2017 Summary of Performance

Appendix 2
GRI Content Index

Appendix 3
CSR Assurance Statement



Appendix 1 2014-2017 Summary of Performance

Economic Dimension						
Indicator	Description	Unit	2014	2015	2016	2017
Operating Performance	Operating Revenue	NT\$ Million	49,108	43,876	41,633	54,918
	Operating Cost	NT\$ Million	26,939	26,568	28,781	30,274
	Net Income	NT\$ Million	28,195	17,171	23,729	40,295
	EPS	NT\$	11.77	7.07	8.67	14.36
Board of Directors	Ratio of Outside Directors	%	25%	25%	25%	25%
	Board Members Participation Rate	%	92%	92%	89%	96%
Patent	Patent Granted	Case	227	259	478	471

Environmental Dimension						
Indicator	Description	Unit	2014	2015	2016	2017 Note 1
Greenhouse gases Emission per Unit	(Kg CO ₂ e/12" wafer area)	Kg CO ₂ e / cm ²	0.56	0.52	0.53	0.75
Total Greenhouse gases Emission	Ton CO ₂ e	Ton CO ₂ -e	254,018	270,233	288,652	376,428
Water Consumption	Water Consumption Per Wafer	m ³ / wafer area (m ²)	47.30	42.4	41.6	61.4
Process Water Recycling Rate		%	84.60	86.4	83.8	88.6
Process Water Saving		Million Tons	5.23	5.42	5.34	7.4
Energy Consumption	Gas Consumption (metric meter/wafer area)	m ³ / m ²	46.2	46.2	42.4	44.4
	Electric Consumption mWh / Wafer area (m ²)	MWH / m ²	8.40	7.80	8	11.4
Air Pollutant Emission	SOx	g / cm ²	0.000853	0.001369	0.002362	0.003966
	NOx	g / cm ²	0.001143	0.001801	0.003095	0.005168
	VOC Generated	Ton	10.79	14.49	15.72	16.14
Waste Water Treatment	Waste Water Effluent Per Wafer	m ³ / wafer area (m ²)	38.10	34.30	34.6	51.1
Waste Management	Waste Generated	Ton	9,173	9,785	10,070	14,215
	General Waste Generated	Ton	5,316	4,693	5,354	5,137
	Hazardous Waste Generated	Ton	3,858	5,092	4,716	9,078
	Waste Recycling Rate	%	75.7	95.2	97.9	83.9
Supplier Management	Number of Audit	frequency / year	20	21	22	17
Occupational Accidents	Frequency Rate of Disabling Injury	Number of Injuries / Million Man-hours	0	0	0.61	0

Note 1. The explanation for the increases in GHG emissions, waste water and wastes in 2017: production capacity of the newly built FAB-3A-N plant increases, thus more raw materials, electricity, and water are used, and GHG emissions, waste water and wastes increase simultaneously.

Social Dimension						
Indicator	Description	Unit	2014	2015	2016	2017
Employee Diversity	Number of Employees	Persons	2,468	2,469	2,679	2,984
	Ratio of Male Office Staff	%	66.6%	66.6%	79.8%	80.3%
	Ratio of Female Office Staff	%	33.4%	33.4%	20.2%	19.7%
	No. of Production Workers - Male	Persons	1,144	1,293	93	132
	No. of Production Workers - Female	Persons	705	594	406	395
	No. of Contract Workers - Male	Persons	14	11	11	19
	No. of Contract Workers - Female	Persons	4	8	8	8
	No. of Disabled Workers	Persons	25	23	27	25
Female Leadership	Ratio of Female Employees	%	34.8%	33.1%	31.4%	29.5%
	Ratio of Female Managers	%	2.8%	11.6%	10.6%	12.6%
Separation rate	Separation rate	%	8.1%	7.7%	7.5%	11.7%
Maternity & Parental Leave	Reinstatement Rate of Maternity Leave	%	53.6%	91.0%	69.0%	63.0%
	Number of Employees Who Used Parental Leave	Persons	2	34	40	39
Human Resource Development	Total Training Hours	Hours	37,911	33,602	34,722	56,316
	Training Per Person	Days / Person	1.9	1.7	1.6	2.4
	Training Expenses Per Person	NT\$	763	1,826	3,233	2,526
Ethics Training	Total Ethics Training Hours	Hours	754	584	2,076	5,405
	Training Hours Per Person	Hours / Person	2	2	2	4

Appendix 2 GRI Content Index

GRI Standards	Disclosed Indicator	Description	Chapter	Page
GRI 102: General Disclosures 2016	102-1	Name of the organization	2.1 Overview of Nanya Technology	42
	102-2	Activities, brands, products and services	2.1 Overview of Nanya Technology 2.2 Main products and operating performance	42 44
	102-3	Location of headquarters	2.1 Overview of Nanya Technology	42
	102-4	Location of operations	2.1 Overview of Nanya Technology	42
	102-5	Ownership and legal form	2.1 Overview of Nanya Technology	42
	102-6	Markets served	2.1 Overview of Nanya Technology	42
	102-7	Scale of the organization	2.1 Overview of Nanya Technology 2.2 Main products and operating performance	42 44
	102-8	Information on Employees and Other Workers	5.1 Human Resources	107
	102-9	Supply Chain	3.1 Supply Chain Management	60
	102-10	Significant changes to the organization and its supply chain	No significant changes in 2017 (plant and office on the same site)	—
	102-11	Precautionary principle or approach	1.4 Corporate Governance	26
	102-12	External initiatives	No external principles or initiatives signed in 2017	—
	102-13	Membership of associations	2.1 Overview of Nanya Technology	42
	102-14	Statement from senior decision maker	Message from the President	4
	102-16	Values, principles, standards and norms of behavior	1.2 Sustainable Management 1.4 Corporate Governance	16 26

GRI Standards	Disclosed Indicator	Description	Chapter	Page
Governance				
	102-18	Governance structure	1.2 Sustainable Management 1.4 Corporate Governance	16 26
Stakeholder Engagement				
	102-40	List of stakeholder groups	1.3 Communications with Stakeholders	18
	102-41	Collective bargaining agreements	5.2 Employee Remuneration and Benefits	118
	102-42	Identifying and selecting stakeholders	1.3 Communications with Stakeholders	18
	102-43	Approach to stakeholder engagement	1.3 Communications with Stakeholders	18
	102-44	Key topics and concerns raised	1.3 Communications with Stakeholders	18
	102-45	Entities included in the consolidated financial statements	2.2 Main Products and Operating Performance	44
Reporting Practice				
	102-46	Defining report content and topic Boundaries	About This Report	2
	102-47	List of material topics	1.1 Identification of Material Issues	9
	102-48	Restatements of information	No occurrence in 2017 at Nanya Technology	—
	102-49	Changes in reporting	1.1 Identification of Material Issues 1.2 Sustainable Management	9 16
	102-50	Reporting period	About This Report	2
	102-51	Date of the last report	About This Report	2
	102-52	Reporting cycle	About This Report	2

GRI Standards	Disclosed Indicator	Description	Chapter	Page
GRI 102: General Disclosures 2016	102-53	Contact point for questions regarding this report	About This Report	2
	102-54	Claims of reporting in accordance with the GRI Standards	About This Report	2
	102-55	GRI Content Index	Appendix 2 GRI Content Index	153
	102-56	External assurance	External assurance	158
GRI 103: Management Approach 2016	103-1	The management approach and its components	1.1 Identification of Material Issues	9
	103-2	The management approach and its components	Ch2 Management Approach Ch3 Management Approach Ch4 Management Approach Ch5 Management Approach Ch6 Management Approach	41 59 74 105 142
	103-3	Evaluation of the management approach	Ch2 Management Approach Ch3 Management Approach Ch4 Management Approach Ch5 Management Approach Ch6 Management Approach	41 59 74 105 142

GRI Standards	Disclosed Indicator	Description	Chapter	Page
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed by the organization	2.2 Main Products and Operating Performance	44
	201-2	Financial implications and other risks and opportunities due to climate change	4.4. Climate Change Management	107
	201-3	Define benefit plan obligations and other retirement plans	5.1 Human Resources	106 / 114
GRI 202: Market Presence 2016	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	5.2 Employee Remuneration and Benefits	112
	202-2	Proportion of senior management hired from the local community	5.1 Human Resources	108
GRI 203: Indirect Economic Impacts 2016	203-1	Infrastructure investments and services supported	6.1 Community Engagement	143
	203-2	Significant indirect economic impacts	6.2 Cultivating Technology Talents	147
GRI 204: Procurement Practices 2016	204-1	Proportion of procurement expenses on local suppliers	3.1 Supply Chain Management	60
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	1.4 Corporate Governance	26
	205-2	Communication and training about anti-corruption policies and procedures	1.4 Corporate Governance	26
	205-3	Confirmed incidents of corruption and actions taken	1.4 Corporate Governance	26
GRI 206: Anti-competitive Behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	No violation in 2017	-
GRI 301: Materials 2016	301-1	Materials used by weight or volume	4.3 Environmental Sustainability Management	86
	301-2	Recycled input materials used	4.3 Environmental Sustainability Management	86
	301-3	Reclaimed products and their packaging materials	4.3 Environmental Sustainability Management	86
GRI 302: Energy 2016	302-1	Energy consumption within the organization	4.3 Environmental Sustainability Management	86
	302-3	Energy intensity	4.3 Environmental Sustainability Management	86
	302-4	Reduction of energy consumption	4.3 Environmental Sustainability Management	86

GRI Standards	Disclosed Indicator	Description	Chapter	Page
GRI 302: Energy 2016	302-5	Reduction in energy requirements of products and services	4.2 Eco-friendly Products	82
GRI 303: Water 2016	303-1	Water withdrawal by source	4.3 Environmental Sustainability Management	86
	303-2	Water sources significantly affected by withdrawal of water	4.3 Environmental Sustainability Management	86
	303-3	Water recycled and reused	4.3 Environmental Sustainability Management	86
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG Emissions	4.4. Climate Change Management	98
	305-2	Energy indirect (Scope 2) GHG emissions	4.4. Climate Change Management	98
	305-4	GHG emissions intensity	4.4. Climate Change Management	98
	305-5	Reduction of GHG Emissions	4.4. Climate Change Management	98
	305-6	Emissions of ozone-depleting substances (ODS)	No use of ODS at Nanya Technology	-
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Reference: Appendix 1 Summary of Performance - Environmental Indicators	151
	306-1	Water discharge by quality and destination	4.3 Environmental Sustainability Management	86
GRI 306: Effluents and Waste 2016	306-2	Waste by type and disposal method	4.3 Environmental Sustainability Management	86
	306-3	Significant spills	No spill of fuel, waste, or chemicals in 2017 at Nanya Technology	-
	306-4	Transport of hazardous waste	4.3 Environmental Sustainability Management	86
	306-5	Water bodies affected by water discharges and/or runoff	4.3 Environmental Sustainability Management	86
	307-1	Non-compliance with environmental laws and regulations	No violation in 2017	-
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	3.1 Supply Chain Management	62

GRI Standards	Disclosed Indicator	Description	Chapter	Page
GRI 308: Supplier Environmental Assessment 2016	308-2	Negative environmental impacts in supply chain and actions taken	3.1 Supply Chain Management	64
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	5.1 Human Resources	110、111
	401-2	Benefits provided to full-time employees (that are not provided to temporary or part-time employees)	5.2 Employee Remuneration and Benefits	112
	401-3	Parental leave	5.2 Employee Remuneration and Benefits	113
GRI 402: Labor / Management Relations 2016	402-1	Minimum notice periods regarding operational changes	5.1 Human Resources	111
GRI 403: Occupational Health and Safety 2016	403-1	Workers representation in formal joint management-worker health and safety committees	5.2 Employee Remuneration and Benefits Employee Welfare Committee	112 114
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	5.3 Safe Workplace Occupational Health and Safety - Disaster Prevention and Management	121 122
	403-3	Workers with high incidence and high risk of diseases related to their occupation	5.3 Safe Workplace Occupational Health and Safety - Disaster Prevention and Management	121 122
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	5.4 Talent Cultivation and Development	129
	404-2	Programs for upgrading employee skills and transition assistance programs	5.4 Talent Cultivation and Development	129
	404-3	Percentage of employees receiving regular performance and career development reviews	5.4 Talent Cultivation and Development Employee Performance	129 139
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	1.4 Corporate Governance 5.1 Human Resources	26 106
	405-2	Ratio of basic salary and remuneration of women to men	5.2 Employee Remuneration and Benefits	112
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	No occurrence in 2017	-

GRI Standards	Disclosed Indicator	Description	Chapter	Page
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	Chapter 6 Building a Better Community	140
GRI 414: 414 Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	3.1 Supply Chain Management	60 61
GRI 417: Marketing and Labeling 2016	417-2	Incidents of non-compliance concerning product and service information and labeling	No occurrence in 2017	-
	417-3	Incidents of non-compliance concerning marketing communications	No occurrence in 2017	-
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints regarding concerning breaches of customer privacy and losses of customer data	No occurrence in 2017	-

CSR Assurance Statement

INDEPENDENT ASSURANCE OPINION STATEMENT

Nanya Technology Corporation 2017 Corporate Social Responsibility Report

The British Standards Institution is independent to Nanya Technology Corporation/hereafter referred to as NTC in this statement) and has no financial interest in the operation of NTC other than for the assessment and verification of the sustainability statements contained in this report.

This independent assurance statement has been prepared for NTC only for the purposes of verifying its statements relating to its sustainability, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

The independent assurance opinion statement is prepared on the basis of review by the British Standards Institution, which is appointed to it by NTC. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to NTC only.

Scope

The scope of engagement agreed upon with NTC includes the following:

1. The assurance scope is consistent with the description of Nanya Technology Corporation 2017 Corporate Social Responsibility Report.
2. The evaluation of the nature and extent of the NTC's adherence to all three AA1000 Accountability Principles and the reliability of specified sustainability performance information in this report as conducted in accordance with type 2 of AA1000AS (2008) sustainability assurance engagement.

This statement was prepared in English and translated into Chinese for reference only.

Opinion Statement

We conclude that the NTC 2017 Corporate Social Responsibility Report provides a fair view of the NTC programmes and performances during 2017. The CSR report subject to assurance is materially correct unless voluntary omissions based upon testing within the limitations of the scope of the assurance, the information and data provided by the NTC and the sample taken. We believe that the 2017 economic, social and environmental performance information are correctly represented. The CSR performance information disclosed in the report demonstrates the efforts made by NTC to achieve its goals.

Our work was carried out by a team of (CSR) report assures in accordance with the AA1000 Assurance Standard (2008). We planned and performed this part of our work to obtain the necessary information and explanations we consider necessary to provide sufficient evidence that NTC's description of their approach to AA1000 Assurance Standard and their conformance of in accordance with the GRI Standards(2016); the Core option were fairly stated.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a top level review of issues raised by external parties that could be relevant to NTC's policies to provide a discussion with managers on NTC's approach to stakeholder engagement. Moreover, we had sampled two external stakeholders to conduct interview
- interview 32 staff involved in sustainability management, report preparation and provision of report information were carried out
- review of key organizational developments
- review of the processes of the relevant accounting systems for financial and non-financial reports
- review of the findings of internal audits
- the verification of performance data and claims made in the report through meeting with managers responsible for the data
- review of the processes for gathering and ensuring the accuracy of data, followed data trials to initial aggregated source and checked sample data to greater depth during site visits
- as the majority of the data are based on audited financial data, we checked that this data was consistently reproduced
- review of supporting evidence for claims made in the report
- a review of NTC's reporting and management processes concerning this reporting against the principles of inclusivity, materiality and responsiveness as described in the AA1000 Accountability Principles Standard (2008)

Conclusions

A detailed review against the AA1000 Accountability Principles of Inclusivity, Materiality and Responsiveness and sustainable performance information as well as the GRI Standards(2016) are set out below:

Independence

In this statement, it reflects that NTC has continually made a commitment to its stakeholders, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for economic, social and environmental information in this report, which can be relied upon to be supported. In our professional opinion the report covers the NTC's industry issues and has demonstrated social responsible conduct supported by top management and implemented in all levels among company.

Materiality

The NTC publishes sustainability information that enables its stakeholders to make informed judgements about the organization's management and performance. In our professional opinion the report covers the NTC's material issues.

Responsiveness

NTC has implemented the practice to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for the NTC is developed and continually provides the opportunity to further enhance the NTC's responsiveness to stakeholder concern. In our professional opinion the report covers the NTC's responsiveness issue.

Performance information

Based on our work described in this statement, specified sustainability performance information such as GRI Standard disclosures contained in this report NTC and BSI have agreed upon to include in the scope. In our view the scope and information contained within 2017 NTC CSR Report are reliable by means of visualizing, re-tracking, re-computing and confirmation.

GRI Sustainability Reporting Standards (GRI Standards)

NTC provided us with their self-assessment of compliance to the GRI Standards(2016) as the Core option. For each major topic, NTC has selected a specific GRI Standard, comply with at least one topic-specific disclosure.

Based on our review, we confirm that social responsibility and sustainable development disclosures with reference to the GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-assessment covers the NTC's social responsibility and sustainability topics.

Assurance level

The high level assurance provided is in accordance with AA1000 Assurance Standard (2008) in our review, as defined by the scope and methodology described in this statement.

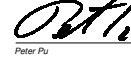
Responsibility

The CSR report is the responsibility of the NTC's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team consists of qualified auditors experienced in Engineering sector, and trained in a range of sustainability, environmental and social standards including AA1000 AS, ISO14001, OHSAS18001, ISO14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:


Peter Pu
Managing Director BSI Taiwan

2018-05-11



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