



| **Nanya**  
2015 Corporate Social Responsibility Report  
Nanya Technology Corporation



# 2015 Corporate Social Responsibility Report



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# About This Report

## Overview

Nanya Technology Corporation (NTC) published its sixth Corporate Social Responsibility (CSR) report in June, 2016.

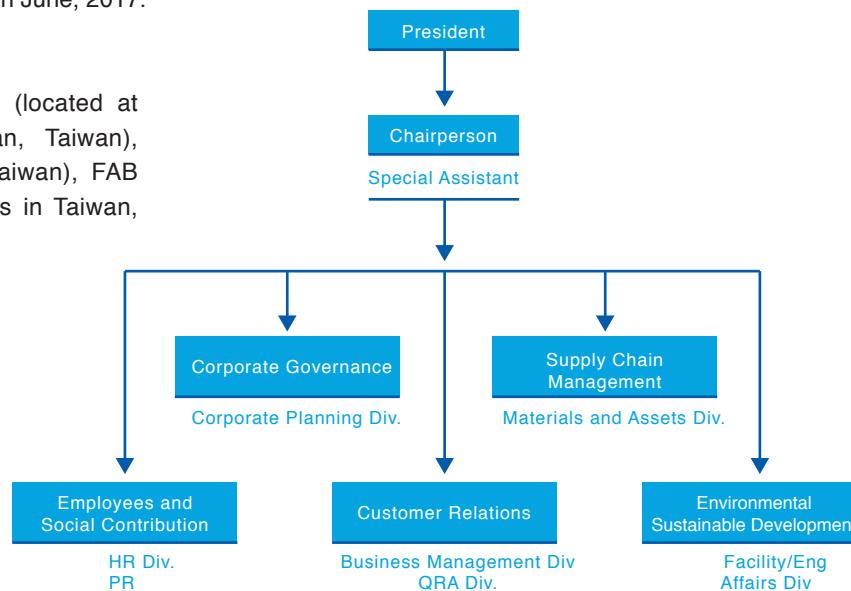
The report contains information of company profile, corporate governance, environmental sustainability, employee development and social contribution from January 1 to December 31, 2015.

The report is covered the performance of all NTC offices worldwide, including the Headquarters (located at Hwa-Ya Technology Park in Taoyuan,

Taiwan), FAB-3A (located in New Taipei city, Taiwan), and all its subsidiaries in Taiwan, USA, Europe, Japan, and China. The financial performance and statement covered in the report are verified by the certified accountant as well. The next Corporate Social Responsibility report is expected to be published in June, 2017.

## NTC Offices

NTC offices include the Headquarters (located at Hwa-Ya Technology Park in Taoyuan, Taiwan), FAB-3A (located in New Taipei city, Taiwan), FAB Testing in Taoyuan, and all subsidiaries in Taiwan, USA, Europe, Japan, and China.



## Report Guidelines

The report is written based on the Global Reporting Initiative (GRI) G4 (Core Option) guidelines and included with GRI-G4 content index at the end of the report.

## Methodology

NTC formed the Corporate Social Responsibility Committee which is led by the President of NTC, Pei-Ing Lee. The CSR Committee also assigns Nelson Chien who is the Special Assistant at NTC for strategies implementation and supervision. The organizational chart is shown as below.

## CSR Committee

Corporate Planning is responsible for the content of Corporate Governance.

ESH is responsible for the content of Environmental Sustainability.

HR is responsible for the content of Our People and Social Contribution.

Materials & Assets are responsible for the content of Supply and Contractor Management

QRA & Business Management are responsible for the content of Customer Relations

PR is responsible for proofreading and editing.

The CSR Committee reviews the company's performance and set the goal for the report every December.

## Publication

The NTC CSR report is published annually.

2015 Report was published in June, 2016

2014 Report was published in June, 2015

2016 Report will be published in June, 2017

## Contact

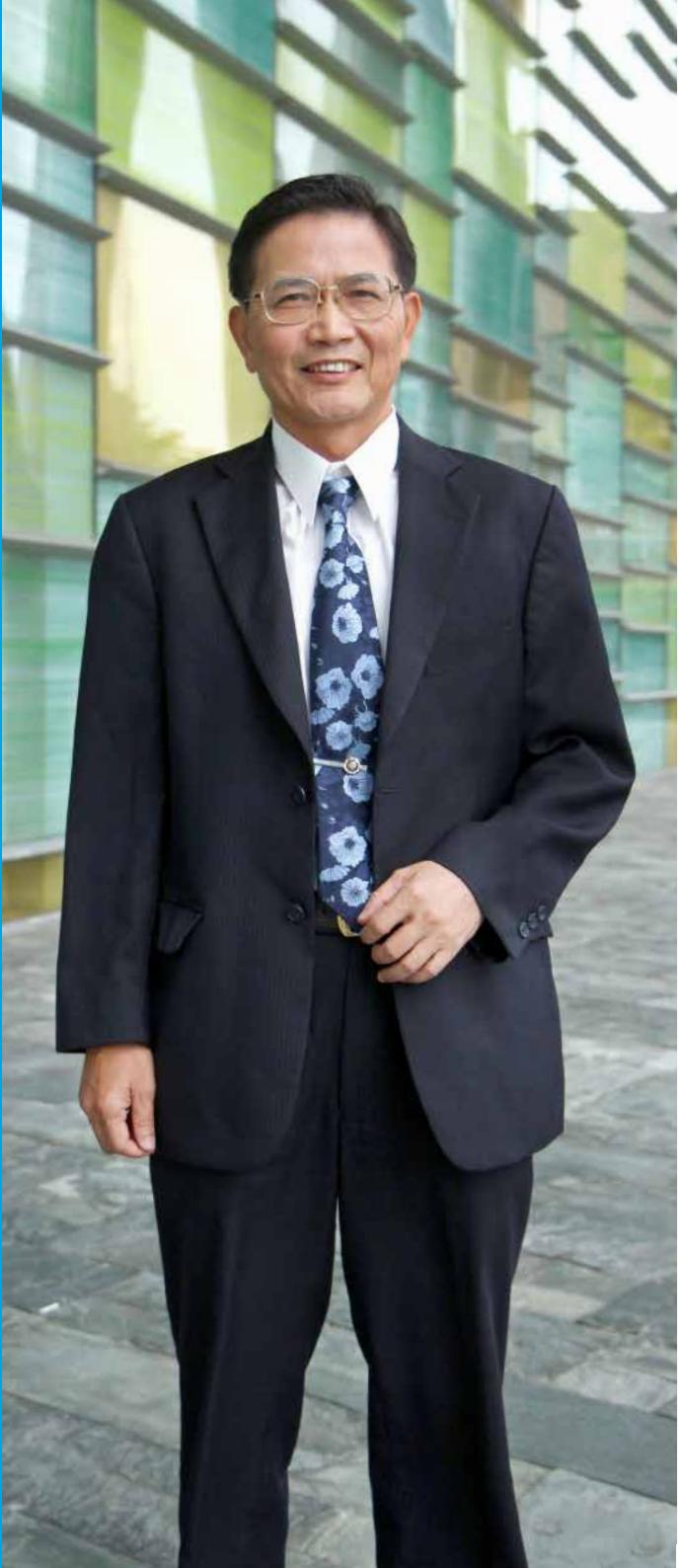
If you have any suggestion or questions, please contact us.

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## Message from the President

Nanya Technology Corporation (NTC) has been focusing on business transformation and niche market since 2013. Picking up on its transformation journey, NTC is dedicated to developing consumer and low-power DRAM products with global marketing strategies in order to promote its brand and products globally. NTC continues to build a strong and collaborative relationship with customers and partners through great products and services. With better financial performance, NTC is willing to generate better returns for shareholders as well. At last, NTC will be investing in developing and upgrading 20nm Technology process recently in order to increase its competitiveness.

As a global citizen, NTC believes raising public awareness of environmental protection and green consumption is more important while pursuing higher sales revenue and increasing its competitiveness due to economic, political, social, and environmental impacts of resource consumption globally. Therefore, NTC continues to develop Environmental, Safety, and Health (ESH) performance indicators, invest in Energy Saving Program to reduce carbon emissions, promote resources recycling and reusing, and advocate for greenhouse gas reduction. NTC cherishes limited natural resources and R&D team is dedicated to developing smaller package, high-efficiency, low-power, and eco-friendly products in order to fulfill its responsibilities to environment and society.

To pursue environmental sustainability, NTC followed the policy of Formosa Plastics Group in August, 2008, applied Environmental Accounting System in October, 2009, and implemented this technique officially in 2010. Through this strategy, NTC is able to measure resource use, evaluate environmental cost, and disclose to stakeholders properly. The most notable changes from 2011 to 2015 is per use of each wafer the water usage per square meter decreased by 20% from 52.1 tons to 41.7 tons and the electricity usage decreased from 8.7 mWH to 7.8 mWH. Meanwhile, NTC is devoted to implement green supply chain management for the purpose of becoming a sustainable enterprise. In addition, NTC is engaged with the Electronic Industry Citizenship Coalition (EICC) and commits to implement the Code of Conduct for Environment, Labor Safety, Health, Labor, and Ethics management systems.

On the other hand, NTC has been conducting its business with integrity and guided by the Code of Conduct since its founding. The Code of Conduct is applied to all members at NTC. For the purpose of this Code, employees must act legally and honestly, never engage in fraudulent, condemn any form of bribery and corruption, and avoid any conduct that would risk NTC's reputation and harm shareholders. The Board of Directors and top management are required to follow the Code of Conduct as well. In order to uphold the corporate social responsibility, NTC establishes a Compensation Committees to monitor and review the compensation, including salary, incentives, benefits, and other perquisites for Board of Directors and top management.

The Auditing Office is also established under the Board of Directors at NTC and performs the Board's duty of supervision in order to strengthen the management mechanism and review NTC's financial policy. Since 1955, NTC has been maintaining good relationships with investors by providing latest development strategy and hosting a series of activities in relations to its quarterly results announcements and meetings in order to maintain company and investment growth. Furthermore, NTC believes employee is a crucial part of growing successful business, so it is committed to create a safe working environment and respectful company culture. The Human Resources provides adequate trainings and practices that support employee development. In terms of social contribution, NTC believes that the smallest act of kindness can bring people closer and make the world better. With the main focus on sustainable environment in Taiwan, NTC makes the best use of limited resources and encourages employees to give back. As a sustainable enterprise, NTC continues to support local art performances and activities, help people in rural areas, and provide care and compassion for underprivileged children.

"Whatever is taken from the society needs to be given back." With a broad range of social contribution, NTC encourages all employees to actively donate their time and give back to the community. To fulfill its responsibilities to environment and society, NTC is also committed to enhance business development, promote environmental education of Green Earth, develop products which would reduce pollution and emission, and provide a safe working environment. Protecting our earth and supporting people who need help are definitely not a one-man job. Therefore, NTC will continue to apply sustainable business practice and make the world better.

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

Pe-Ing Lee  
President of Nanya Technology Corporation



## 2015 Corporate Social Responsibility Report

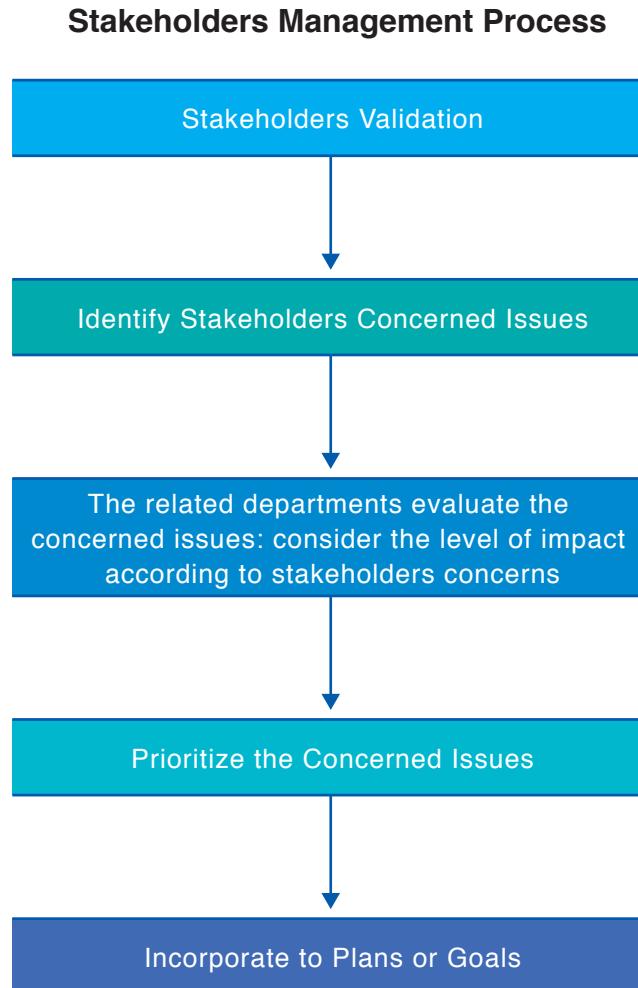
### Stakeholder Engagement



# Stakeholder Engagement

As a member of the global citizen, Nanya Technology Corporation (NTC) realizes that it is very important to be responsible for protecting our environment and bringing the safe working-life environment to employees and the community. To create a friendly environment, NTC makes a lot of efforts to enhance the relations with stakeholders, including our supply chain, shareholders, customers, and employees. NTC hopes to form an alliance with the external partners as well as internal employees to create a better world.

Therefore, NTC establishes the Corporate Social Responsibility (CSR) Committee for strategies implement. 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.



## Identification of Stakeholders

NTC evaluates all business activities which are related to stakeholders based on company policy. According to the evaluation, there are seven main stakeholders of NTC identified, shareholders, customers, employees, suppliers, government, communities, and media partners.

## Issues Analysis

With identification of stakeholders, NTC establishes individual communication channels based on the issues they concern. NTC communicates with stakeholders through multiple channels to understand their needs and answer their concerns. By following the guidelines of GRI G4, NTC concludes 38 topics which are included economic, social, and environmental concerns for stakeholders.

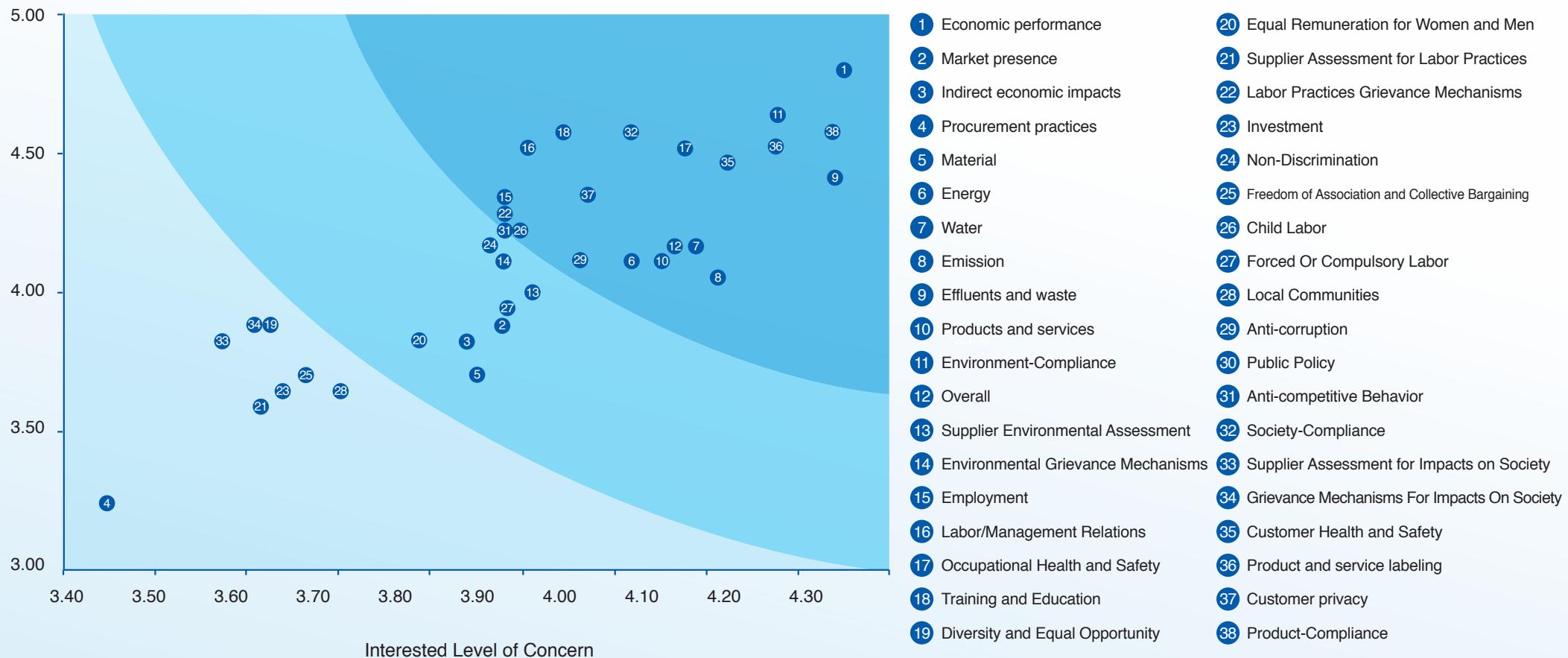
## Strategic Planning

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.

# Results of Analysis

At last, NTC continues to analyze the issues stakeholders concerns and identifies 17 topics which have larger impacts on the company. Among other concerned issues with smaller impacts, NTC chooses 16 topics to present simultaneously.

the impact of the NTC



# Scope, Aspects, and Boundaries

Example	Economic Performance	Internal	External		
		NTC	Customer	Supplier	Community
Economic	Economic performance	•			
	Market presence	•			
	Procurement practices	•		○	
Environment	Material	•			
	Energy	•			
	Water	•			
	Emission	•			
	Effluents and waste	•		•	
	Products and services	•			
	Compliance	•		•	
	Overall	•			
	Supplier Environmental Assessment	•		•	
	Environmental Grievance Mechanisms	•			
	Employment	•			
	Labor/Management Relations	•			
Society	Occupational Health and Safety	•		•	
	Training and Education	•			
	Diversity and Equal Opportunity	•			
	Equal Remuneration for Women and Men	•			
	Supplier Assessment for Labor Practices	•		•	
	Labor Practices Grievance Mechanisms	•			
	Investment	•			
	Forced or Compulsory Labor	•			
	Child Labor	•			
	Local Communities	•			•
	Anti-corruption	•			
	Compliance	•			
Product	Supplier Assessment for Impacts on Society	•		•	
	Grievance Mechanisms for Impacts on Society	•			
	Customer Health and Safety	•			
	Product and service labeling	•			
Product Responsibility	Customer privacy	•	•		
	Compliance	•			

## Scope and Boundary of Aspects

- Highly significant, disclose at this time
- Optional, disclose at this time
- Plan to disclose with next 3 years

# Communication Channels

There are different levels of interaction between NTC and stakeholders and to create win-win relationships by using company's resource efficiently. In order to maintain a good communication with stakeholders, stakeholders could contact the company by phone, letter, fax, or e-mail if necessary. Moreover, a CSR mailbox is set up on NTC website with a dedicated employee who can transfer request to the related departments, so the questions and concerns can be answered immediately. The list of communication channels and results are showed in table below.

Stakeholders	Issues	Communication Channels	Achievements	Refer to Chapter
Employee	Economic performance, employment, labor/ management relations, training, and education	<ul style="list-style-type: none"> <li>1. The announcement of the Company</li> <li>2. HR representatives</li> <li>3. Regular Meeting (public affairs): Lunch meeting (Every two weeks) / All Hands meeting (Each quarter) / New employee forum (Each quarter) / Quarterly TA Meeting of Production Div. and employee training sessions bulletin and opinion mailbox meeting and employee training sessions bulletin and opinion mailbox</li> <li>4. Informal meetings</li> <li>5. Various communication channels, employee opinion mailbox provided by E.R. dept. and, medical support provided by Health Center</li> <li>6. Internal publications and web suggestion field and questionnaire investigation (ex. customer survey for employee training and dinning....)</li> </ul>	NTC makes every effort to create various, convenient communication channels to managers, colleagues, and employees. Every employee is capable of making recommendations and communication to the company through regular all hands meetings, lunch meeting or employee opinion mailbox. Our communication channels are convenient for employees to raise their concerns and the company will handle them properly . This is beneficial for the comanay to maintain good and harmonious relationships with employees and lead to a win-win situation between the Company and employees.	6.3
Shareholders	Economic performance, material, water, emission, effluents and waste, customer health and safety	<ul style="list-style-type: none"> <li>The spokesperson consolidates the key message to investors and shareholders.</li> <li>1. Shareholders <ul style="list-style-type: none"> <li>(1) Annual general shareholder meeting</li> <li>(2) Quarterly IR Conference</li> <li>(3) Annual financial report release (distributed at annual shareholder meeting )</li> <li>(4) Email and telephone services</li> </ul> </li> <li>2. Institutional Investors <ul style="list-style-type: none"> <li>(1) Quarterly IR conference for local and global investors</li> <li>(2) Participation in seminars held by investment institutions.</li> <li>(3) Participation in investor forums</li> </ul> </li> </ul>	The spokesperson, IR is the key liaison between the company and sharholders. Shareholders can understand the company's strategic plans and newest information through various channels and their questions can also be answered immediately by IR. Most importantly, the feedbacks and comments of shareholders are the reference resources for NTC.	3.3
Customers	Environment-compliance, child labor, society-compliance, customer health and safety, product and service labeling ` product responsibility-compliance	<ul style="list-style-type: none"> <li>1. After sales service (by customer request)</li> <li>2. Meeting with customer/distributor (monthly/bi-monthly)</li> <li>3. Regular techincal support (monthly to quarterly)</li> <li>4. Customer satisfactory survey(half yearly)</li> <li>5. Customer training cours (by customer request)</li> </ul>	Through frequent customer contact and visits, understanding customer comments of NTC products and services is beneficial for the company to grasp customer needs and increase customer satisfaction.	4.5

Stakeholders	Issues	Communication Channels	Achievements	Refer to Chapter
Suppliers	Economic performance, effluents and waste, occupational health and safety, non-discrimination, child labor、customer privacy	1. Information platforms 2. Periodic meetings and reviews 3. Satisfaction survey and audit 4. Supplier evaluation	NTC's purchasing procedure uses Formosa Plastic Group's E-Commerce as a trading platform between suppliers to offer quotation inquiry, price negotiation, order confirmation, and delivery.	4.6
Government	Environment-compliance	1. Official documents 2. Legislation seminar 3. Financial Report 4. We would supply related reports or replies by the request and provision from local authorities 5. Communication with authorities through industrial park association and computer association	1. The communications with local authorities are processed by telephone inquiry. In addition, all important application cases are processed through official document, such as the application of environmental permits. 2. NTC participates actively in the environmental conferences from local authorities, 13 conferences involved in 2015. 3. All request from local authority are completed. For example,a operational plane layout for toxic substance billboard on site is appended.	5
Communities	Emission, effluents and waste, environment-compliance, overall	1. Announcements public on FPG webs to Communities interests party 2. Charity club and Volunteer worker club related activities 3. Initial employee charity donations if domestic natural disease 4. An external mailbox (audit@ntc.com.tw) to serve as the most basic channel for communications 5. A management section on site to handle the communication issues with communities	For the developent cases on factory, environmental monitoring results of last season (including air quality,noise, vibration, surface water and undergroud water's quality, traffic and ecology, etc.) are sent to the office of Da-Ko Li, Tai-San district for people to see.	6.6
Media Partners	Economic performance, environment-compliance, labor/ management relations, effluents and waste, society-compliance, product responsibility-compliance	Spokesperson, IR, and PR are the main liaison between the company and media partners regarding press conference and press release distribution.	Through press conference and press release distribution, media partners can understand the company's operating situation, financial status, and future plan.	3.3



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# 2015 Corporate Social Responsibility Report

# Corporate Governance

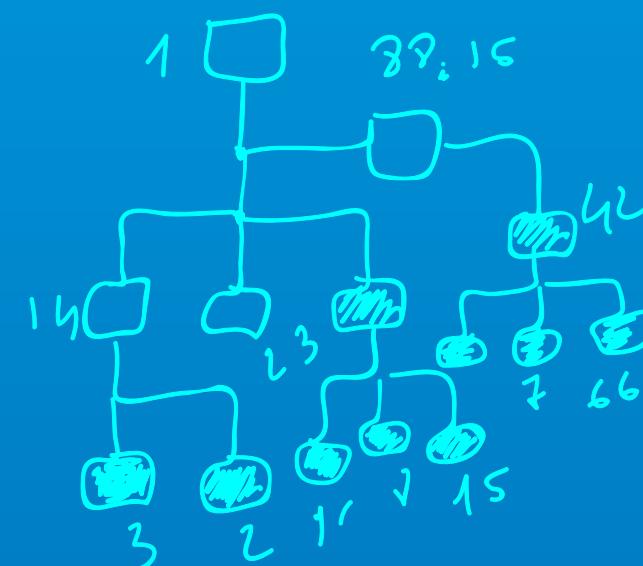
## The Overview of Corporate Governance

Internal Control

Investor Relations

## Risk Management

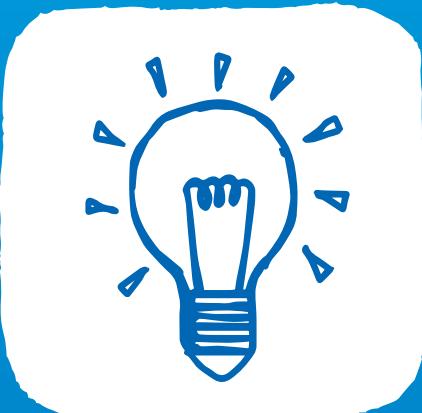
#### External Association





### Operating Performance

The revenue is NT\$ 43,876 million  
and net income is NT\$ 17,141 million  
for 2015.



### 259 Patents

259 patents are granted  
in 2015. NTC has received  
2468 patents since its founding.



### EPS 7.07

The EPS for 2015 is 7.07.



### 92%

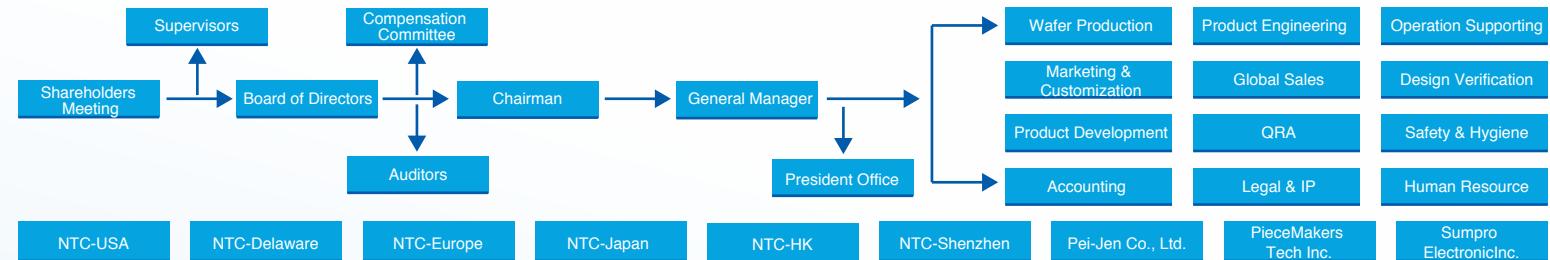
The average attendance rate  
of board meeting in 2015 is  
92%.

# Corporate Governance

## 3.1 The Overview of Corporate Governance

Formosa Plastic Group continues to act in accordance with the founder's beliefs to respect all shareholders' equity. Nanya Technology Corporation (NTC), a member of Formosa Plastics Group, believes that the strict and effective corporate governance mechanism is the only way to ensure legal compliance, financial transparency and effective operation enhancement.

### 3.1.1 Governance Structure



### 3.1.2 Board of Directors

NTC's Board of Directors exercises its authority according to the law, articles of incorporation and the resolutions of shareholders' meeting. The members of Board of Directors not only have the professional knowledge and skills but also create the great return for shareholders with integrity. NTC have established "The Code of Conducts for directors, supervisors, and top management" to regulate officers and execute their authorities with morality and protect corporate and shareholders' return from erosion. The Board's primary duty is to provide guidelines and supervise information transparency, compliance with relevant laws and regulations, executives' designation, profit allocation, operations management. For better corporate governance and Independent Director System, NTC establishes a standard of "NTC Independent Director Responsibilities." Besides, one of the Independent Directors must have knowledge of accounting or finance professions according to "NTC's Rules for Directors Elections." The Board hosted total 7 board meetings in 2015.

### Board Members

Title	Name	Experience	Education
Chairman	Chia-Chau Wu Representative of Nan Ya Plastics Corp.	Chairman and President, Nan Ya Plastics Corp.	National Chengchi University
Director	Wen-Yao Wang Representative of Nan Ya Plastics Corp.	SVP, Nan Ya Plastics Corp.	Pitzer College
Director	Ming-Jen Tzou Representative of Nan Ya Plastics Corp.	EVP , Nan Ya Plastics Corp.	National Taipei University of Technology
Director	Lin-Chin Su Representative of Nan Ya Plastics Corp.	VP, Nanya Technology Corp.	Ph.D. , the University of Utah
Director	Wen-Yuan Wang	Chairman, Formosa Chemicals & Fibre Corporation	Master, University of Houston
Director	Susan Wang	Managing Director, Formosa Plastics Corporation	Barnard College
Director	Charles Kau	Independent Director,	Master, North Carolina State University
Director	Otto Chang	President and Director, Nan Ya PCB Corp.	Feng Chia University
Director	Pei-Ing Lee	President, Nanya Technology Corp. Chairman, Inotera Memories, Inc Minister of Economic Affairs, ROC Supervisor, Tang Ji Biochemical Corp.	Ph.D., Syracuse University
Independent Director	I-Fu Lin	Independent Director , Swissray Global Healthcare Holding Ltd.	National Chengchi University
Independent Director	Tsai-Feng Hou	Legislator / Independent Director, King's Town Bank	Master, National Sun Yat-sen University
Independent Director	Shu-Po Hsu	Chairman, The Life Insurance Association of The Republic of China	Master, National Chung Cheng University

### **3.1.3 Supervisors**

The supervisors' responsibility which is set in the Company Act includes supervising business activities, auditing financial performance, and participating as an impartial auditor. Supervisors who are specialized in finance and business law oversee all aspects of business activities, such as financial, accounting and internal control. In terms of internal control, our director of auditors will report the performance of internal auditing to supervisors regularly. As to financial reports, the supervisors will verify and directly discuss with CPAs our financial reports .

### **3.1.4 Compensation Committee and Executive Compensation**

NTC established the Compensation Committee in September 2011. The Compensation Committee consists of 3 Independent Directors and hosts at least 2 meetings every year .The Committee will review the compensation of directors, supervisors, and top management.

The compensation package for top management includes salary adjustments, bonuses or other compensation due to company's annual operating performance, personal comprehensive contributions, and personal performance. The proposal is prepared by HR and reported to Compensation Committee. The Committee reviews proposal and submits to the Board of Directors for approval. The purpose of this review process is to prevent high-level managers from obtaining huge rewards when the company suffers significant loss. For more information, please check 2015 annual report at <http://www.nanya.com>.

### **3.1.5 Compliance with NTC Regulation**

NTC has established "The Code of Conduct for Directors, Supervisors, and top management" to regulate officers' morality and behaviors when they execute

operating activities; meanwhile, to prevent immoral behaviors and activities that could damage and harm NTC's reputation and shareholders' interests. Moreover, we develop a control system for procurement procedure through the Internet platform. The platform not only increases the operation efficiency but also ensures the procurement procedure is reliable in order to create a win-win situation for the company and suppliers. NTC also has a complete audit system for financial transparency and legal compliance, and all audit reports must be submitted to the Board. The administrative office which is joint-established by the members of Formosa Plastics Group is take the responsibility as an independent auditor. The organization not only makes the audit process more professional and efficient but also supervises all employees as an impartial auditor. The unique design allows the organization to increase the accuracy of supervision.

NTC advocates the belief of honesty, trust, and legal compliance. From business management to strategic planning, NTC devotes to complying with the domestic and international laws, orders, and policies. NTC hosts internal legal compliance-related trainings and lectures regularly and establishes anti-trust regulations that indicate what rules should be obeyed and what behaviors should be avoided. All employees, including Board of Directors and top management are required to read and subscribe the anti-trust regulations carefully and follow the regulations when they conduct any business activities. All business activities and selling strategies should conform to the laws, normal business practices, and social ethics. Therefore, NTC has not suffered any critical penalty for violating the corporate laws. At last, NTC has consistently prevented being involved in any political activities in order to remain politically neutral.

### **Occupational Safety and Health Act**

NTC is dedicated to following the Occupational Safety and Health Act. To abide the act, NTC requires all employees to obey the following principles.

Each department needs to check the individual item of the Act every year for the environment, safety, hygiene and firefighting based on ISO14001/OHSAS 18001 management system. The illegal items will be recorded for the purpose of future improvement. In addition, NTC assure the law compliance by auditing and reviewing inspection records, site labels, and equipments of each department periodically.

The Environment and Safety department visits government websites every month to get the up-to-date information and Environmental, Safety, and Health (ESH) regulations and inform the NTC Committee. Each department will improve the performance if there's any new regulations need to be abided.

The Head Office develops a computer program to manage all requirements employees need in order to follow the Act. The content and hours of trainings for new and current employees are created based on the Act.

In 2015, NTC followed and met all the requirements of the Act. There was no record of law violation and penalty given, such as business shut down and international trade sanctions.

### **Personal Information Protection Principle**

The Act is enacted from October 1, 2012 by Taiwan government, to protect moral rights from infringement and promote reasonable usage of Personal Information, NTC has established its own Principle, named "Personal Data Inventory and Risk Assessment Rule".

The Principle is to ensure full compliance with the Act. We inventory all Personal Information,then set up a rating and authorization rule to lower risk in information application, using or accessing process through Information to properly using personal information. If any harmful case of personal information infringement, every case has reported to

Information Safety Committee to get further improvement. NTC strengthened on employees' training to provide employees who handle personal information need to periodically accept Personal Information Protection training. Also, Personal Information Protection training is taken as a required training to new colleagues. Those training effectively raise employee's sensitivity of Personal Information Protection to avoid moral rights from infringement and promote Personal Information reasonable used.

## 3.2 Internal Control

### 3.2.1 Internal Control System

According to Regulations Governing Establishment of Internal Control Systems by Public Companies, NTC establishes an effective Internal Control System in order to make sure the operation management and its subsidiaries comply with the law and regulations. The system is also reviewed from time to time in order to adapt any environmental changes and ensure the whole system's effectiveness.

The implementation of the internal control systems is a continuous operation, via ongoing check of the operation and management tasks to find the facts that deviate from the company policies, operating procedures, the stated objectives or expected standard, and responding to the management at appropriate levels by the feedback systems, and taking the necessary corrective action to ensure that the company follows the original management direction. In addition, NTC prevents errors and fraud with internal check and balances.

### 3.2.2 Internal Auditing

NTC establishes the internal auditing unit under the Board of Directors, and appointed qualified persons as full-time internal auditors. The internal auditors shall pursue continuing education as well as attend internal audit training held by professional institutions annually to improve their competence.

The internal audit scope includes:

- ◆ Review the reliability and integrity of financial and operational information.
- ◆ Review the existing systems to ensure compliance with policies, plans, procedures, contracts and laws.
- ◆ Review the means to protect the assets.
- ◆ Assess the efficiency and effectiveness of resources use.
- ◆ Review the operation or project programs to determine whether the result is consistent with the stated objectives. Internal auditing is not the only duty for the Independent Audit Department. Each department should also conduct self-assessments for particular auditing items in a prescribed cycle. The Independent Audit Department reviews them regularly or irregularly depending on the results of these self-assessments to ensure operating effectiveness.

### 3.2.3 Anti-Corruption

Formosa Plastic Group requests that all employees must not accept any money, gift, or commission from suppliers, especially the employees who work in procurement division should follow the principle strictly. Formosa Plastic Group carries out the regular rotation of the staff who serves as operating, procurement, logistics, construction supervision and budget planning functions to prevent the abuses. Being the member of Formosa Plastics Group, NTC hopes that every employee follows the Code of Ethics whether at work or in their life in order to achieve Formosa Plastics Group's enterprise culture, "Diligence, Perseverance, Frugality and Trustworthiness". There was no case of corruption in 2015.

### 3.2.4 Code of Conduct

In order to follow the international standard and connect with global community, all employees are demanded to full compliance with the standard of Electronic Industry Code of Conduct, following strictly the law and business integrity, to ensure the behavior of NTC and its employees under this standard. Employees are strictly forbidden to do any behaviors that could damage the company, such as bribery, insider stock trading, etc. To achieve this goal, all new employees are trained with Personnel, Disciplines and

Penalty Rule according to NTC Employee Handbook. In case of the disciplinary to be judged and verified as a serious fact, the employee will be dismissed immediately according to NTC discipline policy. If so and causes the Company lose, NTC would pursue for indemnification by law. The goals of EICC in 2015 included working hours, ethics training, and zero corruptions which were achieved successfully. For the goal of zero sexual harassment, it's a pity there was 1 case being investigated, disposed, and closed completely. Despite this case, NTC will continue to create equal working environment to both male and female employees. NTC strictly forbids the sexual harassment which is not only to NTC colleague inside company, but also to NTC suppliers. In 2015, the Code of Conduct complied-with law. The EICC training and communication activities are completed expectedly. In a summary, the potential risk of EICC violation is really low at NTC.

### 3.2.5 Grievance Channels

NTC establishes its own policy for employees to file complaints and report any illegal behaviors. For example, when a employee notices any illegal behaviors which could damage individuals or company or if a employee attempts to take advantage of his/her position, he/she can report to his/her supervisor after filling the workplace complaint form. In addition, NTC assigns designated person and create hotline and email information on NTC website for interest parties to file a complaint if anyone's interests is violated.

### Cases Reported

Access to grievance system	Y2014	Y2015
Complaint letter	5	0
Workplace complaint form	2	1
Grievance hotline & mail box	1	0
Total	8	1
Cases lodged	2	1
Cases closed	2	1

Note: lodged cases not related to corruption.

### 3.3 Investor Relations

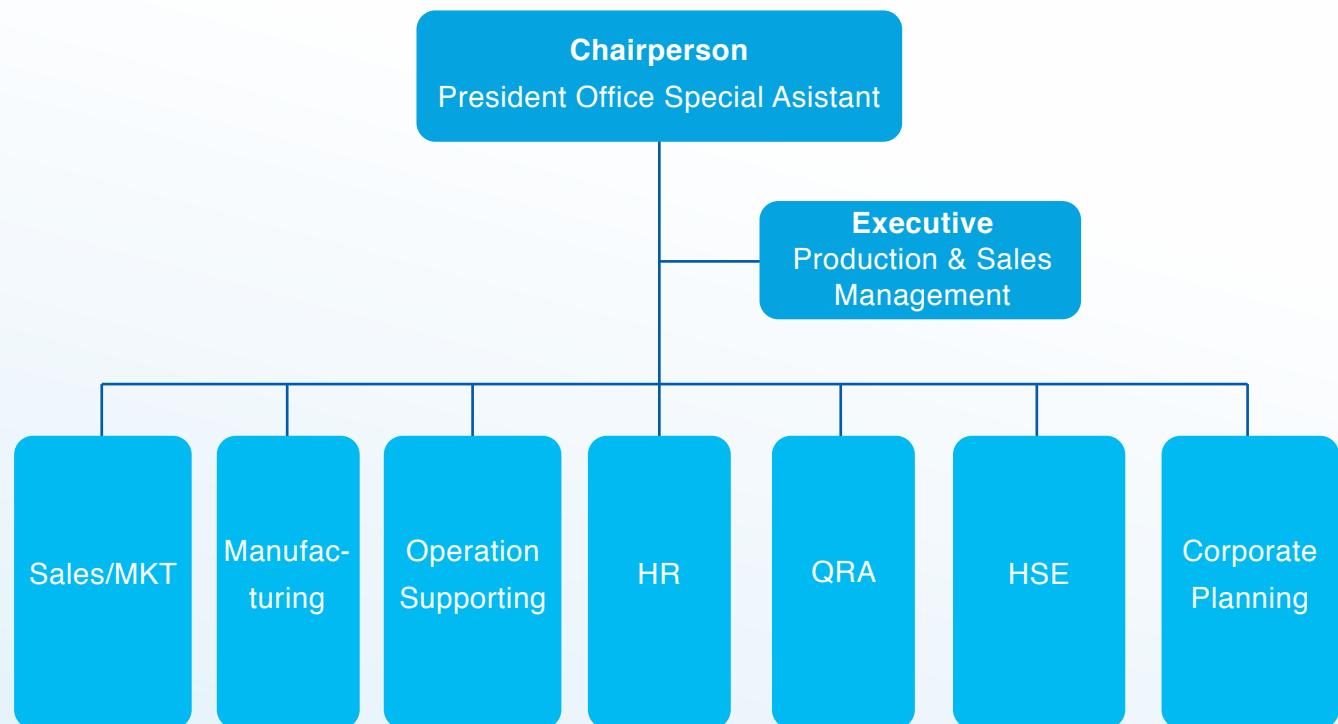
NTC holds quarterly investor conferences as well as conference calls to announce the latest financial results and business outlook, such as the company's roadmap. NTC also discloses the financial figures and significant filings for regulatory authorities on the corporate website and MOPS. All these efforts are focused on providing investors with accurate, timely, and transparent information about our finance and operation. Besides, spokesperson is appointed to accept and answer any suggestions and questions from investors. All members of President Office are able to support as well in order to serve our investors better and maintain a good relationship with them.

NTC Official Website | <http://www.nanya.com>

Investor Relations | E-mail: [NTCIR@ntc.com.tw](mailto:NTCIR@ntc.com.tw)

### 3.4 Risk Management

As global operation risk rises, NTC forms Risk Management Committee based on sales/marketing, manufacturing, operation support, HR, QRA, Environment/Safety/Health, and Corporate Planning functions. The organizational chart and responsibilities for each department are described as below.



Each function assesses risk on monthly basis and reports the results to related managers.

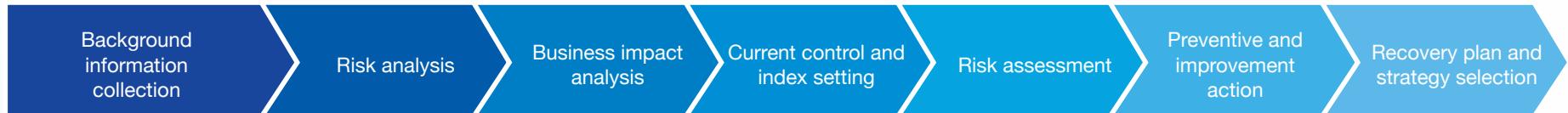
### The Table of Risk Assessment

Item	Management Flow	Critical Flow	Critical Item		Impact scenario	Impact Description	Maximum Tolerance Period of Disruption	Recovery Time Objective	Severity	Frequency	Risk Index	Current Control Measures	Monthly Early Warning Index	Emergency Response Plan	Recovery Plan	Target Date of Prevention & Correction Measures
			Item	Description												
1			Material		Earthquake											
			Parts		Fire											
			Equipment		Flood											
			Process/Technique		Water & Power shortage											
			System/Data/Information		Material & manpower shortage											
			Man		Quality											
2			Material		Earthquake											
			Parts		Fire											
			Equipment		Flood											
			Process/Technique		Water & Power shortage											
			System/Data/Information		Material & manpower shortage											
			Man		Quality											

When emergency occurs, the risk assessment will be carried out by function and countermeasure will be decided based on the scale of impact. The processing results will be reported to Risk Management Committee. The Committee will hold emergency response meeting and report to top management if it's necessary.

The Risk Management Committee holds meetings twice a year to review each function's risk management results and contingency plan to ensure the applicability, relevance, and effectiveness.

The flow of business risk assessment and business continuity plan:



### 3.5 External Association

NTC proactively increases communication channels with other alliance partners by attending seminars and joining major industrial associations.

World Semiconductor Trade Statistics, WSTS  
Taiwan Semiconductor Industry Association, TSIA Director



### Economic Dimension

- Company Profile
- Future Outlooks and Challenges
- Products Research and Development
- Financial Performance
- Customer Relations
- Supplier and Contractor Management



# Economic Dimension

## 4.1 Company Profile

Nanya Technology Corporation (NTC) was founded on March 4, 1995. The company conducts research and development, design, manufacturing, and sales of DRAM products. The Headquarters is located at Hwa-Ya Technology Park in Taoyuan, Taiwan and its production site with monthly capacity 60,000 wafer/month is located at Nanlin Taishan Park. The subsidiaries of NTC are in Taiwan, USA, Europe, Japan, and China. The main shareholder is Nanya Plastics Corporation, a member of the Formosa Plastics Group. The total employees are around 2,405.

NTC continuously enhances product lineup and focuses on specialty market, including consumer DRAM, mobile DRAM, and customized products. Current consumer DRAM accounts for 70% of total revenue, mobile DRAM takes >15% and PC DRAM<15%. NTC will concentrate on high product margin segments like automotive, industrial, and customized products and reduce the ratio of commodity PC DRAM to avoid price volatility.

For technology development, 30nm is in mass production and phased in 30nm design shrink products developed solely by NTC. The total output ratio of 30nm design shrink is expected to be 80% in 2016. NTC has enabled 20nm node and the construction of new facility started since July 2015. NTC will provide customers with 20nm samples and begin mass production in 2017. NTC has been strengthening specialty memory product lineup for further upgrading Taiwan DRAM industry competitiveness in global market.

NTC is always customer service oriented and dedicated to providing customers with complete product portfolio and system level solutions in order to fulfill customers' needs. NTC strives to enhance operating results to protect shareholders' equity. Paradigm shift reflects oligopoly in DRAM industry and the worldwide DRAM market has begun to recover since 2013. With Formosa Plastic Group's support and NTC's successful business transformation, NTC has harvested the benefits of the shift in our strategy of concentrating on consumer and mobile market segments that began in 2013. Meanwhile, our financial situation has also been improved significantly. From 2013 to 2015, debt ratio dropped from 89% to 47% and book value per share increased from NT\$0.4 to NT\$22.6.

The main operational center of NTC is located in Taiwan. Last year, there were total 2,405 employees worldwide, 2,344 in Taiwan and 61 in overseas branches. 448 were supervisors, 1,411 were professional technicians, 66 were administration staffs, and 473 were technical assistants. Among them, the number of supervisors account for 18.9% of our total employees and 62 of them were female, which reaches to the ratio of 13.6% of supervisors.



NTC Fab 3A in Nanlin Taishan Park, New Taipei City

Nanya Technology Corporation	
Employee	2,405 employees
Capital	NTD 27.49B
Business	DRAM for diversified applications
Founded in	March, 1995
Technology	30nm wafer output over 90% of total capacity
President	Pei-Ing Lee
Headquarter	TaoYuan Hwa Ya Technology Park
2015Milestones	<ol style="list-style-type: none"><li>1. In July, FAB 3A-N ground breaking</li><li>2. In Oct, 30nm design shrink conversion exceed over 50%</li><li>3. In Dec, LPDDR3 4Gb volume production</li></ol>

## Global Locations



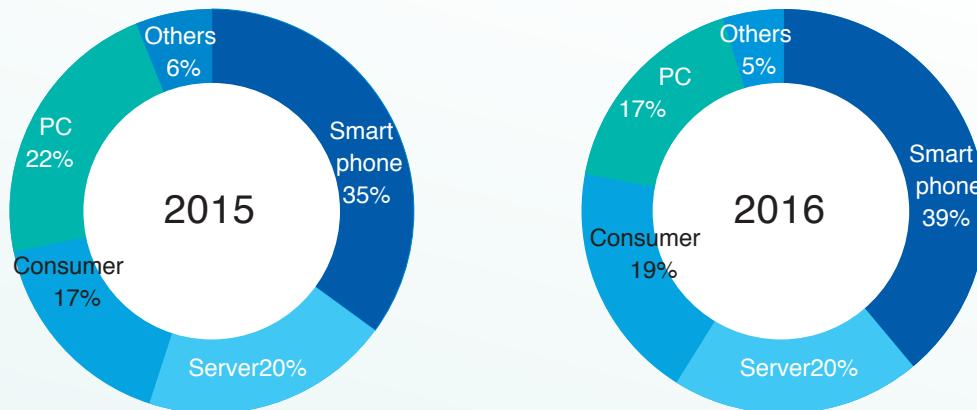
NTC's products sell to US, EU, JP, China, TW and Asia pacific region.

## 4.2 Future Outlooks and Challenges

### 4.2.1 Market Overview

DRAM industry consolidation results in more disciplined with capacity expansion. In demand side, smart phone, tablet, smart home, wearable, and cloud computing applications will continue to drive demand growth and keep DRAM market healthy.

DRAM demand by applications is shown as below.



NTC expects that DRAM product will mainly be applied to smart phone, server, and consumer in 2016 and these three applications will account for over 78% of all DRAM products.

### 4.2.2 DRAM Trends

#### Main Applications

Mobile DRAM driven by smart phone & tablet becomes the biggest market segment. The rise of Cloud computing drives the growth of server DRAM significantly. Meanwhile, DTV, STB, networking and automotive applications will also continue the momentum for continuous growth.

#### Functional Requirements

##### A. High Density

4Gb is the current mainstream product for smart phone, tablet, server, and PC. 8Gb will gradually replace 4Gb as the main runner from 2016 when 20nm era comes.

##### B. High Speed

For the fulfillment to data center computing and mobile device high resolution needs, high speed operation is essential. DDR4 maximum operation speed can reach DDR4-3200 and LPDDR4 can operate at LPDDR4-4266.

##### C. Low Power

To cope with the global green house effect and environment protection issue, low power DRAM is a must for smart phone, server, PC and consumer devices.

##### D. Features

###### (a) High Data Rate and Wide I/O

The new generation product, DDR4, has been adopted by server since the second half of 2014 to fulfill high data rate request. PC has begun to use DDR4 since the second half of 2015. High end smart phone has moved to LPDDR4 which can support both high data rate and wide I/O since 2015.

###### (b) Various Package Types

To meet the variety of DRAM applications, DRAM package diversifies into many types, including module for PC/ Server, PoP/ eMCP for Smart Phone, SiP for DTV.

### 4.2.3 Supply and Demand

#### (1) Supply Side

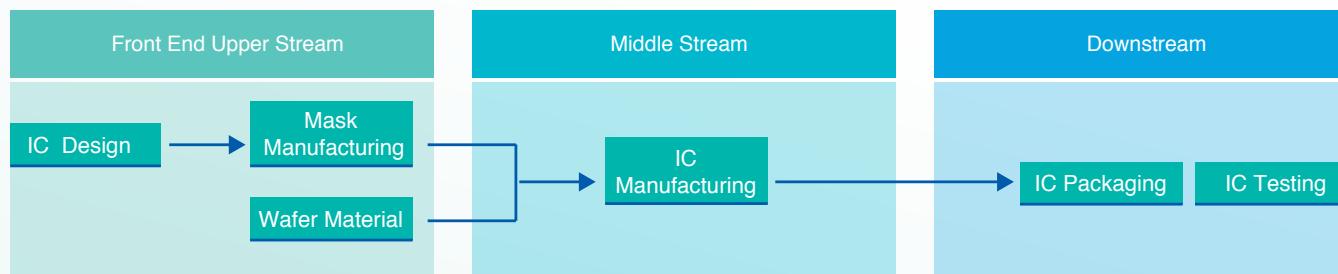
For supply side, top 3 suppliers continue to ramp the production of advanced 20nm and 1xnm technology nodes and new capacity will come online. According to the forecast by market intelligence, 2016 worldwide bit growth rate will be higher than 2015.

## (2)Demand side

For demand side, the demand side growth rate is projected at the same level as 2015 due to the uncertainty of global economy outlook and the stalled momentum of smart phone and tablet markets. Positively, 2016 Summer Olympics will energize DRAM demand from consumer electronic devices like high-resolution DTV, set-top-box.

## 4.2.4 Industrial Supply Chain

The IC supply chain (DRAM included) is formed by upstream, midstream, and downstream players from IC design, mask making, IC fabrication, IC packaging and testing sectors. NTC is specialized in the upstream DRAM design and midstream DRAM fabrication.



## 4.2.5 Competitiveness

As a key supplier in specialty DRAM market, NTC establishes strategic alliance relationships with customers and controller suppliers by offering excellent customer service for the launch of next-generation consumer electronic products collaboratively and meeting the variety of needs.

## 4.2.6 Long Term Vision

- DRAM market structure is stable and led by top 3 manufacturers with advanced technologies.
- Concentrating on consumer & low power specialty markets, deeply-root in automotive, networking and

customized segments which require stable long term support.

- 20nm and future 1x/1y plan will provide complete product lineup to fully meet customers' requirements.
- As a member of Formosa Plastic Group, NTC not only has a powerful financial support but also is beneficial from Formosa Plastic Group's strong bargaining power to lower down the cost compared to other competitors.

## 4.2.7 Challenges Overview

### Current Situation

Current major DRAM providers are Samsung, SK hynix, and Micron with a total market share >90% which results in

an oligopoly market structure. The supply side will be more disciplined and DRAM price movement is expected to be stable.

### Strategies

In response to the diversity of DRAM market and huge capital need for the migration to advanced technology nodes, our strategies are showed as below.

- Offering timely customer service and excellent product quality to expand market penetration in automotive, networking and industrial applications.
- Expanding the product line of consumer and low power consumption product to increase market share.
- Continuing to reduce cost by upgrading technologies.

## 4.3 Products Research and Development

### 4.3.1 Product Lineup

As a key specialty DRAM supplier, NTC offers consumer DRAM, mobile DRAM, automotive, industrial, and customized products..

NTC devotes itself to enhancing the ability of R&D and manufacturing cost reduction. Through seamless cooperation, NTC continuously introduces new generation DRAM products to market. 30nm design shrink products are successful in mass production. NTC will enable 20nm technology from 2017 and strengthen competitiveness in specialty DRAM market.

### 4.3.2 Product Development

Technology and Product Development:

NTC continuously develops new technologies and products. Yield improvement is achieved through design, process, and device analysis. Our consumer DDR/DDR2/DDR3 and low power LPDDR/LPDDR2/LPDDR3 products have been successfully introduced to global market.

Business Development:

NTC continues to focus on value-added markets with the products, 128Mb/256Mb/512Mb DDR, 128Mb/256Mb/512Mb/1Gb DDR2, 1Gb/2Gb/4Gb DDR3, 4Gb DDR4, 512Mb/1Gb LPDDR, 1Gb/2Gb/4Gb/8Gb LPDDR2, and 4Gb/8Gb LPDDR3 Mobile DRAM.



## 4.4 Financial performance

Due to global economy weakness, DRAM market was slowing down and ASP (average selling price) continued to decline from Q2'15. NTC optimized product portfolio for premium DRAM in specialty market to maintain stable profitability. NTC reported consolidated revenue of NT\$43.87 billion in 2015. Net income was NT\$17.14 billion, EPS NT\$7.07.

2013-2015 NTC Operational Performance



Performance Index	2013	2014	2015
Operating Revenue (NT\$ M)	45,224	49,108	43,876
Net Income (NT\$ M)	8,138	28,242	17,141
Operating Margin (%)	18.0%	57.5%	39.1%
Earning Per Share (NT\$)	3.40	11.77	7.07
Debt Ratio (%)	89%	60%	47%
Long term fund to property, plant, and equipment ration (%)	30.81%	108.20%	138.20%
Return on Asset (%)	9.80%	29.50%	17.15%
Return on Equity (%)	139.97%	109.11%	35.57%

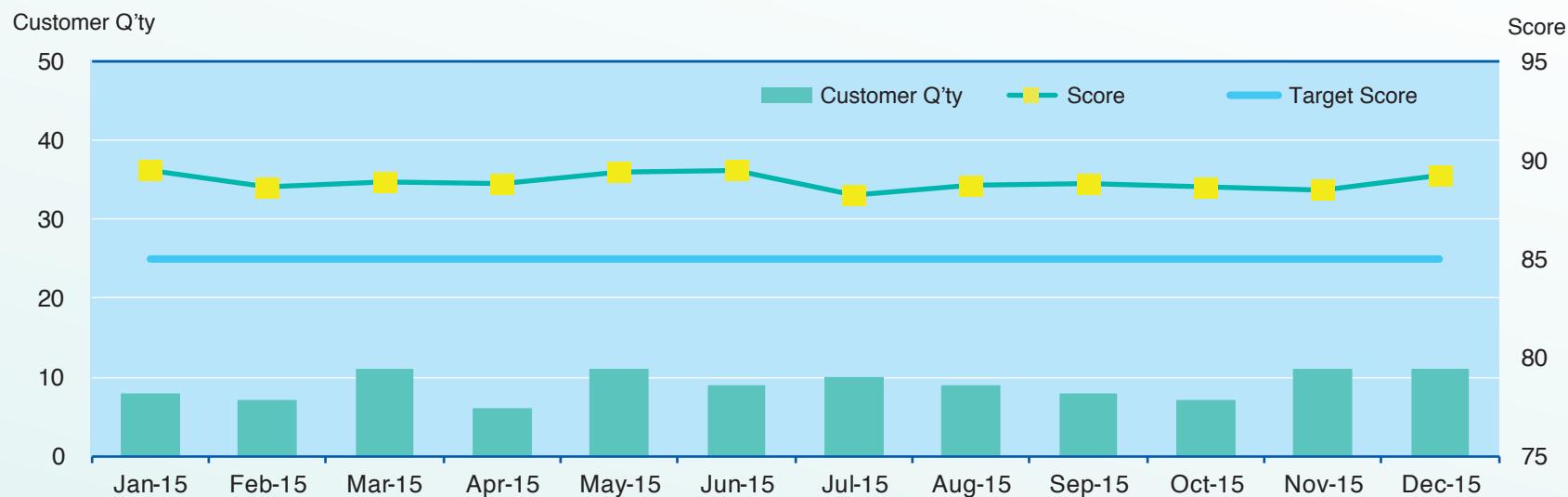
## 4.5 Customer Relations

### 4.5.1 Customer Service

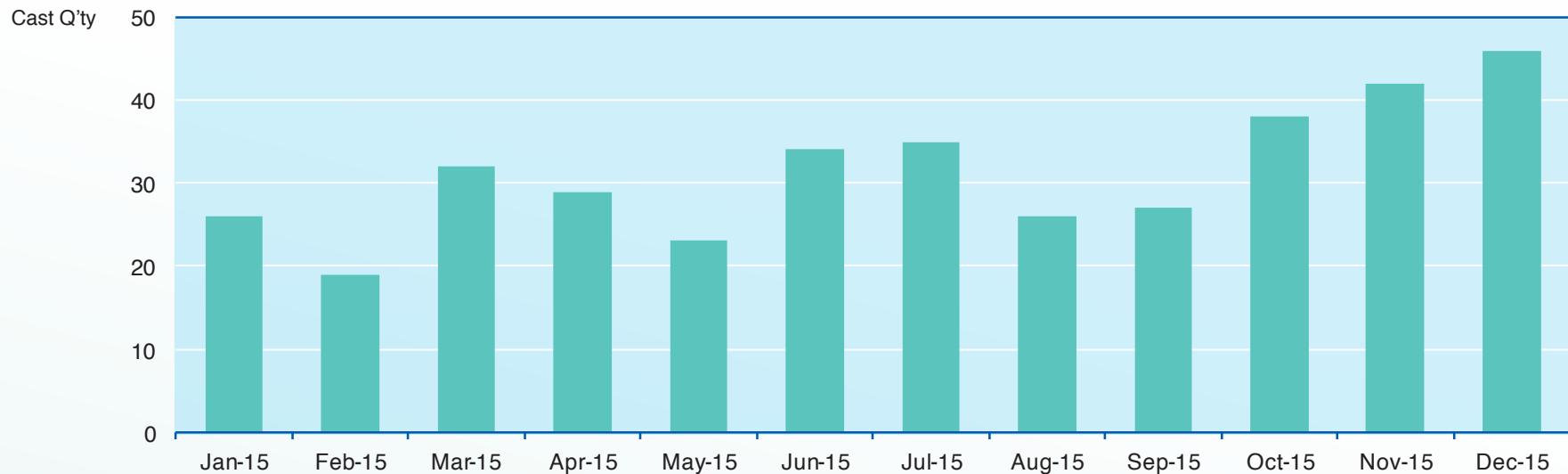
NTC believes that maintaining solid relationship with customers is vital for success. Therefore, we are dedicated to providing the best customer service. By having a genuine relationship with the customer to establish loyalty, we are able to expand the business and strengthen relationships among all customers. The core value of the company is to create high quality service and meet customer expectation. Once the customer's competitive ability is enhanced, it can also help to raise NTC's reputation in the market. By providing the best and reliable service, we will be a trustworthy partner in the DRAM industry. Our goal is to be a leader in the DRAM industry with our service and attitude in order to strengthen current customer relations and approach potential customers. To enhance the efficiency of customer service and maintain the best relationship with customers, NTC established HQ FAE department in 2012 with responsibility for technical support in Taiwan, mainland China, Southeast Asia, Europe, America, Japan and South Korea.

In addition, NTC focuses on not only understanding the design requirements of end-users and the future trend of this industry but also enhancing products' compatibility, improving quality, and increasing competitiveness through platforms integration. NTC strengthens its laboratory infrastructure and allocates human resources for the increasing customer base. With high-efficiency, high-density, high-quality parameter measurement service on customer platforms, it accelerates the cycle of new product development and verification, reduce investment risk, and meets market needs. Most importantly, NTC is dedicated to build customer trust through various services and always be there for customers whenever they need.

- The customer satisfaction score of technical service reached the target 85 in Y2015 (Figure).
- The session of technical seminar for customers was hosted up to 108 sessions in Y2015 and solved 21 cases of client problems.



The cases of parameter measurement service on customer platforms was 271 cases in Y2013, 332 cases in Y2014, and expanded to 377 cases in Y2015.



#### 4.5.2 Customer Satisfaction

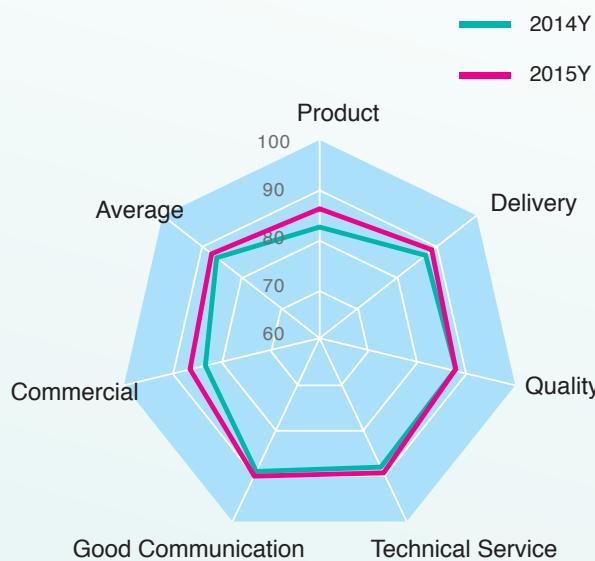
NTC sends out customer satisfaction survey which is developed with five main parts, "Product," "Delivery," "Quality," Technical Support," "Communication," and "Business Model" every six months. With negative feedbacks, top management team will discuss the challenges and develop action plans for improvement at performance review meetings. Therefore, every sales representative can follow up with customers regularly based on the action plans in order to continue providing the better services to our customers. Besides, Quarterly Business Reviews is also conducted by customer service team to maintain closer relationship with customers and fulfill what customers need as well. For NTC, both internal and external improvements are important, so the PDCA (Plan, Do, Check, Action) management method is applied to control the improvement of processes and products and achieve the company's goal.

Customer Satisfaction Survey Flow



## **Survey Result**

The results of customer satisfaction survey were improved in 2015 compared to 2014. NTC continues to use a systematic approach to determine and improve products and services. To pursue the goal of providing best customer service, NTC provides good communication and maintains positive attitudes to serve all customers continuously.



### **4.5.3 Customer Privacy**

Customers are NTC's important partners. NTC treats customers' private personal data and confidential

information respectfully and fairly and creates strict privacy policies for protecting customers. By developing a "Confidential Information Management Procedure," NTC ensures the confidentiality and protection of customers' information. Also, adequate trainings are provided by NTC to strengthen employees' professional skill of how to classify and process confidential information. With DDC management and protection, customers' documents can only be read by authorized employees. If a customer is suspected of betrayal of confidentiality, he/she can easily file a complaint through NTC website or find the contact email through employees' name cards.

## **4.6. Supplier and Contractor Management**

### **4.6.1 Supplier Relationship**

With an "Open Bid" approach, NTC's purchasing procedure uses Formosa Plastic Group's E-Commerce as a trading platform between suppliers to offer quotation inquiry, price negotiation, order confirmation, and delivery. NTC not only implements the "concept of sustainable management" but also creates a responsible and reliable supply chain to fulfill corporate social responsibility. To avoid the risk of raw material shortages and quality, NTC is actively developing alternatives for each item of materials. ISO9001 certificate is the necessary criteria to become a qualified supplier of NTC, and the qualified supplier needs to be assessed by NTC through plant site auditing or document review and also needs to continue the implementation of quality improvement projects requested by NTC in order to foster the long-term relationship and increase competitiveness.

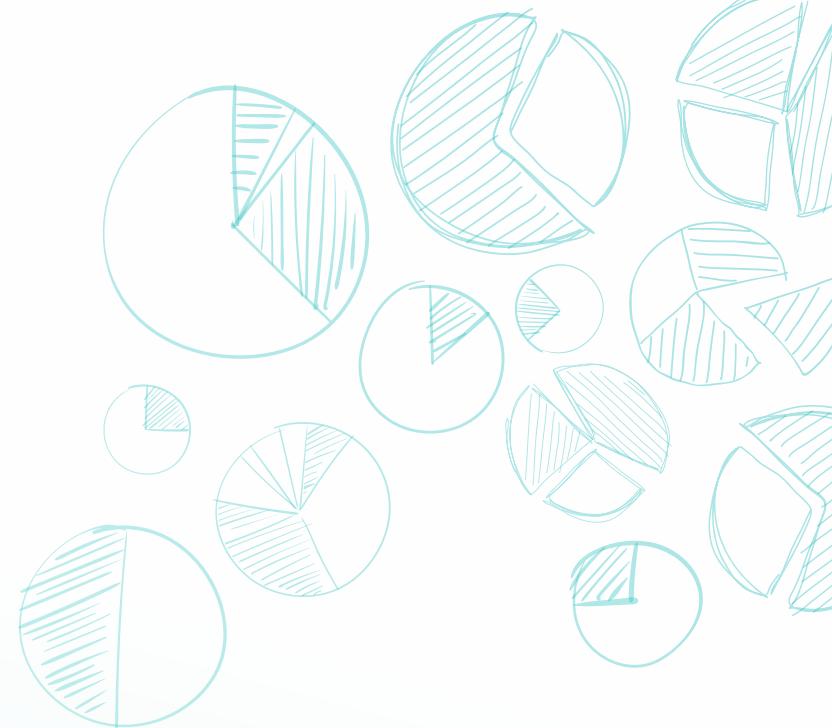
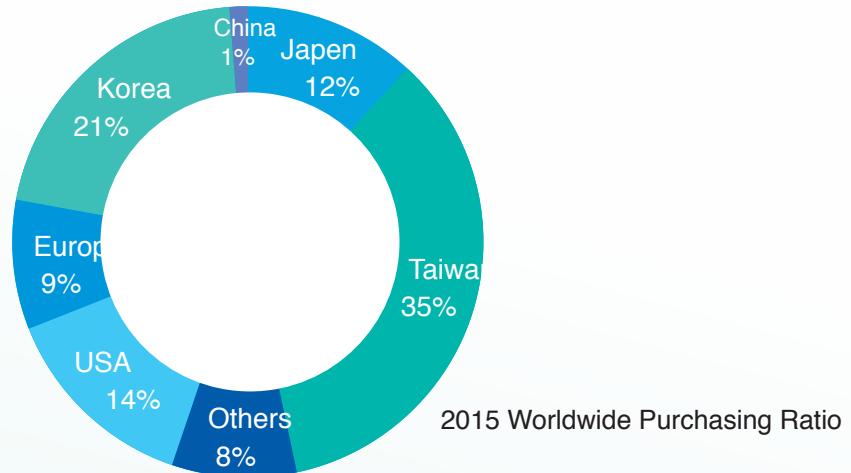
NTC annually implements the supplier score card with six

critical indexes "Quality, Delivery, Service, ESH, Risk Control, and HSF Product Management" to eliminate disqualified suppliers and develop long-term business relationship with superior suppliers. Supplier score card is useful to identify potential mistakes, and then correct and improve on the supplier's side immediately. The result of the evaluation will be reported to the purchasing department as the next procurement reference. NTC works with our suppliers to construct a smooth and accessible communication channel by discussing the evaluation results, continuous quality improvement, and other information in the quarterly or irregularly meetings.

NTC builds several online management systems as the platforms to deliver and exchange the information with our suppliers and ensure that suppliers can fully meet our standard requirements. For example, to inform and ask for the full compliance with the material quality level, we have specialists who distribute the examination standard to suppliers and collect all the feedback from suppliers.

To fulfill corporate social responsibility, preserve the environment, and implement the green product policy, NTC inspects all the raw materials used in production to see if there are any forbidden or restricted substances. Besides, material suppliers are demanded to provide test reports validated by ISO17025 certified labs in order to prove the materials are HS-free. Moreover, NTC also regularly asks the notary labs to test our product wafer and ensure its HSF to fulfill our commitment for green supply chain management.

## Purchasing Ratio Worldwide



## Summary of Selected Suppliers

Supplier	Raw Material Supplier	Process Contractor	Waste Contractor	Response measures
Number of Suppliers	60	4	64	
Potential Risks with Environmental Impact	No permit or registration Failure to comply with permits and recording requirements	No permit or registration Failure to comply with permits and recording requirements	Illegal dumping Failure to comply with permits and recording requirements	Abnormal cases were filed and on track. Suppliers should provide improvements, and we supply our suggestions as possible.
Risk of Labor Impact	<ul style="list-style-type: none"> <li>· Working overtime</li> <li>· Discriminatory interview</li> </ul>	<ul style="list-style-type: none"> <li>· Working overtime</li> <li>· Discriminatory interview</li> </ul>	NA	Take as a required checking item in supplier chain audit
Risk of Human Rights Impact	Supervisor didn't accept human rights training. Foreigner labor's personal identification is kept improperly.	Supervisor didn't accept human rights training. Foreigner labor's personal identification is kept improperly.	NA	Take as a required checking item in supplier chain audit
Potential Risks with Community Impact	<ul style="list-style-type: none"> <li>· Noise and odor</li> <li>· Local traffic jammed</li> </ul>	<ul style="list-style-type: none"> <li>· Noise and odor</li> <li>· Local traffic jammed</li> </ul>	<ul style="list-style-type: none"> <li>· Noise and odor</li> <li>· Local traffic jammed</li> </ul>	Abnormal cases were filed and on track. Suppliers should provide improvements, and we supply our suggestions as possible.

#### 4.6.2 Supplier Evaluation

For assembly and testing subcontractors, NTC reviews their performance quarterly. NTC sets up a Quarterly Business Review meeting (QBR).

QBR can help us have a comprehensive understanding of the performance of contractors. NTC invites the contractors' executives to participate and exchange ideas and information in the meeting. The three key evaluation items for this quarter are engineering/ production services, quality, and cost. NTC evaluates each item in January, April, July, and October every year.

Due to business strategic transformation since 2013, NTC has adjusted the demand of outsourcing and inform contractors in advanced to reduce the impact to them and society

Upon finishing the evaluation, the executives of both companies have discussions to improve the quality and cost effectiveness of the products.

NTC implements the supplier evaluation with six critical indexes as below. The results of evaluation are reported as the reference for raw materials purchase. NTC also announces the required improvement for specific vendor within a limited time, or NTC would disqualify the vendor directly to assure the incoming quality for our production line.

#### The implementation of Supplier Evaluation in 2015:

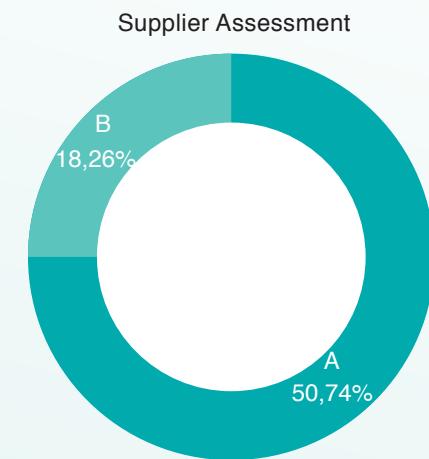


NTC evaluated total 68 suppliers in 2015 and defined that 50 suppliers are A-grade and 18 suppliers are B-grade.

#### EICC Code of Conduct

In pursuit of corporate sustainable development, NTC commits to the integrity of company governance, to guarantee shareholder's rights and devote itself to establish a harmonious, healthy, and safety work environment. Also, NTC tends to balance the development in green science and environmental sustainability, participate actively in public social contribution affairs, meet expectation of society and interested parties to fulfill its social responsibility.

In reflection of this commitment, NTC complies with Electronic Industry Citizenship Coalition Code of Conduct (EICC® Code of Conduct). NTC conducts the codes of labor, health and safety, environmental standards, ethics and build a sound management system to provide employees with a safe working environment. Therefore, workers are treated with respect and dignity and business operations are environmental responsible and conducted ethically. NTC establishes its own Code of Conduct and management system according to EICC standard. NTC continuously educates and communicates all employees with NTC code of Conduct. NTC code of Conduct is already defined as a required training course to help employees to understand their own interests and the direction of the company to comply with the business ethic. It's good to strengthen employees' cohesion and create a positive corporate image to the society. Furthermore, NTC deeply understands the suppliers are also the important roles to fulfill above commitment. NTC expects and demands



its suppliers to follow EICC code of Conduct in order to confirm suppliers its daily operations and activities in labor, healthy and safety, environment protection and business ethic accordingly. Thus, NTC developed a supplier communication program since 2015 and assisted some important suppliers to adopt labor and Ethic system by using written questionnaire and onsite auditing. In 2015, there were totally 9 selected suppliers checked, 7 among them checked by a written questionnaire, 2 of them were checked through on-site auditing. 8 suggestion items were found and traced by NTC CAR computer system to improve. On the other hand, all suppliers showed they were willing to make its efforts to improve the shared supply chain. All suggestions were replied accordingly and the completion rate was 100%.

Category	Finding	Suggestion	Action
Management System	0	3	Already issued the CAR to supplier
Labor	0	5	Already issued the CAR to supplier
Ethics	0	0	None

#### 4.6.3 Contractor Management

In order to strengthen the safety management and control the quality of the contractors, we created a hierarchy management system to manage the contractors. NTC collects information from the engineering contractors and surveys their plant sites, machines and equipments, site safety management, technical ability, historical performance, and other contract experiences and classify the contractors as A, B, C level. The budget on the safety and health management fees should be listed in the contract. In order to avoid misplacing those two necessary items, the system will be managed automatically to control the fees, which cannot be lower than the budget on the safety and health management

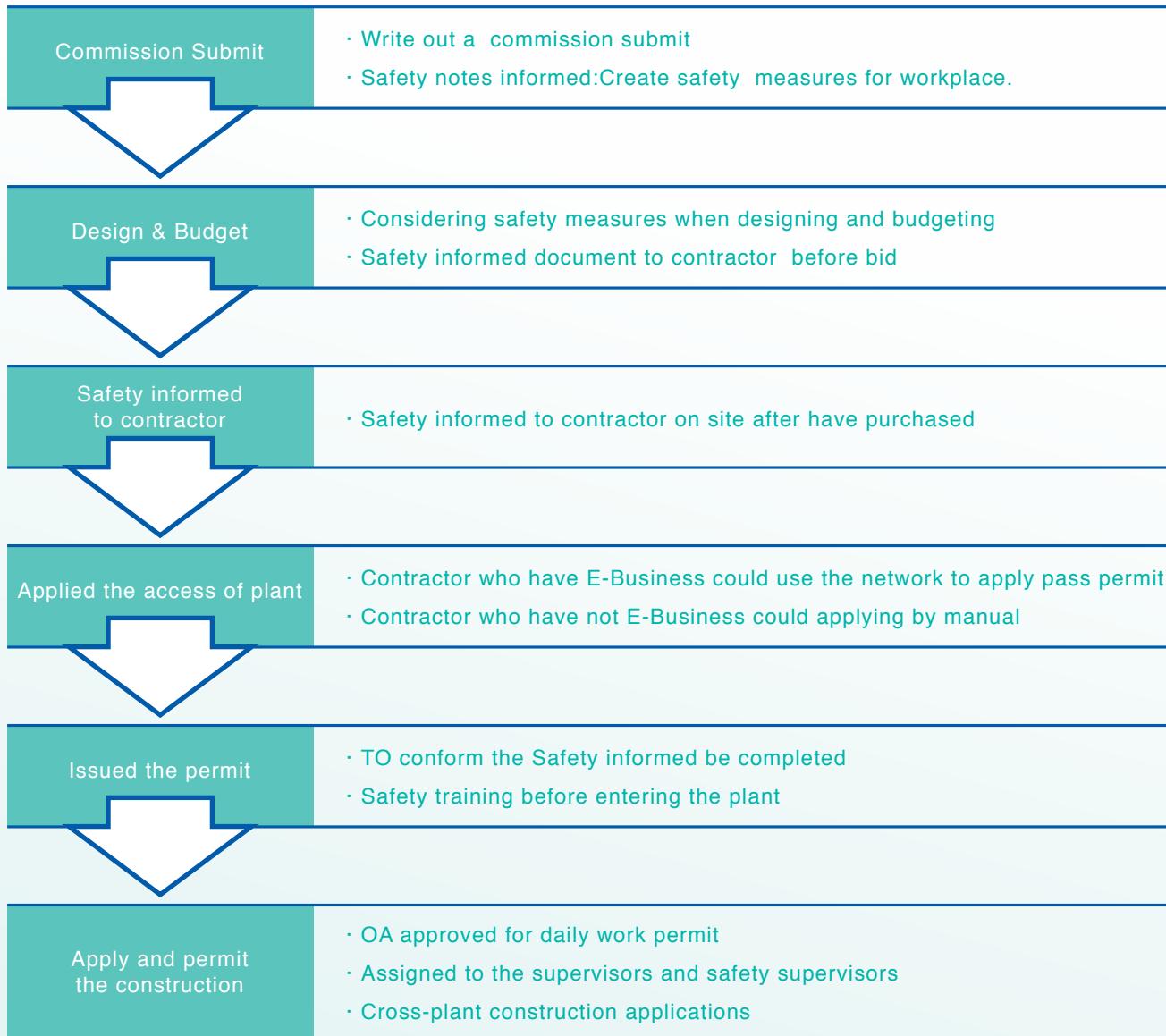
#### Contractor Safety

Contractor safety is the top priority of the safety and health management and NTC always values the contractors as our own staff. NTC appreciates their assistance in supervision and maintenance with their professional equipments and techniques. For carrying out the projects smoothly, NTC focuses on not only the quality and progress but also the management of safe operating environment. Thus, the evaluation of contractor management system and trainings for labor safety, physical and mental inspections and pre-training before construction are implemented to guide the workers to comply with the principles of safety and avoid any accidents.

NTC follows the principles which are made by Formosa Plastics Group regarding the setup of the safety and health management system for contractors. Moreover, in order to manage the sources of each engineering project, the information of construction design, budget, construction undertaking, and the entrance to the plant are all controlled by the computer. Base on this information, NTC selects the superior contractor to participate in construction expansion or annual machine maintenance. Our training system enhances not only contractors' techniques but also their consciousness of safety and health in order to reduce the probability of occupational hazards.

In the public bidding, NTC will inform the vendor in advance about our principles of the environment and safety and health. The vendor needs to be abided by the regulations when they become our contracted vendor. Vendor will hold toolbox meeting every morning. All the workers need to comply with the regulations of each workplace and check the safety before the construction starts. During the construction, the temporary facilities, such as security, sanitation, pollution control and a variety of disposable waste and soil transport are required to be conducted according to the relevant laws and the company regulations. If the contractor has accidents due to the incompliance with regulations, the contract will be suspended.

NTC must sign a cooperative engineering contract of safety work with each vendor and announces to show the possible hazard in workplace and related regulations. In addition,



the healthy and safety management operation of NTC is self-inspection by every unit, industrial safety department plans the proposal for observations and interviews with contractors and the accident investigation. If NTC finds unsafe behaviors with contractors, NTC may conduct corrective action to correct the unsafe behaviors or personnel to reflect events that would be immediately tracked and improved.

NTC requires all contractors to apply the permit for construction online in order to enhance the efficiency of the construction. On the other hand, NTC requires all contractors to take contractors course- "safety and health" courses to inform environmental hazards factors, the requirements, and safety awareness. The supervisor should also be conducted the safety supervisor course and prevent occupational hazards with contractors on site. In addition, NTC develops the contract management, SOP, construction safety work announcement, permission of using fire, permission that working near electricity power system, checklist of high-risk construction work, and approach for emergency issues.

Training	Training Hours	Number of Participants
Safety and health	22	1797

#### Training Result:

1. All contractors take the trainings.
2. All contractors are aware of the safety policy and follow the rule.



**NANYA**

## 2015 Corporate Social Responsibility Report

### Environmental Sustainability

Pollution Prevention

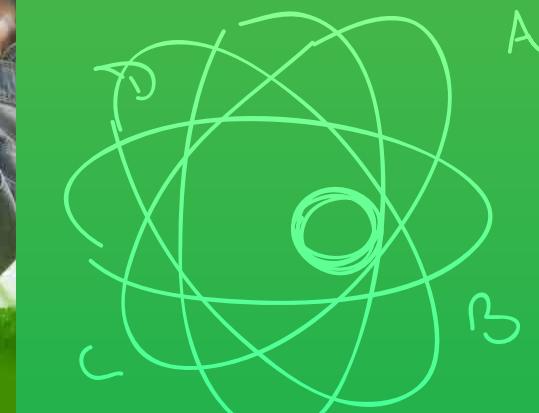
Energy Resources Management and Reduction

Greenhouse Gas Management

Eco-friendly Products

Environmental Accounting

New Eco-friendly Factory





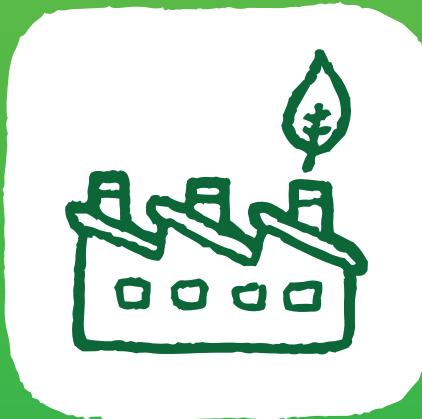
### Used Water Decreased by 12.3%

Used Water 3 m<sup>3</sup>/wafer is 12.3 % lower than 2014.



### Unit power consumption 7.3 % lower

The power consumption per wafer is 7.77 KWH/wafer, 7.3 % lower than 2014.



Recycling Rate is 95.7% and increase by 25.7% from 2014 to 2015



### Greenhouse Gas Reduction

The Greenhouse gas (PFCs) is reduced 286,034 ton CO<sub>2</sub>-e which equals to one year CO<sub>2</sub> absorption quantity of 773 dimensions of Da-an Park



### 0 of Occupational Injury Rate

The occupational injury rate has been 0 for the past three years.

# Environmental Sustainability

The production activity only exists in 12" 3A wafer manufacturing plant at Nanya Technology Corporation (NTC), so the following summary statistics regarding sustainable issues would be based on the 3A plant's data such as air pollution, water pollution, waste, energy saving, greenhouse gas emission, and usage of raw materials.

## 5.1 Pollution Prevention

### ◆ Air Pollution Control

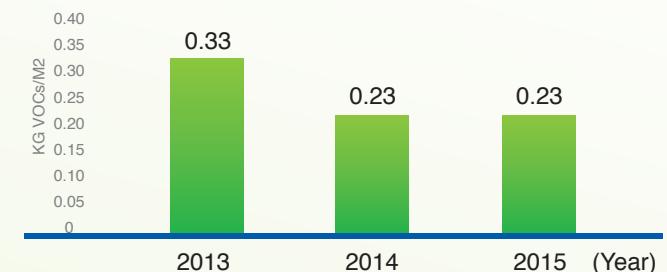
NTC always concerns about the pollution prevention and keeps working on the environmental management system (ISO 14001), which includes reducing the raw material and the air pollution exhaust. NTC use air pollution control equipments including local scrubbers, acid/alkali central scrubbers, VOCs Fluidized bed system and Rotor Concentrator & Thermal Oxidizer. NTC maintains the treatment processing equipment regularly and grants the complete training for operating personnel to ensure the processing efficiency and safety. In 2015, the cost of air pollution prevention amounted to NT\$53,858 thousand. (VOCs= volatile organic carbon, local scrubber= local exhaust treatment equipment)

The main sources of air pollution are acid, alkali and organic chemical. NTC uses local scrubbers to remove specific substances in acid/alkali gas before treated by central scrubber. The gas is discharged into the atmosphere after treatment. Organic gas is concentrated, and then it is destroyed by thermal oxidizer using clean natural gas. The processing efficiency approaches 99%.

The process as follows:



VOCs Emission Intensity



The VOCs emission intensity of each unit product in 2015 was 0.23 (kg VOCs/M<sup>2</sup>). NTC has raised the output of production since 2015, the VOCs emission intensity was same as last year. It shows the effort NTC does and NTC will keep working on the environmental management system. In addition, organic waste water plant originally belongs to Lin-Kuo site of Nan Ya Plastic Corporation and has been managed by NTC since the end of 2014. The amount of air emission from waste water treatment was 3.251 ton in 2015.

## ◆ Water Pollution Control

### ◆ The Environmental Protection Regulation of Waste Water Discharge

In recent years, ammonia nitrogen effluent control has been becoming more and more strict for environmental protection regulation. NTC also implements continually environmental protection improvement according to environment protection regulation.

### ◆ Waste Water Management

NTC classifies waste water based on the characters of waste water for different treatment facilities in order to follow the environmental protection regulation, and reclaims acid/alkali waste water through reclamation treatment system to reduce waste water effluence. NTC plans to expand organic waste water reclamation system which can reduce 1,000 tons waste water effluence in 2016.

### ◆ Waste Water Improvement

NTC expanded MBR (Membrane Bioreactor) of organic waste water treatment system and improved ammonia nitrogen treatment facility (nitration vessel) in 2015, which could increase 500 CMD reclaimed organic waste water and advance ammonia nitrogen treatment capacity to reduce ammonia nitrogen effluent. In addition, NTC also expanded hydrofluoric waste water treatment facilities to reduce running loading in 2015. In 2016, NTC will expand hydrofluoric waste water treatment system/ organic waste water treatment system/ ammonia nitrogen MD treatment system to advance waste water treatment capacity, and expand organic waste water reclamation facilities to increase reclaimed waste water for new factory, FAB-3A-N. In addition, NTC also install sludge waste reduction facilities, including installing IPA concentrating treatment facilities to reduce COD concentration of organic waste water organic sludge drier to reduce the moisture content of organic sludge from 84% to 60% in 2016.

### ◆ Performance of Waste Water Treatment

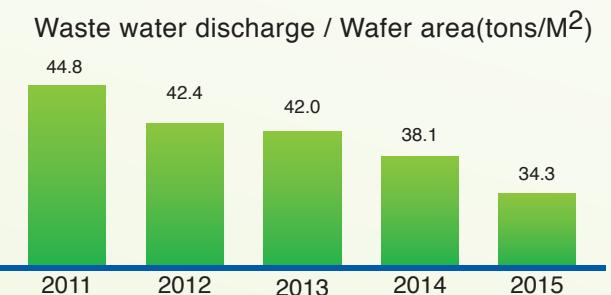
The Result of 2015

	Items	Unit	Legal Requirement	Measurement Results			Meet Requirement
				Min	Average	Max	
NTC FAB-3A	PH	-	6-9	7.1	7.4	7.7	Yes
	COD	mg/L	<100	37	41	45	Yes
	SS	mg/L	<30	4.8	10	13.9	Yes
	F-	mg/L	<15	4.4	6.7	10.2	Yes
	NH4-N	mg/L	<75	12.2	23.7	36.4	Yes

### The Amounts of Waste Water

Site	2011	2012	2013	2014	2015
FAB-3A(ton)	1,841,656	1,677,744	1,817,250	1,736,621	1,778,448

The waste water discharge per square meter of wafer decreased by 4 tons in 2015 (9.4 % lower volume than 2014).



## ◆ Waste Management

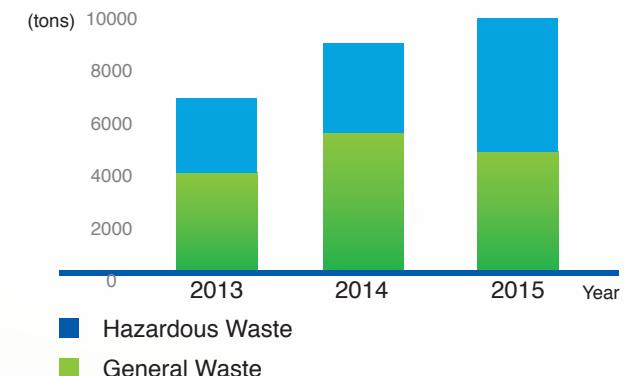
Our general industrial waste and hazardous industrial waste are managed by the output departments, the managed items including the waste of storage, removal, testing, and other operational activities to promote the reduction. NTC also audits contractors nonscheduled to confirm its legitimacy and ensure that all wastes have disposed properly or reused, in order to avoid further impact on the environment.

In 2014~2015, there was no records of global transfer of hazardous wastes.

## ◆ Recycling

NTC Fab-3A's waste was 9785.05 tons in 2015, equivalent to 0.189 tons/output wafer area(m<sup>2</sup>), in which the amount of general waste was 4693.42 tons, hazardous waste are 5091.63 tons, waste recycling was about 95%. From 2014 to 2015, the amount of waste increased by 6.7% and our product output increased by 13%. For this reason, NTC must make more efforts for the waste resource utilization, such as reducing the use of raw materials, increasing the amount of recycling, and etc. in order to reach the goal of zero waste.

## The waste output



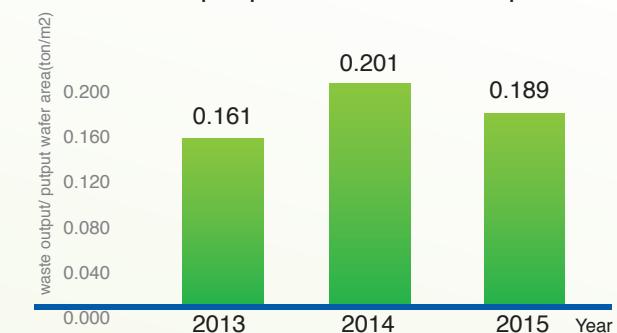
The Output of NTC Waste in 2015

				Unit : Tons
廢棄物	Recycle/Reuse	Incinerate	Landfill	Total
Hazardous waste	5077.27	6.04	3.32	5091.63
General waste	4219.97	185.67	287.78	4693.42

				Total
				Unit : Tons
Total	9297.24	191.71	296.1	9785.05

## The wast output per unit of wafer output



## 5.2 Energy Resources Management and Reduction

### 5.2.1 Water: Reduce, Reuse, and Recycle (R-s)

#### ◆ Water Resources

NTC primary processes water resources from Da Han River and it has no influence on ecological system. In addition, reclaimed rain water and well water also can be supplied for process water, city water is supplied for human's livelihood water. In 2015, the water usage was 2,198,960 tons, river water usage was 1,984,249 tons which was 90.2 percent of total water usage, well water usage was 127,115 tons which was 5.8 percent of total water usage, rain water usage was 50,691 tons which was 2.3 percent of total water usage, city water usage was 36,905 tons which was 1.7 percent of total water usage.

#### ◆ Water Shortage in Taiwan

In Taiwan, most of the rainfall is rapidly decreasing due to strips of populous areas, the abrupt geographical features of Taiwan's mountains and torrid downpour. Therefore, actual rainfall that is allotted per year only reaches the seventh place in the global average rainfall. According to world standard, a country or region is considered an arid region when the water supply in the region per person per year is between 1,000 tons to 2,000 tons. According to this standard, Taiwan belongs to an arid area because the usable rainfall per person per year is only about 1,000 tons. In addition, the rainfall in Taiwan tends to cause zonal or seasonal drought very easily because of the unequal distribution in certain areas and during certain seasons; therefore, NTC implement water-saving activities continually to reduce environmental impact and water lack risk.

#### ◆ Strategies for Water Shortage

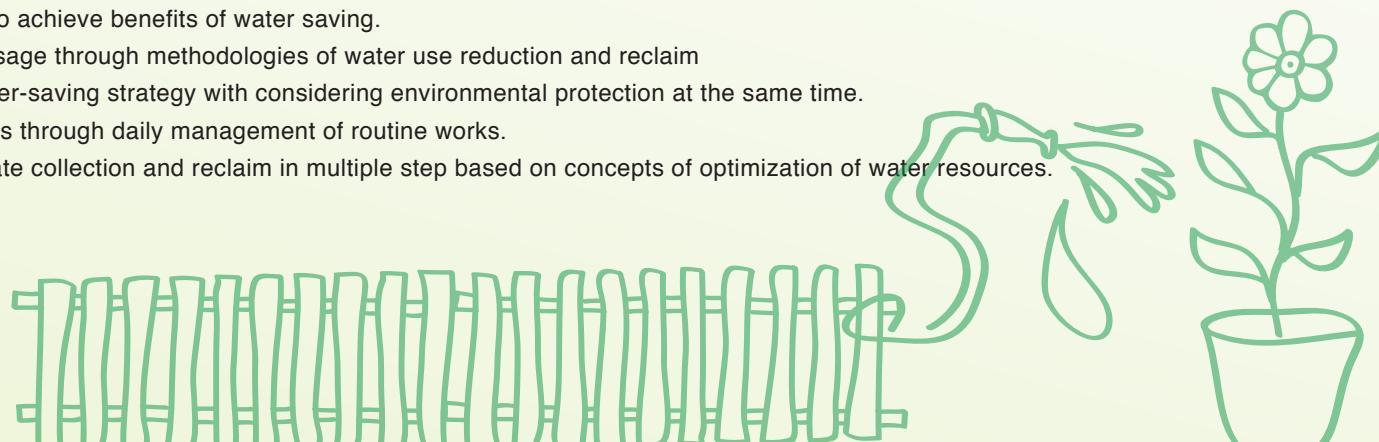
Three wells supply 4,200 CMD back-up water and water storage capacity is 38,000 ton for short-term water lack. Due to NTC is subordinate to Formosa Plastic Group, NTC link with plants of Formosa Plastics Group near NTC to establish water lack emergency response team, plants support water mutually through the team to reduce influence of water lack.(CMD:M3/day)

#### ◆ Water Management

Due to the impact of global climate change, the rainfall in Taiwan has become uneven with flood and drought together. Therefore, the development and management of water resources become much important at this moment. NTC focuses on water use reduction, reclamation, and reuse in water use management in addition to the previous designed water-reduction process.

The current strategies of water-saving strategy are listed as below.

- Developing working objects to achieve benefits of water saving.
- Achieve reduction of water usage through methodologies of water use reduction and reclaim
- Improve continually NTC water-saving strategy with considering environmental protection at the same time.
- Develop water-saving projects through daily management of routine works.
- Establish waste water separate collection and reclaim in multiple step based on concepts of optimization of water resources.



#### ◆ The Condition of Water R-s

NTC FAB-3A achieves processing water recycle ratio 86% (The promised process water recycle ratio to Taiwan EPA is 81.1%.) through building reclaimed water system for acid/base waste water and conducting water savings activities. In addition, two detention ponds, with capacity of 3,500 cubic meters and 560 cubic meters separately, are built to effectively recycle rain water in rainy season.

Water usage of NTC water usage/ Wafer area (tons/M<sup>2</sup>)



Site	2011	2012	2013	2014	2015
FAB-3A	2,157,759	2,032,748	2,205,960	2,155,223	2,198,960

From 2014 to 2015, the production capacity increased by 13.8%. The water usage was 2,198,960 tons, the average process water recycle ratio was 86.4%, process water saving was 5,424,909 tons, the ratio was 2.5 for process water saving / total water usage. On the other hand, the water usage increased 43,737 tons which was increased by 2% from 2014 to 2015 and the water usage per square meter of wafer decreased to 4.9 ton/M<sup>2</sup> (decreased by 10.4% from 2014 to 2015). (Process water recycle ratio is calculated according to the formula adopted by Hsin-chu Science-based Industrial Park Bureau, Taiwan R.O.C)

Achievement of water-saving activities in 2015

Water-saving Activities	Site
Expand MBR(Membrane Bioreactor) capacity of organic waste water treatment system: Invest NTD\$ 6,600,000, reclaim 350 tons of water per day, and annual benefit: NTD\$ 1,430,000.	FAB-3A
Control cooling tower waste water (drain control by conductivity) conductivity from 1,600µS/cm to 1,800µS/cm: Reduce 50 tons of water consumption per day, and annual benefit: NTD\$ 204,000.	FAB-3A
Extend tools(RRV107A、RRV108A、MSE101A、MSE102A、WTM101A~WTM104A) waste water reclamation time: Increase 50 tons of reclaimed water per day, and annual benefit: NTD\$ 204,000.	FAB-3A

The overall benefit of Y2015 water-saving activities is 450 tons of water savings per day and annual cost saving of NTD\$ 1,838,000.

On-going improvement of water-saving activities

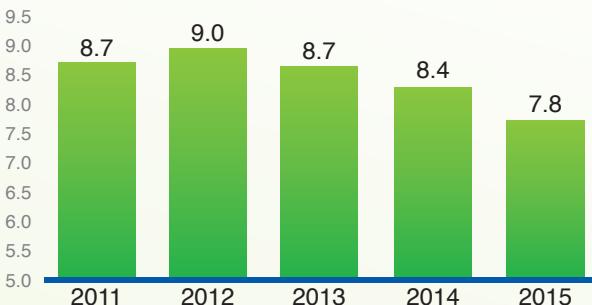
Activities of Water Savings	Site	Due Day
Expand ammonia nitrogen waste water reclamation system: Invest NTD\$ 12,000,000, reclaim 250 tons of water per day, and annual benefit: NTD\$ 1,022,000.	FAB-3A	2016.9
Expand organic wastewater reclamation system: Invest NTD\$ 39,000,000, reclaim 600 tons of water per day, and annual benefit: NTD\$ 2,452,000.	FAB-3A	2016.9

On-going water-saving plans are estimated to save water of 850 tons per day and annual benefit: NTD\$ 3,474,000.

## 5.2.2 Energy Saving

Limited energy resource has become the most important issue in our earth. Energy usage will generate carbon dioxide and induce global warming effect, which increases temperature of our earth. Therefore, effective management of energy resources is crucial to slow down global warming effect. Consumption of NTC internal energy includes mainly city electrical power and natural gas. Greenhouse gas emission caused by consumption of external energy to include materials handling/ production operation of material vendors/ wastes handling/ the staff's travelling on business/ the staff's commuting etc. In order to effectively reduce the environmental impact of global warming effect, energy saving is important planning of plant engineering. For example, double chilled water system and heat recovery of chiller are adopted. NTC implemented many energy conservation technologies to reduce energy usage in past few years. In addition, NTC also conducts management activities of energy conservation either in office area or in facilities to enhance energy savings concepts of NTC employees, decrease consumption materials and increase recycling of wastes to reduce environmental impact by greenhouse gas emission.

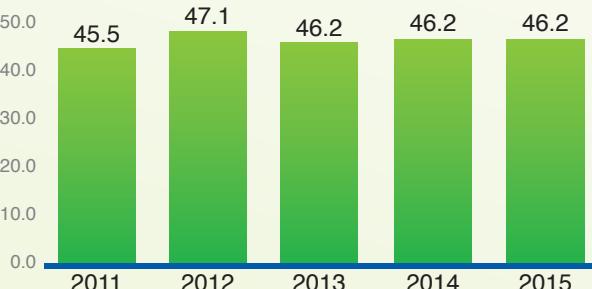
Power Consumption of NTC Power consumption/ Wafer area (MWh/M<sup>2</sup>)



Site	2011	2012	2013	2014	2015
FAB-3A(MWh)	356,880	355,725	376,183	381,792	402,445

The production capacity increased by 13.8% from 2014 to 2015, the power consumption increased 20,653 MWh, which was equal to 5.4% of the power consumption level in 2014 or 10,780 tons of CO<sub>2</sub> emission. The power consumption per square meter of wafer decreases 0.6 MWh/M<sup>2</sup> (decreased by 7.1% from 2014 to 2015) (CO<sub>2</sub> emission is calculated by 2013 CO<sub>2</sub> emission factor, 0.522 kg CO<sub>2</sub>e/kWh, by Taiwan Power Company.)

Natural Gas Usage of NTC NG usage/ Wafer area(M<sup>3</sup>/M<sup>2</sup>)



Site	2011	2012	2013	2014	2015
FAB-3A (M3)	1,867,827	1,863,370	1,997,653	2,107,596	2,395,455

From 2014 to 2015, the production capacity increased by 13.8%, the natural gas usage increased 287,859 cubic meters which was equal to 13.6% of natural gas usage in 2014 or 541 tons of CO<sub>2</sub> emission. The natural gas usage per square meter of wafer was equal to 2014.

(CO<sub>2</sub> emission is calculated by Year 2013, edition 6.0.1, management table of greenhouse gas emission factor, Environmental Protection Administration Executive Yuan R.O.C.)

## Achievement of energy saving in 2015

Energy Saving Activities	Site
Set up LED lighting: Invest NTD\$ 7,750,000, power saving: 1,738 kWh/day, annual benefit: NTD\$ 1,719,000.	FAB-3A
Optimize operating mode of VOC treatment equipments for energy saving: Power saving: 216 kWh/day, annual benefit: NTD\$ 208,000, natural gas saving: 300 M3/day, annual benefit: NTD\$ 1,576,000.	FAB-3A
Set up timer for S/B 1F AHU to control operating frequency. Invest NTD\$ 4,000, power saving: 384 kWh/day, annual benefit: NTD\$ 370,000.	FAB-3A
Set up frequency converter for exhaust fan of waste water build to control operating frequency. Invest NTD\$ 301,000, power saving: 516 kWh/day, annual benefit: NTD\$ 497,000.	FAB-3A

In 2015, power saving is equal to 2,854 kWh per day, and natural gas saving 300 M3/day, annual benefit: NTD\$ 4,162,000 or 773 tons of CO2 emission.

## On-going energy saving activities:

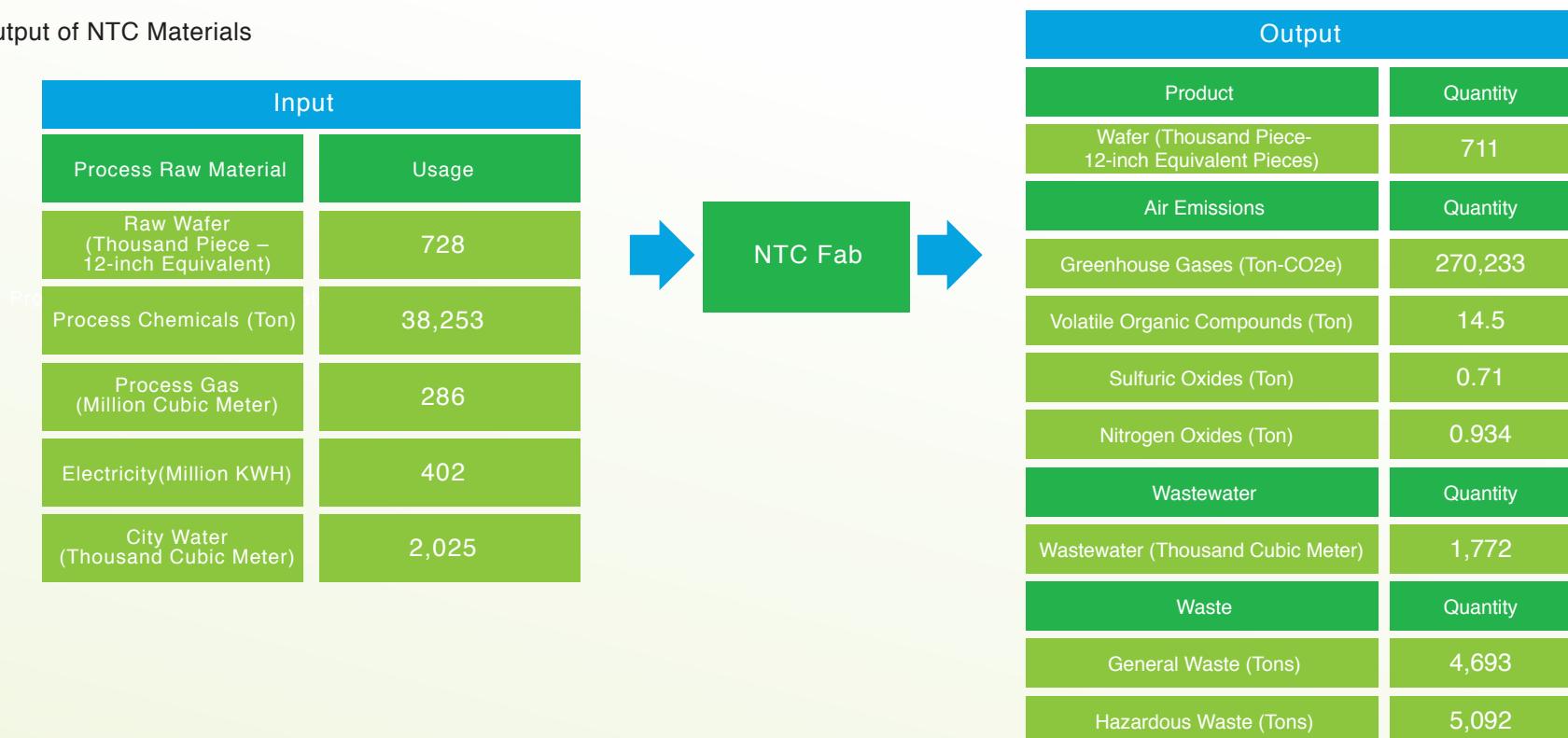
Energy Saving Activities	Site	Due Day
Sprinkler of MAU air washing unit replace sprinkle-nozzle type with ceramic board type: Invest NTD\$ 52,500,000, power saving: 9,123 kWh/day, annual benefit: NTD\$ 8,791,000.	FAB-3A	2016.10
Burner of VOC combustion furnace replace dual-fuel type with mono-fuel type: Invest NTD\$ 17,000,000, power saving: 360 kWh/day, natural gas saving: 1,944 M3/day, annual benefit: NTD\$ 10,565,000.	FAB-3A	2016.10

On-going energy saving projects are estimated power saving is equal to 9,483 kWh per day and natural gas saving is equal to 1,944 M3 per day, annual benefit: NTD\$ 19,356,000 or 3,289 tons of CO2 emission.

### 5.2.3 Usage of Raw Materials

According to the corporate values set by the founder of Formosa Plastics Group, Mr. Yongqing Wang, diligence and integrity, NTC has never wasted any raw materials for production. In addition to recycling, NTC also actively reviews the reasonableness and appropriateness of the use of raw materials in production. Simplifying the process to reduce the use of raw materials can reduce wastes and also production costs to achieve win-win situation for economy and environmental protection. The company has a dedicated organization to set a goal every year to reduce raw materials and regularly review the performance on raw materials reduction.

The Input and Output of NTC Materials



#### ◆ The Ratio of Recycled Materials Used as Production Materials

During production process, NTC uses the monitor wafer to control process conditions. Once used, those wafers can be recycled and reused for about 5 to 10 times (depending on different manufacturing process). Those wafers are recycled and reused about 70%, and the remains should be wasted and auctioned due to damaged in manufacturing process or not meeting the process used standard. This not only saves the cost of buying a new piece of monitor wafer, but also reduces the quantity of waste generation.

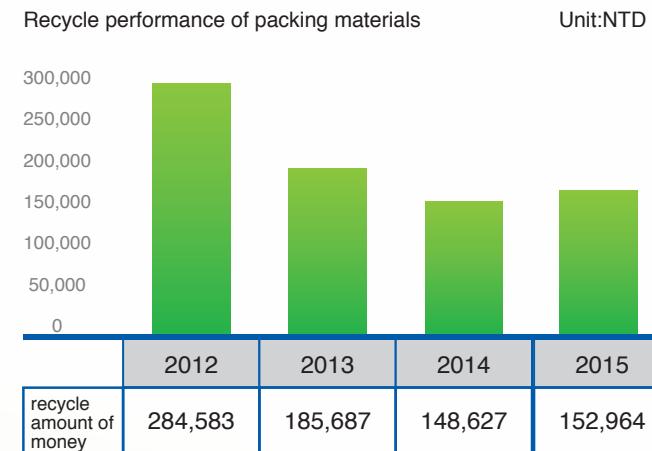
### ◆ Packing Materials Reduction

NTC uses recyclable carton and buffer as packing materials container for shipping products. These packing materials comply with EU regulations requiring lead, cadmium, mercury and chromium (VI) concentration of less than 100ppm, and also contain no polyvinylchloride (PVC).

NTC recycles packing materials from products shipped to testing and assembly facilities for reuse after cleaning.

Packing materials from raw wafers are also reused in product shipping. Our wafer shipping boxes are mostly made from reused sources. These measures have reduced both packing material consumption and waste generation. These measures reduce the use of new wafer boxes by 19,300 12-inch per year, equals to 87.2 tons of plastic.

In support of public recycling policy, the F/G Warehousing Department was devoted to the reuse of packing materials. All receiving products in warehouse have been identified, in which the recyclable packing materials will be further reused in RMA (Return Materials Authorization) replacement, storage and subcontracting not only to reduce the frequency of requisition and/or procurement but also to accomplish the purpose of recycling, reuse and minimizing packing materials. It has been helpful on saving the manufacturing cost as well. The dollar amount of savings may not be significant; nevertheless, it's quite constructive in the area of environmental protection and/or recycling. The results are shown as follows.



## 5.3 Greenhouse Gas Management

### 5.3.1 Risk Management for Climate Change

#### 1. The Legal Dimension

On July 2015, Taiwan EPA announced a GHG regulation, named "Greenhouse Gas Reduction and Management Act, to ask enterprise reduction on GHG emissions. The first step is the carbon quota distribution, carbon taxation or energy taxation among all industries. That is "Cap and Trade" and "Polluter-Pays Principle (PPP)," which will restrict factory production and expansion.

As a leading company, NTC has been conducting GHG inventory and reduction actions for many years.

#### 2. The Direct Dimension

The facilities of NTC can handle changes in extreme weather events, but energy cost may increase in Summer time. Extreme weather would also affect abnormal shipping or air transport which might be a serious risk. In addition, more and more typhoons and floods might increase the risk of employee's commuting. Thus, NTC will sustain to advocacy personnel safety, to reduce the risk for the employees that caused by extreme weather and damage.

With the reduction of natural resources, NTC might increase the cost in order to keep a large reserve of raw materials to avoid the supply affected by extreme weather.

NTC is the member of Formosa Plastics Group which is now actively promoting resources conservation activities. NTC can get more experience about resources retrenching than other companies.

#### 3. Others

Consumers require lower power consumption products due to climate change, especially, they may strongly require low power chips for longer battery re-charging duration, and NTC is continuously devoting in technology evolution. NTC devotes to the technology evolution and make our products has more competitiveness. This risk may not only be a challenge but also an opportunity to us.

### 5.3.2 Greenhouse Gas Reduction

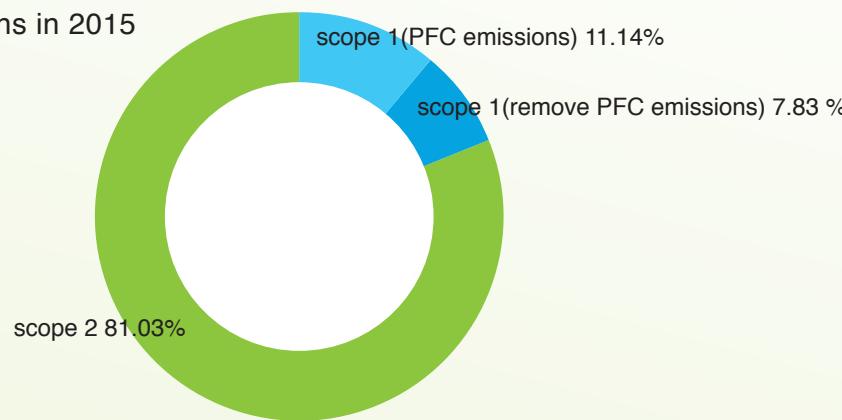
Perfluorocarbons (PFCs) and Electric power are the main sources of emissions from semiconductor factory. Electric power is necessary to factory operation, so saving energy to reduce CO<sub>2</sub> emissions is our goal but with limited success. Perfluorocarbons used in production are high Global Warming Potential (GWP) substances including Tetrafluoride (CF<sub>4</sub>), Perfluoropropane (C<sub>3</sub>F<sub>8</sub>), Hexafluoro-1,3-Butadiene (C<sub>4</sub>F<sub>6</sub>), Octafluorocyclobutane (C<sub>4</sub>F<sub>8</sub>), Trifluoromethane (CHF<sub>3</sub>), Difluoromethane (CH<sub>2</sub>F<sub>2</sub>), Sulfur Hexafluoride (SF<sub>6</sub>), and Nitrogen Trifluoride (NF<sub>3</sub>).

#### 1. Greenhouse Gas Assessment

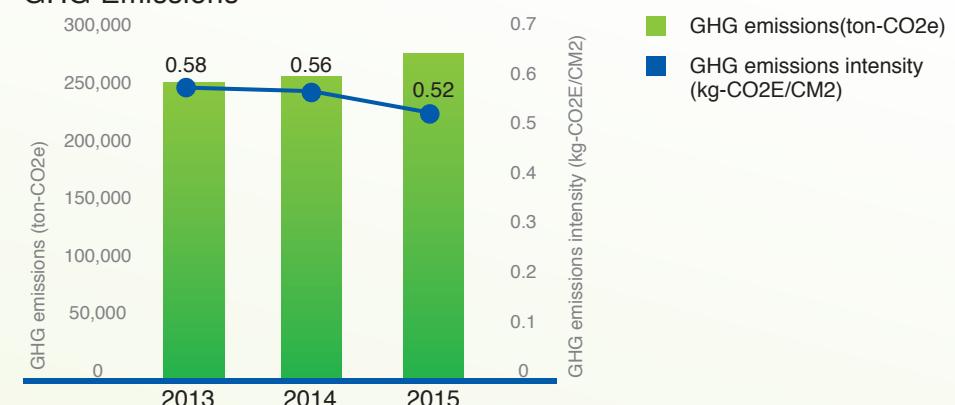
NTC is a member of Taiwan Semiconductor Industry Association (TSIA), so NTC has been participated in GHG emissions assessment and GHG reduction plan since 2005, and already got certificated with ISO 14064-1. According to ISO 14064-1, GHG emissions source can be divided into 3 scope : direct greenhouse gas emission (Scope 1), energy indirect Greenhouse gas emission (Scope 2), and other indirect greenhouse gas emission (Scope 3). NTC only calculates scope 1 and scope 2.

The main greenhouse gas emissions is from purchased electricity (82.4%) and PFCs (10.58%) used in manufacturing process. In NTC Fab-3A of Taiwan, the emissions of scope 1 are 51,261.219 tons-CO<sub>2</sub>e, scope 2 are 218,972.107 tons-CO<sub>2</sub>e, and the total emissions are 270,233.326 tons-CO<sub>2</sub>e in 2015.

GHG Emissions in 2015



GHG Emissions



\* PFC emissions including Tetrafluoride (CF<sub>4</sub>), Perfluoropropane (C<sub>3</sub>F<sub>8</sub>), Hexafluoro-1,3-Butadiene (C<sub>4</sub>F<sub>6</sub>), Octafluorocyclobutane (C<sub>4</sub>F<sub>8</sub>), Trifluoromethane (CHF<sub>3</sub>), Difluoromethane (CH<sub>2</sub>F<sub>2</sub>), Sulfur Hexafluoride (SF<sub>6</sub>), and Nitrogen Trifluoride (NF<sub>3</sub>).

\*\* Remove PFC emissions including production gas of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, non-production gas of SF<sub>6</sub>, fire extinguisher of CO<sub>2</sub>.

\*\*\* Scope 2 including Electricity usage emissions and steam usage emissions.

From 2008 to 2015, GHG emissions has been increased by 47.74% and the product output has been increased by 138.76% in NTC Fab-3A. However, GHG emissions intensity was 38.12% less from 2008 to 2015) and it was the cause of our efforts in GHG reduction.

## 2. Greenhouse Gas Reduction

Taiwan Semiconductor Industry Association (TSIA) and Taiwan Environmental Protection Administration signed the MOU to reduce PFCs emission. The commitment is all PFCs emissions intensity of all TSIA member companies need to be reduced 30% from 2010 to 2020. As a member of TSIA (the goal is 131,633 tons-CO<sub>2</sub>e below), NTC has started GHG reduction plan since 2006.

FAB-3A was constructed after 2001, so it has to reduce 95% of PFCs emission by TSIA commitments. NTC made budgets for purchasing high reduction rate local scrubber when planning for construction. NTC uses burn type scrubber in CVD and Etch process and destroys PFCs by high temperature. NTC set acceptance criteria on PFCs reduction rates (90% for CF<sub>4</sub>, 95% for CHF<sub>3</sub>, C<sub>3</sub>F<sub>8</sub>, C<sub>4</sub>F<sub>8</sub> and SF<sub>6</sub>, 99% for NF<sub>3</sub>) of local scrubber, and monitor PFCs reduction rates by FTIR after local scrubbers installed to meet the requirements of TSIA.

NTC actively promotes the voluntary reduction and join the program started by Industrial Development Bureau Ministry of Economic Affairs to reduce GHG emissions from 2011 to 2015.

The GHG reduction programs of 2015 are in section 5.2.2, that will be saved about 2854 kw/hr of electricity power and 300 m<sup>3</sup> of natural gas every day(equal to 773 tons-CO<sub>2</sub>e). Reduction programs of 2016 are in section 5.2.2, expected to decrease electricity power about 9483 kw/hr every day, and decrease natural gas usage about 1944 m<sup>3</sup> every day. (Total decrease GHG emissions are about 3289 tons-CO<sub>2</sub>e).

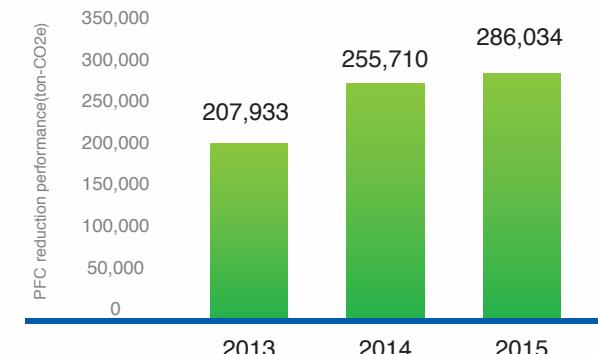
### note

1. Global Warming Potential (GWP) : A factor describing the radiation forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO<sub>2</sub>. High GWP substance means the GWP value higher than 675. (GWP value is according to IPCC 4th FAR.)
2. Emission Intensity : Carbon dioxide equivalent per unit wafer area.
3. Local Scrubber : Local exhaust treatment equipment.
4. FTIR : Fourier-Transform Infrared Spectrometer.

## 3. Carbon Disclosure Project

Our company is open to the Carbon Disclosure, and has participated in competitions of Carbon Disclosure Project (CDP) since 2009. NTC discloses information related to climate change, GHG emissions and annual GHG reduction. GHG emission includes scope 1: A reporting organization's direct GHG emissions, and scope 2: A reporting organization's emissions associated with the generation of electricity and steam purchased for consumption. Information disclosure on CDP can be found on the web site directly. (<https://www.cdpproject.net/en-US/Pages/HomePage.aspx>). Our GHG information is not only disclosed in CDP, but also in EICC (Electronic Industry Citizenship Coalition) web. In addition, NTC provides all GHG information to our customers to help to calculate Carbon Footprint.

## PFC Reduction Performance



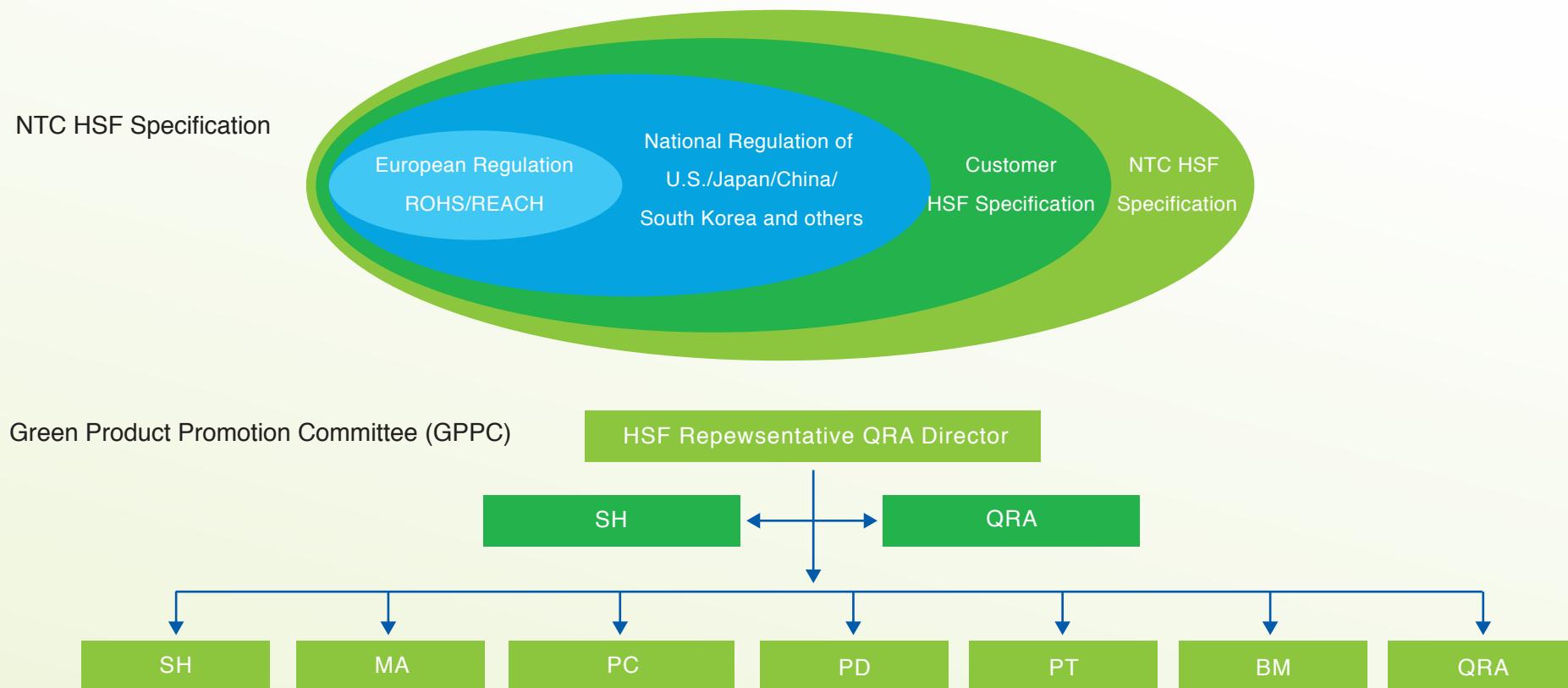
## 5.4 Eco-friendly Products

Since 2005, NTC has established the Green Product Promotion Committee (GPPC) to follow Hazardous Substances Process Management (HSPM). NTC targets pollution prevention, economization of energy sources, reduction of wastes and hazardous substance control and management, and actively connects with our suppliers and subcontractors from raw materials of processes to assembly production and packing of shipment to make an efficient supplier chain of eco-friendly products. The goal is to meet current laws and regulations and reduce environmental expenses during the production process.

### ◆ Hazardous Substance Free (HSF) Policy

NTC establishes Hazardous Substances Free policy based on general guidelines for “Environment-related to be Controlled” substances in parts and materials referenced in regulations of European and other countries, as well as HSF specification of customer request through the Green Product Promotion Committee (GPPC).

NTC focuses on raw materials and other product related materials to effectively control and meet HSF policy for Green product, in order to minimize environmental impact during production and to pursue Green Technologies that coexist with the environment.



## ■ Compliance with Current Regulations and future trends

Ensure wafer products and IC Assembly products of NTC production all comply with regulations and customer requirements on hazardous substance control through management of Hazardous Substance Free System (HAS). The directives include:

### ◆ Restriction of Hazardous Substances Directive (RoHS)

Since 2005 to comply with Hazardous Substances Free, NTC has actively followed requirements of RoHS (2002/65/EC) initially and followed revision of RoHS 2.0 (2011/65/EU) during 2011 to restriction homogeneous materials of our wafer and IC products. The requirements are: Cadmium needs less than 100ppm, Lead, Mercury, Hexavalent Chromium, PBBs and PBDEs each one substance need less than 1000 ppm

### ◆ Halogens-Free Policy

Based on specification IEC 61249-2-21 of International Electrotechnical Commission managing Halogens flame retardant, wafer and IC products need to comply Halogens-Free Policy and of:

- (1) Bromine and chloride each contain value less than 900ppm,
- (2) Bromine + Chloride total contain less than 1500ppm in the homogeneous material.

### ◆ Perfluoroctyl Sulfonate (PFOS) restriction

NTC has discontinued Perfluoroctyl Sulfonate (PFOS) in raw material of wafer processes since 2010.

### ◆ EU Registration, Evaluation, Authorization and Restriction of Chemicals (EU REACH)

EU REACH regular publishes appendix list of dangerous substances and list of Substance of Very High Concern (SVHC). NTC publishes the latest Hazardous Substance survey form to suppliers/subcontractors and record all reply for each survey.

Currently all wafer and IC products comply with request of EU REACH.

### ◆ EU Waste Electrical and Electronic Equipment Directive (WEEE)

EU Waste Electrical and Electronic Equipment Directive defines recycle ratio of Electrical and Electronic Equipment like computer, cell phone and Moveable Electronic Products.

Wafer and IC products of NTC is not related to above-mentioned Electrical and Electronic Equipment that were not applicable to WEEE directive.

Wafer and IC products are disposed to many different kinds of Electrical and Electronic Equipment and recycled by end-customer or end-provider.

### ◆ Packing material control of Product

Packing material used for product shipment all comply regulation of European Union, and homogeneous materials need to comply restrictions:

The total heavy metals (Lead, Cadmium, Mercury and Hexavalent Chromium) total sums less than 100ppm and ban PVC use in the plastic materials.

### ◆ Training of Hazardous Substance-Free

Intensify environmental protection training both internally and externally

Make requirements of HSPM and Hazardous Substance Free known through training

### ◆ Establish the Green supplier chain

Have a scoring system for suppliers of raw material and subcontractors. Test to ensure those factories to take responsibility of social conscience and have a good plan

for risk management and corporate sustainability.

### ◆ The Future of Environmental Regulation

NTC is dedicated to follow the international regulations and engaged to the activities of environmental sustainability in community. The most important environmental issues are global climate change, water resources management, eco-friendly products, pollution prevention. By following the environmental regulations and encouraging employees to contribute, NTC continues to pursue the goal of environmental sustainability.

### ◆ Hazardous Materials Management

NTC establishes guidelines for "Environment-related to be Controlled" substances in parts and materials to actively control raw materials and related sourcing material to meet directive of RoHS, REACH, Packing material and WEEE related national regulations and customer requirements, in order to achieve the goal of Green Product and reduced depletion of Earth.

### ◆ In 2015, NTC completed the following items of Hazardous Substance restriction and management (of raw materials)

1. Review RoHS ICP test report from 3 subcontractors and 37 suppliers of raw materials.

Total 403 cases, completed ratio: 100%.

2. Completed REACH SVHC new items survey (REACH SVHC v12/v19) for 2 versions of Hazardous Substances survey.

Total 84 cases, completed ratio: 100%.

3. Completed customer restriction items for 6 versions of Hazardous Substances survey.

Total 205 cases completed ratio: 100%.

## ◆ Management of Conflict Minerals-Free.

### Introduction

Conflict Minerals Report focuses on products that contain use or purchase detail for Gold, Coltan (tantalum), cassiterite, wolframite and Tantalum, Tin, Tungsten. NTC currently uses metal minerals in our products including Gold, Tantalum, Tin and Tungsten called 3TG,

It can be sourced from the Democratic Republic of the Congo ("DRC") or any adjoining countries, or metals from recycle and scrap.

NTC does not purchase raw or unprocessed minerals or any 3TG metals from smelters directly. NTC also does not purchase from illegally military organizations from the Democratic Republic of the Congo ("DRC") or any adjoining countries or anywhere in the area during conflicts. We make sure our supplier chain prevents patronizing illegally military organizations.

### Preparation

There are many grades of purchasing relationship of the supply chain between NTC and raw or unprocessed minerals. Before supply chain survey, NTC needs to check raw material of supply chain and define which suppliers provide 3TG metals and should be included in the survey.

### Investigation

The investigation is shown as below.

Build management system of supply chain.

Estimate risks of supply chain.

Regularly confirm and update CFSI notification.

Report based on survey results of supply chain.

### Investigation Procedure

Build a team to manage and plan all due diligence survey of supply chain.

Publish policy of Conflict Mineral and latest 3TG

metals survey results from supplier chain on company website

Use standard CMRT template to collect all information of smelters of supplier chain. Response rate of 100%.

Disclose completed smelter list.

Provide Conflict Minerals Report of all due diligence survey of supply chain.

### Survey results and corresponding between 3TG metals and application of NTC products

NTC as a supplier of SDRAM and according to due diligence survey of supplier chain and comparatively with qualify smelter list of CFSI, we had 52 smelters need complete CMRT report to declare sourcing of 3TG metals.

-Few items are identified from the supplier chain as follows.

-43 smelters already completed audit and certify by CFSI.

-0 smelters had sourced from Recycle or Scrap 3TG metals.

-9 smelters had legally purchased 3TG metals from DRC or any adjoining countries.

Corresponding metal applications as follows:

Metal	Application	Material
Gold (Au)	IC	Gold wire
Tantalum (Ta)	wafer	Wafer target material
Tin (Sn)	IC	Tin paste, Tin ball, Tin silk
Tungsten (W)	wafer	Wafer target material

Total number of 3TG smelters	52
In compliance with policy of Conflict-Free Minerals	49
Ratio of Supplier/subcontractor that has policy of Conflict-Free Minerals	100%
Ratio of Legally purchased 3TG metals and not sourced from DRC or any adjoining countries	94%
Ratio of Legally purchaseed 3TG metals that may be sourced from DRC or any adjoining countries	6%

### Future Measurement for Low-risk Management

NTC will follow CFSI policy and newest publication of due diligence survey of our supply chain to reduce risks in the future.

1.Continue survey of suppliers and subcontractors and to ensure information accuracy.

2.Take advantage of supplier cooperation and ask for 3TG smelters to pass through CFSI verification and certification, confirming it minerals sourcing is not a problem.

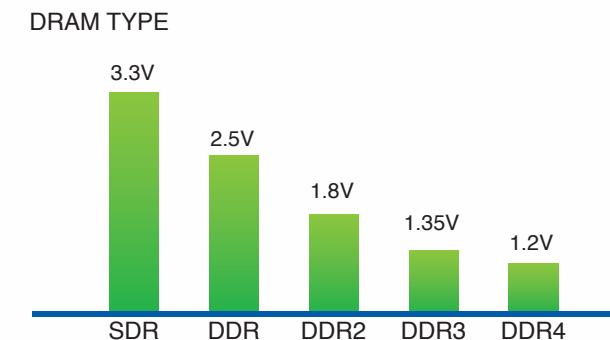
### ◆ Low Power Products Development

NTC keeps researching on manufacturing skills using advanced technology and providing more advanced, more efficient products and services. NTC not only continues to reduce power consumption per unit and pollutant resources, but also achieves the goal of low power consumption, low pollution at application phases. From different DRAM type of products in different standard interfaces, as shown in the chart below, the lower operating voltage applied, the lower power consumption presented. It approaches a linearly decline situation.

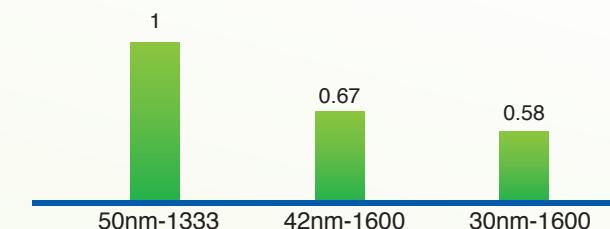
On the deep submicron technology node, the pattern pitch becomes smaller. The chip size shrinks smaller from generation to generation. The smaller geometry it designs, the less material it requires, the lower power consumption presents, the higher productivities it creates. An example is our 2G DDR3 product used in PC: in the state of computer normal use, the power consumption of the process 30 nm and 42 nm, by actual measurement, are lower than 50 nm process 40% and 22% separately.

The details are shown below:

In same area per wafer, it produces much product quantities with the advanced technology. For example, the volumes of certain density DRAM chip in 30nm are twice than the DRAM chip in 50nm. Please refer the chart below:



Power consumption comparison in different line width



In 2015, the total environmental expenditure was NT\$ 360,483 thousands and the total environmental capital expenditure was NT\$ 91,006 thousands, and the summary environmental fee was NT\$ 451,489 thousands · classified as follows:

Year	2015		
	Classification	Regularly expense	Capital expense
Enterprise operation cost		343,239	88,766
Supply chain and customer management cost		1,062	
Management activities cost		5,692	
R&D cost			
Social activities cost		2,696	
Loss and compensation cost		0	
Environmental tax and fees		114	
Safety and Hygiene cost		7,680	2,240
Subtotal		360,483	91,006
Total			451,489

The total environmental capital and regular expenditures over the years are as follows:

Year	Capital expenditure	Environmental regular expenditure	total
2012	0.55	3.88	4.43
2013	0.70	2.05	2.75
2014	0.14	4.06	4.20
2015	0.91	3.61	4.52

By conducting environmental protection activities in 2015, the benefits were as follows:

1.Cost saving from environmental plans:  
Saving energy (power) projects: 5 items completed, NT\$3,176 thousands of benefits.  
Waste reduction projects : 1 items completed, NT\$7 thousands of benefits.  
Raw materials usage reduction projects : 5 items completed, NT\$8,951 thousands of benefits.

2.Actual benefits from industrial waste recycle and reuse: NT\$20,445 thousands  
Including recycle and reuse income from waste wafer, PC monitors, Notebook, PC motherboard, battery, fluorescent tube, packing materials, paper box, metal, plastics and other waste resources.

3.With capital investments in VOCs(VOCs= volatile organic carbon) fluidized bed system and Rotor Concentrator & Thermal Oxidizer and waste effluent pollution prevention equipments on nitrate nitrogen discharge system in 2015, in order to reduce air emission pollutants and ecology impact from waste effluent discharge. There were no environmental violations in 2015.

## 5.6 New Eco-friendly Factory

The description of design on Green Architecture for New FAB(3A-N)

### ◆ The Eco-friendly Architecture Grade: Silver

#### ◆ The description of design index on green capacity.

- 1.The kinds of plants can be chosen from tree, brush or ground cover, which need to be planted on both ground areas outside the building and roof floors.
- 2.The depth of cover soils complying with the specific design requirements for tree needs to be deeper than 1.0 meter on tree, 0.5 meter on brush and 0.3 meter on ground cover.
- 3.According to the regulation of “Green Architecture Evaluation Manual” (Ver.2012), the distance between trees is 5 meters and the diameter shadow area directly under each tree is 25 square meters.
- 4.The reviewed CO<sub>2</sub> emission amount is  $\beta=300(\text{kg}/\text{m}^2)$  for each unit of green land in industrial zone.
- 5.The full-scale planting needs to be the types of primitive or bird/butterfly-inducing ones.

#### ◆ The description of design index on water-re serving for base area.

- 1.All green areas have to keep and maintain to be used as the reserve of rains.
- 2.Asphalt or other permeable substance is required materials on pavement design.
- 3.Gardening cover soils on the roof are able to reserve rains.

#### ◆ The description of design index on water resources.

- 1.Water-saving Design
  - Two-level flush toilet(with water-saving certificate)



- Sensor flush urinal(with water-saving certificate)
- Faucet(with water-saving certificate)
- Shower-style facility in bathroom

#### 2.Water-reserving Design

- To facilitate rains directly through roof drainage collectors down to the basement reservoir.
- Gardening cover soils on base area to reserve rains.

#### 3.Irrigating system design

- Setting time periods to supply daily water within different seasons by using irrigation sensor to pump water from basement reservoir.

#### ◆ The description of design index on improvement of waste water and garbage.

- 1.Waste water
  - Connecting household waste water drainage pipes to

the public sewage system.

#### 2. Garbage Disposal Design

- All foods in cafeteria are supplied by contractors along with the clearance of kitchen waste.
- Garbage classification containers, made of durable material with airtight function, are set on each office floor.
- Facilitate the efficiency of classification and disposal among different situated areas in the garbage recycling place.
- Set up green wall with hanging pot-plants outside the garbage recycling place to enhance the nice ambient view.

#### ◆ The description of design index on sound surroundings

##### 1. Outdoor Wall Design

- Metal glass curtain wall
- Metal sandwich board wall

##### 2. Window Design

- Regarding the soundproof of metal glass curtain wall, its curve grade of  $R_w$  value equals 57dB, which is bigger than 40dB.

##### 3. Floor Design

- The floors are made of two solid materials, RC and DECK/light RC, with their design thickness reaches to 18cm at least, providing the effect of soundproof.

#### ◆ The description of design index on light surroundings.

##### 1. Natural Light

- More day light in indoor space
- Glass adopt the highest pervious rate to light

##### 2. Intelligent Light

- Adopt anti-dizzy rack, flat lightshade, and similar facility in every indoor working space

#### ◆ The description of design index on indoor decoration.

##### 1. Building material design

- Use common materials on decorative design.
- Avoid the over-embellishment and a great quantity of particular decorative forms.
- Induce building materials provided with the quality of low-emission, low-pollution, recycling, and reuse.
- All building materials have to adopt the green architecture materials certificated by the Administration of Interior Affairs.

##### 2. Utilization Rate Design

- Materials used in construction site need to



meet the design code of green architecture, which the percentage for indoor area is above 45% and 10% for outdoor parts.

- Not only to pursuit the silver grade on green architecture through complying with the regulations of "Evaluation of Environment Impact", but also to improve air quality, in this project we dedicate to increase the percentage of green materials within all indoor areas to more than 75%.

#### ◆ The description of design index for employee health management

##### 1. Items of Health Management

- Mandatorily carry out leave system on employees.

- Set up a dispensary with long-stay qualified medical personnel.

- Implement leisure space and facilities for employees.
- Hold regular tours or recreational activities for employees.
- Hold regular Medicare seminars.

#### ◆ The description of design index on system of ventilation and air-interchange.

##### 1. Air-condition Space for The Whole Year

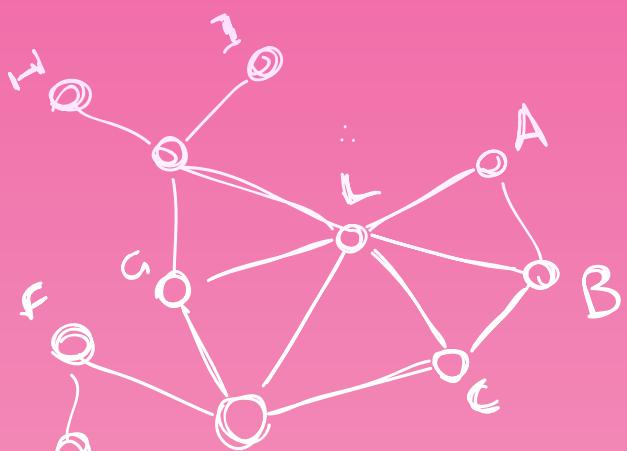
- All working spaces are equipped with fresh-air inducing systems.

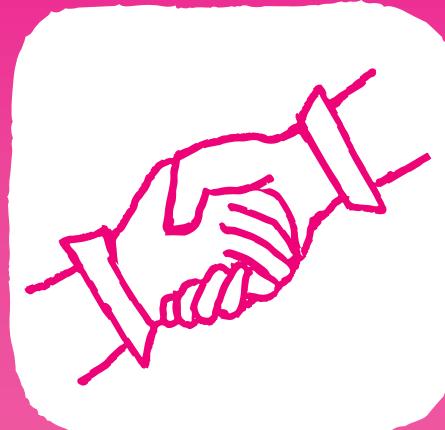


## 2015 Corporate Social Responsibility Report

### Our People

- Hiring Standards
- Compensation and Benefits
- Employee Development
- Employee Relations
- Healthy Work Environment
- Social Contribution





### No Case of Industrial Dispute



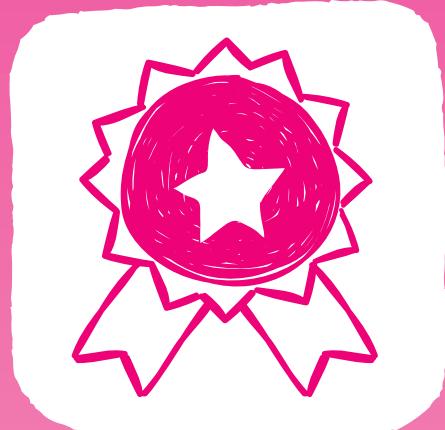
### Communication Bridge

More than 6,000 employees attend different types of internal meetings.

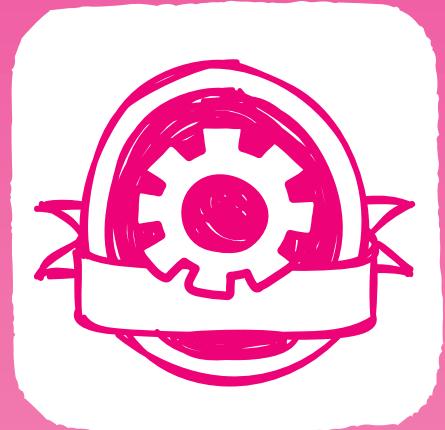


### Training Satisfaction

The average satisfaction rate of internal trainings is 5.3 out of 6 points.



### Silver Medal Is Awarded by Taiwan Training Quality System (TTQS)



### Accredited Health Workplace

NTC is accredited by Health Promotion Administration, Ministry of Health and Welfare for a health work environment.



### Employee Activities

More than 7,500 employees and their family members attend employee activities.

# Our People

## 6.1 Hiring Standards

Based on the concept of cherishing promising workers, we see esteem talents as the most important assets of NTC. Each new hires will receive complete training courses, friendly working environment and reasonable salary package. In addition, NTC also provides plenty of activities and hold leisure tour for employees to relax and balance both body and spirit in their leisure time. We believe that harmonious, healthy, cheerful and stable workforce is the cornerstone of our company's sustainable development and success.

### 6.1.1 Stable Workforce

NTC workforce is stable and healthy. In 2015, 99.21% employee is formal personnel, the informal personnel is only 0.79% of all employees, including contractual advisers, periodical contractor, and servitor etc. The male employees are 1601 and female employees are 804. The ratio of man/female employee is around 2:1 and 99.81% employees are Taiwanese. The average age of employee is 36.7 years old, 30-49 years old is the most primary workforce, which take around 80% from all employees. It's 100% employees are employed by NTC directly which means no one is hired through third party of labor agents.

Workforce		Total	Male	Female
Formal personnel		2386	1590	796
Informal personnel	Servitor	11	5	6
	Periodical contractor	8	6	2
Sum		2405	1601	804

To remain the employment obligations for labor and management parties, new hires will receive a formal notification of employment from NTC. NTC will sign a written employment agreement with new hires on his/her onboard date. The signing rate reaches 100%, it means 100% employees of NTC is protected under the agreement. All hiring conditions are going under both parties' free wills, no any compulsorily or intimidate personnel and involuntary employees are forced to work.

Semiconductor industry is not only a capital-intensive and technology-intensive business but also a highly talent-intensive business. It attracts a great deal of bachelor above degree talents to devote themselves into the field every year. NTC had 2,405 employees in total and 78% of them were professional personnel in 2015. NTC believe a healthy, stable, and developing workforce is a strong foundation for a company to develop new technology and products. The educational distribution is shown in table below:

	Category	Female		Male		Total	
		Person	% of the type	Person	% of the type	Person	% of the type
Region	Da'an Dist. of Taipei City	1	0%	0	0%	1	0.04%
	Luzhu Dist. of Taoyuan City	81	3%	227	9%	308	12.81%
	Guishan Dist. of Taoyuan City	131	5%	180	7%	311	12.93%
	Taishan Dist. of New Taipei City	591	25%	1194	50%	1785	74.22%
Age	under29 age	95	4%	303	13%	398	16.55%
	30-39 age	505	21%	822	34%	1327	55.18%
	40-49 age	190	8%	395	16%	585	24.32%
	50-59 age	14	1%	76	3%	90	3.74%
	Above 60 age	0	0%	5	0%	5	0.21%
Education	Doctor	0	0%	17	1%	17	0.71%
	Master	116	5%	616	26%	732	30.44%
	Bachelor	326	14%	815	34%	1141	47.44%
	Associate Degree	164	7%	108	4%	272	11.31%
	Senior High school degree	198	8%	42	2%	240	9.98%
	Junior High school degree	0	0%	3	0%	3	0.12%

Professional talents are mainly recruited through campus recruitment and related activities. NTC cooperates with different universities directly and looks for professional talents from them. For first-line workers, NTC collaborates with local Employment Service Station in both New Taipei and Taoyuan City to hire local residents in NTC. As NTC creates job opportunities for local residents as possible as it can, there are over 70.8% of technical assistants and 68.2% of employees working in management level live in both cities.

### 6.1.2 High-Quality and Innovative Talents Recruitment

NTC recruiting policy complies with local Labor Standards Law. In each job recruiting program, NTC follows the principles of fairness to proceed to select candidates and provide them impartial opportunities. Professional skills and technical experiences are our main recruitment focus. NTC doesn't take any special consideration when it comes to the differences of age, race, gender, sexual intention, religion, political affiliation, birthplace, marital status, appearance, and disability. Our job promotions, performance assessment, training activities and rewarding policies are clearly defined as the standard procedure. The recruiting process from selection to job assignment is conducted in a fair, justice, and public way. Therefore, everyone can get same chances to take job opportunities or attend trainings for employee development.

NTC has required a great deal of professionals and innovative talents and hosted a lot of activities for campus recruitment since the successful business transformation in 2013. In 2015, the subject of recruitment was "Your Science Dreams You Defined" and received great responses from students. There were 28 activities and forums of campus recruitment hosted in 2015. NTC encouraged those students to pursue their science dream with their infinite creativity and talent. We trust the semiconductor industry in Taiwan can go further and reaches the higher goal!

Any talents who are dignified, optimistic, reliable, innovative, active, and open-minded are candidates NTC is looking for. NTC wants to share the vision with talented people by offering good career development in order to make the world better together. In 2015, the ratio of new hires was 6% of total employees and the ratio of male/female was 113:32.

Activities of Campus Recruitment in 2015

Type	Number
Campus Recruitment Fair	10
R&D Alternative Service Forum	8
Other Campus Forum	10

Group		Female		Male		Sum		
		Person	% of the Type	Person	% of the Type	Person	% of the Type	
New hires	Region	Da'an Dist. of Taipei City	0	0%	0	0%	0	0%
		Luzhu Dist. of Taoyuan City	3	0%	6	0%	9	6%
		Guishan Dist. of Taoyuan City	9	0%	10	0%	19	13%
		Taishan Dist. of New Taipei City	20	1%	97	4%	117	81%
	Age	under 29 age	30	1%	70	3%	100	69%
		30-39 age	1	0%	35	1%	36	25%
		40-49 age	1	0%	8	0%	9	6%
		50-59 age	0	0%	0	0%	0	0%
		Above 60 age	0	0%	0	0%	0	0%
	Total		32		113		145	100%
	The ratio of new hires		1.3%		4.7%		6.0%	

In 2015, no employee acted against human rights or any discrimination affairs. NTC has never employed any child labor in the past. The youngest employee who was born in June 1955 was 20 years old. NTC complies with local laws and follows the standard of Electronic Industry Code of Conduct. In the future, NTC will still not employ any child labor who is under 16 years.

To follow government's policy to hire physically and mentally disabled person, NTC has hired 23 (male 20 , female 3 ) handicapped employees to work at NTC after evaluating internal working environment and job characteristics since it was founded. It meets the required ratio of 95.8% by the government. For the insufficient quote, NTC will continue to estimate characteristics of other possible jobs by job-redesigning and headcount-reservation to provide more suitable job opportunities as possible.

### 6.1.3 Employee Benefits

In response to external environment rapid change and technology innovation is constantly improving, the company has to conduct required staff rationalization continuously. Based on the concept of protecting the employment, even if under the most difficult business operating situation, NTC initiative consider transference than layoff directly, under a manpower integration mechanism of Formosa Plastics Group.

If there are any cases of layoff or transference, NTC would notice and report to government in accordance with Labor Standards Law and relevant laws and regulations. The manager would fully communicate with employees and continue the process accordingly. To retain dedicated employees, NTC establishes incentive program to encourage employees and the company pursuing higher goals and creating more values and profits.

The philosophy of Formosa Plastics Group is "Diligence, Frugality, and Pragmatism." Based on the philosophy of Formosa Plastics Group, NTC is dedicated to providing a good and safe working environment for employees. Employees understand our intentions and efforts, so all employees have strong trust and commitment to our management team. Therefore, the employee turnover rate is more stable than other competitors of semiconductor industry. The employment turnover rate in 2015 was around 7.7%, and the turnover ratio of male/female was 123:61.

Group		Female		Male		Sum		
		Person	% of the Type	Person	% of the Type	Person	% of the Type	
Separation From Service	Region	Da'an Dist. of Taipei City	0	0%	0	0%	0	0%
		Luzhu Dist. of Taoyuan City	9	0%	12	0%	21	11%
		Guishan Dist. of Taoyuan City	8	0%	15	1%	23	13%
		Taishan Dist. of New Taipei City	44	2%	96	4%	140	76%
	Age	under 29 age	17	1%	48	2%	65	35%
		30-39 age	38	2%	61	3%	99	54%
		40-49 age	6	0%	9	0%	15	8%
		50-59 age	0	0%	2	0%	2	1%
		Above 60 age	0	0%	0	0%	0	0%
		Retirement	0	0%	3	0%	3	2%
	Total		61		123		184	100%
	Separation ratio from Service			2.5%		5.1%		7.7%

#### **6.1.4 Industry-University Cooperative Internship**

Formosa Plastics Group is aware of the importance of education, so it contributes to fulfill its responsibility to the society. By supporting education system, Formosa Plastics Group continues to help with breeding elitism. In addition to founding schools in higher education, such as Chang Gung University, Chang Gung Institute of Technology, and Ming-Chi University of Technology, Formosa Plastics Group also make donations to rebuild the elementary schools in disaster areas. Meanwhile, in order to promote the Industry-University Cooperative Internship, NTC provides many work-study and internship opportunities during summer vacation for students. Thus, through internship process and part-time work, students can get the experiences of real business practices and learn how to apply what they learn from the school to workplace. In 2015, NTC specially supported a STP (Seed Talent Program) Internship Program to provide opportunities for excellent college students to develop their project management skills. Every STP student will rotate in several departments at NTC and was assigned with one mentor to guide and teach them how to finish the project. Except the internal enterprise education system which includes Chang Gung University, Chang Gung Institute of Technology, and Ming-Chi University of Technology, NTC also plans to work with other universities to develop any internship programs, so more and more students can understand the values of Formosa Plastic Group, Diligence and Integrity.

### **6.2 Compensation and Benefits**

In order to allow employees to feel relaxed and secure so that they may maximize their professional competency, Formosa Plastics Group has always upheld its ideal of “seeing every employee as a family member.” During the initial construction stages of every plant, NTC primarily focuses on the basic needs of employees such as, food, accommodation, and recreational facilities in consideration of employees’ long-term

welfare. As a member of Formosa Plastics Group, employees of NTC enjoy comprehensive compensation and policy benefits. NTC will also actively review our welfare policies and plan an industry-specific and competitive salary package, benefits, and facilities to meet employees’ expectation of the semiconductor industry and maximize their professional competency and create a positive corporate image.

#### **6.2.1 Compensation Overview**

In consideration of wage standards, economic situation, and supply and demand of labor market in Taiwan, NTC offers more competitive and better compensation package comparing with other companies. In the spirit of “Equal Salary for both Men and Women,” the salary ratio of male/female in similar positions is 1:1. There’s no different treatment for male and female employees when it comes to compensation. Monthly salary is paid twice per month, the issuing date is on 5th and 20th which is managed by computer scheduling system and paid through wire transfers. Thus, all employees can receive the monthly salary no later than the issuing date. NTC has never been late in paying salaries. The salary will be adjusted annually based on employees’ work performance. The salary adjustment is based on the guidelines as below.

- Level of education, professional work experiences and skills
- Competitive salary levels of the industry.
- Local economic situation and future trends.
- Supply and demand of the labor market.

NTC salary policy is offered in according to Industry Competence, Local Economy and Corporate Culture. To ensure NTC’s compensation is competitive and complies with local Labor Laws, NTC participates in local salary investigation as well as regional salary association. NTC also gives good bonus to employees when it comes to good corporate performance. The amount of bonus is decided based on each employee’s achievement and the accomplishment rate of organizational goal (or profit outcome). In 2015, our employees received incentive bonus over 4-month salaries. Besides, due to the profit gaining in 2015, our company

decided to share the profit with employees, the amount was forecasted around NTD\$ 671 million.

By providing a good compensation package with competitive salary and good benefits, NTC hopes every employee potential and increase his/her work performance without worrying about anything. The employment benefits are showed as follows.

- Competitive salary
- Year-end bonuses, three major festivals bonuses, diligence bonuses of Dragon Boat/Mid-Autumn Festivals, performance-related/ incentive bonus
- Employee bonus and Employee Stock Option Plan

The basic monthly salary of operational workers is NTD 23,520 which is 17% more than the minimum basic salary of Labor Standards Act, NTD 20,008. The basic salary for employees with a engineering bachelor degree is NTD 34,620, 73% more than the minimum basic salary of Labor Standards Act. The salary standard is the same for all offices of NTC in Taiwan. To sum up, the overall salary and benefits provided by NTC is competitive, employees can get good benefits and enjoy using all facilities under a healthy and safe work environment. To avoid overtime in workplace, NTC follows the Labor Standard Act.

Furthermore, NTC creates a good parental leave system for employees. Employees can apply parental leave to take care of their newborn babies, so they can balance work and family life properly. Meanwhile, employees don’t need to give up their jobs and worry about financial problem. NTC believes that providing good benefits is not only the incentive for employees but also a way to fulfill corporate social responsibilities and contribute to the society. In 2015, there were 38 employees including 34 females and 4 males applying parental leave. The rate of reinstatement rate after parental leave was 39.1%.

## The numbers of Unpaid Parental Leave and The Rate of Reinstatement

Year	2015		
	Female	Male	Total
Actual Applications for Unpaid Parental Leave(A)	34	4	38
Employee Reinstatement in Current Year(B)	20	3	23
Reinstatement Applications in Current Year (B/A)	9	0	9
Reinstatement Rate %	45.0%	0.0%	39.1%

Note: "Retention rate" indicates the rate of employees who take unpaid parental leave and retained after more than one year of retention. As the data of unpaid leave was provided from 2015, so the retention rate wasn't disclosed. It will be disclosed on 2016 CSR report.

### 6.2.2 Comprehensive Employee Benefits

Based on the concept of cherishing dedicated employees, NTC sees employees as our family members. Each office has its welfare facilities, such as cafeteria, dormitory, shuttle bus service, parking lot, and etc. The cafeteria is a comfortable environment and provides employees a lot of choices. The dormitory which is clean and safe is offered not only for employees but also their family members. The parking lot provides enough parking spaces and the shuttle bus runs different routes. In addition, NTC sets up various stores and provide different services for employees, such us 7-11 convenient stores, Cafe, fruit shops, medical shops, health insurance, bank, phone and travel information desk, and etc. The overall benefits is listed as follows.

#### • Leave Benefits

A. Provide employees to apply different types of leave, such as annual leave, marriage leave, funeral leave, official leave, government affairs, on duty leave ,

childbirth companion leave, childbirth leave, illness leave, menstruation leave, family care leave, epidemic prevention leave, family reunion leave, and etc.

B. Among different types of leave from point A, the payment for funeral leave and typhoon leave are better than the requirements of Labor Standard Act.

#### • Insurance Benefits

A. Labor and National Health Insurance for all employees.  
B. Group insurance for all employees by Employees Welfare Committee.

C. NTC collaborates with the Insurance agent and provides a variety of premium insurance package for employees to choose the one which meets their situation best.

#### • Wedding and Funeral Benefits

A. In case of any employees or their family members get married, injured, or die, the pension or gifts will be given directly from the company. Besides, the company also subsidizes all levels of manager when it comes to wedding or funeral.

B. The nursing room has set up for many years and provides employees a comfortable environment to pump milk while working.

C. By providing nursing leave in accordance with the law, employees who meet the prerequisite can apply to adjust his/her work hours if they need to take care of their children.

#### • Health Care Benefits

A. NTC provides better regular health check and free physical examination.

B. Offers special discount for medical expenses at Chang Gung Memorial Hospital. Also, employees can also get discount if they do the health examination at Chang-Gung Memorial Hospital.

C. The fitness and recreation area is set up at all offices.

D. Health Information is published on irregular basis. NTC also holds health training forum at each office.

E. There are nurses and health personnel providing medical consulting services and hosting health related activities irregularly.

• Retirement Benefits: in accordance with Taiwanese Labor Standards Law, NTC allots funds from legal rate of the salary each month and deposit the pension reserve into the financial organization designated by the government organization, in order to pay the pension to qualified retired employee. NTC will also buy gifts for employees.

#### • Basic Benefits

A. Gift cards for birthdays and national holidays/ subsidy for year-end dinner party.

B. Employee Welfare Committee plans a series of cultural and sport activities every year and provides scholarship and maternity grant for employees and their children.

C. The cafeteria provides a lot of choices for dining and the dormitory provides employees and their family members with discount prices.

D. The parking lot and shuttle bus with various routes are provided. Employee parking and multiple routes of shuttle bus.

### •Dining Services

A. Multiple food choices and subsidy are provided.

B. Special meal choices are provided for special holidays and additional dishes are offered for Chinese New Year to appreciate employees' dedication.

### •Employee Relations Development

A. Year-end party and lucky draw activities are hosted every year.

B. Employee Benefits Committee hosts different activities to maintain good relationship with all employees, such as corporate family day, movie night, and sports activities.

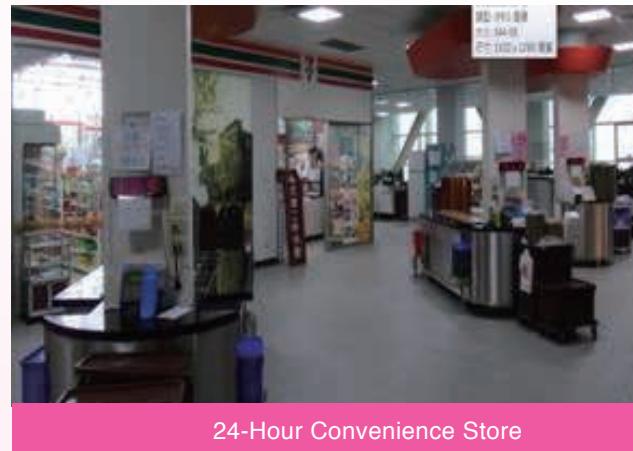
### •Safety and Family Care

A. Providing a better compensation than the law required to employee who dies on duty. For those employees who die not for business purpose, NTC also provides a better compensation. For example, NTC would offer at least 6 months average wages consolation.

B. Bereavement pay than laws requirements, the Company will pay additional pension for the condition if employee's death.



Café



24-Hour Convenience Store



Clean Dormitory

### 6.2.3 Overall Performance Evaluation and Development

The purpose of performance evaluation is to continuously improve employees' performance in order to reach their full potentials. NTC provides not only a high-quality learning environment but also a well-designed performance evaluation to strengthen the communication between supervisors and employees. Except the regular annual performance appraisal, the supervisor has to evaluate employees' performance quarterly. NTC believes a good communication between supervisors and employees can let the employees get the immediate assistance and improve the work performance when it's necessary.

The evaluation step is through a face to face interview that supervisors and employees will discuss about organizational goal, breakdown it into working goal, and give employees feedback to improve their work performance. For employees who are with good performance, supervisors will reward them orally. For employees who are with bad performance, supervisors will try to communicate and provide help until the performance is improved no matter they are males or females. The tool for performance evaluation NTC executed annual performance evaluation. In 2015, NTC takes 180 and 360 degrees of feedback as performance measurement tool to give useful suggestions to top management level to develop them. Therefore, the performance development to all level talent in NTC is highly emphasis, and we have different kind talent development tools to assist our employee raising their performance.

## 6.3 Employee Development

Through various benefits, NTC plans to establish and maintain a positive relationship with employees in order to grow and learn together.

### 6.3.1 Communication Channels

Having smooth communication between employees and managers is important to promote harmonious employee relations and reduce disputes in workplace. NTC treats employees with fairness and respects their rights, including the freedom of participating or representing in associations, trade unions, and the Employee Welfare Committee. Therefore, without the fears of reprisal, intimidation or harassment, employees can express their opinions about issues they concern directly regarding working conditions, salary, benefits, and etc.

The communication channels are shown as follows.

- Regular Meeting (public affairs): lunch meeting (every two weeks), all hands meeting (quarterly)/ new employee forum (quarterly), and quarterly TA meeting of production division. Over 6,000 members were estimated to have participated in these meetings in 2015. Every question and answer presented in the communication meeting will be listed in the meeting minutes and reported to the relevant department for further response. Meanwhile, the completed results will also be announced on the website.
- Employee complaint hotline: Human Resources offers a hotline for employees to call regarding salary, benefits, employee relations, and sexual harassment.
- Setting up an employee suggestion box and creating an email for employees to communicate with the company. There is a designated person processing and replying. There was no case processed in 2015.
- Employees can make recommendations to the company through the Labor Conference and Employee Welfare Committee. Meanwhile, the company will send a representative to attend the meetings to make comments.
- Internal newsletter(Wafer World)
- A website for employees to post and share information (Living Field)
- Survey: including satisfaction on courses, dining services, and activities.
- Staff can make suggestion through the Feedback Form of Management System ".
- Employees can share their innovative ideas with the company through Corporate Innovation Platform of Formosa Plastics Group.



Employee suggestion box

### 6.3.2 Employee Relations

To maintain a harmonious relationship with employees, promote company development, and improve employee benefits, NTC Labor Unions has been established since April 2012. The rate of employee participation in labor unions was 1% in 2015 and the board meeting was held on a regular basis. Inza the policy of encouraging employees to join organization, NTC doesn't participate in Labor Unions operation or has any influences on the member list. It allows union members o communicate with each other. A regular executive meeting is held by the employer and labor representatives monthly to discuss labor issues and reach a consensus resolution. Through a consensus reached by high-level executives and labor unions, the company and labor union can communicate according to "Labor Conference Implementation Rules." In the meeting, basic labor subjects like health and safety are not our concerns because Formosa Plastics Group usually focuses on the environmental and safety issues of the workplace.

NTC respects employees' rights and doesn't violate any government regulations. There was no dispute case occurred in 2015 which showed NTC cared and concerned about our employees.

### 6.3.3 Employee Welfare Committee

NTC makes every effort to maintain good and harmonious relationships with employees, so every employee is capable of making recommendations and communication to the company through regular meetings of Employee Welfare Committee and Labor Conference which is established in accordance with the laws. Employee Welfare Committee provides various benefits and hosts activities to motivate employees, actuate the team spirit, and relieve pressure for all employees. Employee Welfare Committee is constituted of 9 members, including one member who is appointed by the company and the other 8 elected from various departments. A chairman is voted by the Committee to be in charge of the administration system.

To encourage employees who want to achieve their common goals with their own ideals or interests, Employee Welfare Committee eagerly helps them to establish effective organization by setting up clubs, enhancing the quality of life for individuals and groups. There are total 22 clubs now and each club receives the subsidy of NTD 30,000. The funding of the Employee Welfare Committee comes from contribution of the company's subsidy, staff salary, and other income. Employee Welfare Committee received NTD 29 million in 2015 and it was mainly used for travel activities, holiday gifts, birthday gift certificates, scholarship, group insurance, recreational activities, and maternity and hospital subsidies. The summary of welfare activities in 2015 is showed as follows.

Corporate activities: Year-end party, Super Running, Movie Carnival, Baseball Day, NTC Beach Cleanup, and Corporate Family Day. More than 7,500 employees and their family members attended these events in 2015.



2015 Super Running



2015 Baseball Day

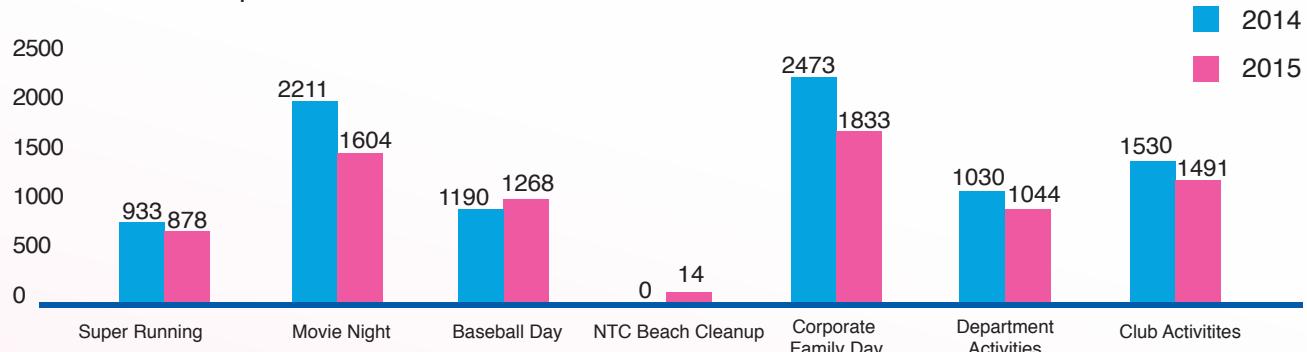


2015 Corporate Family Day



2015 NTC Beach Cleanup

## Number of Participants in 2015



**Sports Activities:** NTC, Formosa Plastics Group, and Hwa-Ya Technology Park plan different sport activities, such as basketball, badminton, swimming, table tennis, volleyball, tug of war, dodge ball, and track and field. In addition, to encouraging employee participation, NTC funds the training for participants in order to encourage them to join and perform. In 2015, NTC won the second place of basketball competition which was organized by the Administration of Hwa-Ya Scientific Park .

- **Club Activities:** 49 sessions of club activities were subsidized by NTC in 2015, such as mother club, jogging club, basketball club, ping-pong club, badminton club, softball club, climbing club, camping club, and etc. There were more than 1,490 employees participated in those activities last year.
- **Outdoor and Travel Activities:** NTC makes efforts to enhance interaction between managers and employees through recreational activities and upgrade the cohesion within departments. More than 1,040 employees participated in these activities in 2015. In addition, NTC also hold activities for unmarried employees with other companies in order to expand employees' social network outside work.



Jogging Club- Tai Shan Training



Biking Club –Mountain Route Challenge



Child Care Club- Environmental Education Field Trip



Men's Basketball



Camping Club



Handmade Happy Fun Community-Hat



- Gym/ Fitness Center: NTC builds a comprehensive hall which has KTV, billiards room, basketball court, badminton court, billiards room, aerobics room, and sports equipment located in Nankan, Linkou and Taishan for employees to exercise after work. • There are blind massage therapists coming to the office in Nankan, Linkou, and Taisha to provide massage services and help employees for stress relief.
- On-site Vendor Service: on-site vendors include insurance companies, banks, security firms, law firms, and travel agents.
- All employees are covered with the group insurance, including life insurance, accident insurance, injury medical insurance, critical illness insurance, hospital care, cancer insurance, and etc.

#### 6.3.4 Training System

The development of consumer and low power DRAM products are the main focus for NTC. To enhance and ensure product quality and development, employees' training and development are essential. In accordance with the company's transformation to development of consuming memory products, a sustainable training system can provide professional knowledge and skills to employees and become a crucial key for employee development. Therefore, besides the basic orientation, training, and MA program, NTC prepares selective, mandatory and certificate d courses corresponding to various job levels and capabilities. In addition, NTC has developed a Structured On the Job Training (S-OJT) computer system since 2005, Training Management System (TMS), Employee Qualification Management System (EQMS), TA certification system which is used for inventory check of core skills for different job functions and established corresponding profession training courses, which has benefited senior technical employees' engineering skills and improved the overall quality of labor.

In 2015, NTC held 1,524hours and 752 classes with total 13,099 participants and 26,680 training hours. The average training hours for male and female workers

were 12.4 hours and 8.5 hours, respectively. To use internal on-Job-Training (OJT) effectively, NTC has developed a Knowledge Material (KM) internet platform since 2011 and formed an OJT material manage system. In 2014, KM platform was upgraded to Smart-KM and created a more efficient systematic procedure for material renewal. In the end of 2015, the total number of teaching materials reached 934 cases.

In order to promote continuous education and extensive use of external learning resources, NTC has started an industry-university cooperation project with Ming Chi University of Technology and Chang Gung University since 2000. NTC also provides administrative resources to encourage employees to pursue further education. The number of employees obtaining junior college, university and master (above) degrees are up to 201, 369 and 105 respectively, for a total of 675 people.

#### 6.3.5 Employee Training System and Plan

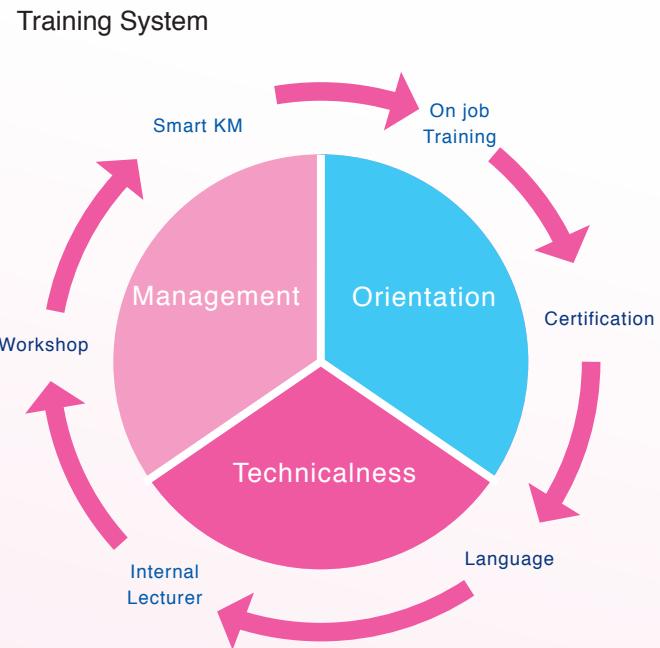
To provide higher quality and more effective employee training system, NTC has followed Taiwan Training Quality System (TTQS) which is a certification program promoted by Workforce Development Agency since 2008and won second place with silver medal in 2011. The practical courses for TTQS received effective feedback from our employees for trainings which include new employee training, general courses, competence training, supervisor training, internal lecturer workshop, direct employees training, and etc. The average rate of satisfaction in 2015 for each course was 5.45 out of 6 points. "Formosa Plastics Group E-learning center web sites" and "Nanya Technology Corporation Knowledge Management system" are also established to enrich competence training system and to promote knowledge of creativity and connection within internal departments. Meanwhile, employees can search courses and articles in each professional field through internal website. The new publish ebooks, lectures, specialized technology and creativity community discussion are provided on the website as well in order for employees to learn. Trainings offered by NTC are showed as follows.



NTC employees attended on-job education program



MA Program



#### • Orientation

New employees will receive a series of comprehensive and high-quality training courses once they join NTC in order to better understand semiconductor industry and the company. Department Directors and trainers will guide new employees with training plan to help them adopt new environment. New employees are required to complete at least 29 hours of basic training. In 2015, 45 new employees passed the training assessments and completed basic training courses.

#### • General Training

The general training courses are mainly organized to comply with the relevant laws and regulations that are required by government. Also, the training is offered to help employees understand customer needs, product quality requirement, and the direction of corporate strategies.

#### • Job Training

The company provides on-job training system that includes compulsory courses and one-to-one mentorship for professional development.

#### • Technical Assistant Training

NTC provides preliminary training to enhance technical assistants' (TAs) professional skills and machine operation capability in order to obtain certifications to operate equipments. NTC also provides a trainer system to encourage TAs trainer to facilitate TAs to adapt into the clean room environment sooner for production and to strengthen the company's centripetal force.

#### • Supervisor Training

With the company's policy to enhance the ability of leadership for staffs, NTC hosts job-level training which covers basic training of management, leadership practice, financial, performance management, introduction of labor laws, and administrative efficiency. Those who have the potential qualification for 1st and 2nd level managers can also participate in advanced management courses according to their professions and job functions in order to upgrade all promising managers' leadership with personnel or tasks to a better achievement.

Training Photos



OJ Training for Technical Assistant

Workshop Photos



Workshop for Top Management

#### • Internal Speaker Training

NTC obtains internal knowledge and coaching capability through internal speaker training. NTC has certified 58 new internal speakers and total of 707 courses until last year. To appreciate and promote internal speakers for continued contribution and improvement for the internal training courses, NTC held an annual ceremony on Teacher's Day and selected top 22 speakers of the year.



Ceremony for Outstanding Speakers

### 6.3.6 Diverse Learning Process

In order to promote employees' global perspective and strengthen the capacity of foreign language, NTC creates a "Language Learning Allowance Program" to cooperate with external professional language training organizations to increase colleagues' TOEIC score. A diverse range of English language training courses are provided through physical and online courses. In addition, employees can take language courses in neighborhood area where they can apply for allowance from the company and encourage them to pass the TOEIC test based on the requirement for his/her position. In 2014, the company purchased a simulation TOEIC test system for employees to practice for the exam.

In addition, NTC develops a professional certification system, shift training program and project assignment for employees to enhance professionalism. Besides all the listed courses, NTC also constituted and operated an e-learning environment to complete 584 E-Learning courses by the end of 2015. The implementation of E-Learning makes knowledge transfer flow and the way of learning beyond the limit of time and space among all departments in our company. NTC is committed to develop new products and continues to enhance the value of goods by providing various training programs and encouraging colleagues to attend external training courses for professional skills development access to all work-related licenses. In 2015, 89 employees attended the external training.

- Learning Effectiveness Enhancement

In addition to set a clear learning objective, NTC pays high attention to post-training tracking and feedback mechanism



through tests, assignments, action plans, and online practice to strengthen employees' learning outcomes. NTC has received satisfaction rate of annual training 5 out of 6 points (6 points total) for three consecutive years. NTC continues to strengthen the link between our goals and training needs to improve and enhance the effectiveness of the courses. NTC hopes to access significant and quantifiable results from the effectiveness and structure of training courses.

### 6.3.7 Care Program

In collaboration with the medical team of Chang Gung Memorial Hospital, NTC provides all employees with annual health checks and continuously tracks those whose medical report appears to be abnormal. NTC sets a clinic and arranges physicians to providing consulting services at each office. At last, NTC holds quarterly seminars or related courses for employees as well.

#### Prevention advocacy

- Measures announced in response to the influenza virus
- Put up large posters to advocate the concept of prevention
- Self-health management notes issued

#### Prevention

- Communications and medical control, drills.
- Management of disease prevention for vendors and visitors

## • Employee Health Care

Besides in accordance with laws for employees' health examination, each plant hosts a health center for employees to enjoy initial treatment and preventive care diagnosis and treatment of injuries, weight management, smoking cessation counseling and other health promotion programs. Chang Gung Memorial Hospital within the enterprise system acts as back-up by providing medical center level medical and health services, to further promote preventive medicine and disease prevention in order to protect employees' health.

- Regular health exams beyond law requirement, providing additional  $\alpha$ -fetoprotein, carcinoembryonic antigen test, oral cancer screening, three cancer screening programs and a healthy waist measurement test, etc.
- Employees and their families to Chang Gung Memorial Hospital for medical assistance, non-deductible health insurance payment to enjoy discounts; discounts on other health exams.
- Vietnamese workers stationed in the mainland and overseas health exams, inspection, and provide staff stationed Medicaid.
- Regular employee health information and health education seminars organized on women's health, professional nurses provided in the factory area for babysitting and consultation for pregnant women. In addition, intimate setting mom room in the plant with exclusive cupboards, refrigerator and food, to provide breast milk collection and a quiet and comfortable environment.
- The Plan and Result of Health Improvement in 2015

自我健康管理須知			
日期	上午	下午	行程紀錄
第一日	____度	____度	
第二日	____度	____度	
第三日	____度	____度	
第四日	____度	____度	
第五日	____度	____度	
第六日	____度	____度	
第七日	____度	____度	
第八日	____度	____度	
第九日	____度	____度	
第十日	____度	____度	



## The Plan of Health Improvement in 2015

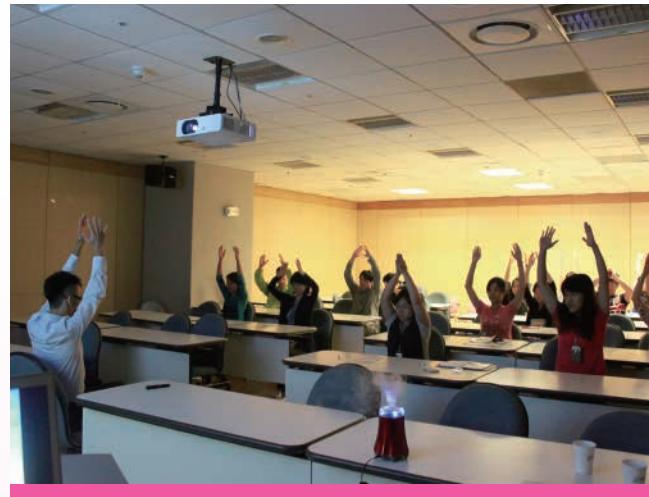
主題	季別	健康促進內容	項目別	時間	預估人數	講師	資源
健康生活	第一季	講座：上班族職場壓力	講座	2月	25人	專業講師	張老師
		活動：捐血活動	活動	3月	90人	台北捐血中心	台北捐血中心
舒筋展骨	第二季	講座：上班族常見症狀 (肩頸痛 / 下背痛)"	講座	4月	30人	長庚醫院	長庚醫院
關心自己	第三季	活動：有氧活動	活動	6月	30人	羅依嵐	董氏基金會
		體檢：年度員工體檢	活動	5月	600人	長庚醫院	長庚醫院
		講座：心血管疾病	講座	7月	25人	專科醫師	怡仁醫院
		活動：心電圖檢測	活動	8月	30人	檢驗師	怡仁醫院
		活動：子宮頸抹片/ 免費癌症篩檢活動"	活動	9月	30人	衛生所	泰山鄉衛生所
寶貝自己	第四季	活動：捐血活動	活動	11月	85人	台北捐血中心	台北捐血中心
		講座：健檢後說明會	講座	12月	20人	長庚醫師	長庚醫院

## The Result of Health Improvement in 2015

主題	季別	健康促進內容	項目別	廠區	時間	人數	講師	資源
健康生活	第一季	捐血活動	活動	三廠	2月12日	84人/131袋	台北捐血中心	台北捐血中心
		誰偷走我們的健康	講座	三廠	3月10日	26人	博仁醫院	郭聰宏 主任
		心靈 SPA - 談情緒能量調節 與內觀舒活減壓	講座	二廠	3月18日	15人	心靈之美心理治療所	張艾如 院長
			講座	三廠	3月25日	30人		
舒筋展骨	第二季	香氛舒壓之旅	講座	二廠	4月28日	12人	中華亞太香氛精油樂活協會	黃彥凱 理事長
			講座	三廠	4月21日	38人		
		年度員工體檢	體檢	一廠	5月22日	122人	長庚醫院	長庚醫院
			體檢	二廠	5月29日	131人	長庚醫院	長庚醫院
			體檢	三廠	6/2.3	731人	長庚醫院	長庚醫院
		氣卦脈輪坐式瑜珈	活動	二廠	6月24日	18人	中華亞太香氛精油樂活協會	黃彥凱 理事長
			活動	三廠	6月23日	30人		
關心自己	第三季	iLOVE 美好人生推廣	講座	二廠	8月12日	48人(含華科)	桃園家扶中心	謝繼仁 講師
		子宮頸抹片檢查	活動	三廠	9月15日	41人	衛生所	泰山鄉衛生所
寶貝自己	第四季	活動：捐血活動	活動	三廠	11月12日	100人/155袋	台北捐血中心	台北捐血中心
		健康促進講座	講座	三廠	12月23日	20人	耀獅藥局	專業講師



Fragrance Class for Stress Relief



Qi Gong Yoga



Pap Smear



iLOVE- Enjoy Life Lecture



Blood Donation



## 6.4 Employee Relations

With the important impact of Labor and Ethic Management for labor care and corporate sustainability, NTC establishes Labor and Ethic policy and management system according to Electronic Industry Code of Conduct (EICC) to ensure internal management system and practices can compliance with International labor standards and local relevant laws. The Director of Human Resources is the representative of the system and evaluates the potential labor and ethic risk and audit the internal daily practice of all functions of organization per the Policy.

### 6.4.1 Code of Conduct

The Code of Conduct of NTC is referred to the foundation of SA8000 (social responsibility standard) and EICC (Electronic Industry Code of Conduct). The Code of Conduct is the highest guiding principle of Labor & Ethic management system operation. Every business operation of all scope organization should follow the Policy to set up a full and valid management system, and ensure the system to carry out indeed. Being one of the good society citizens, NTC promises to:

- 1.Respect employees' rights and work towards the vision with integrity In order to pursue corporate sustainability.
- 2.Establish the Code of Conduct to ensure that all of our business activities must fully operate under the Labor & Ethic provisions of Electronic Industry Code of Conduct (EICC), the Standards of SA8000, government laws of labor, and business ethic.
- 3.Implement the Code of Conduct, regularly review the operational status and continue to improve the governance system and reach higher level.

### 6.4.2 EICC VAP Certification

NTC treats every employee with fairness and respect and offers same work opportunity for both job-seekers

and employees. There is no discrimination towards employees when it comes to job promotions, performance assessment, training activities due to race, color, age, sex, sexual orientation, race, handicap, pregnancy, belief, political affiliation, association members, and marital status. Therefore, Reinstatement Rates for Parental Leave and unpaid leave is high.

All recruiting process no matter the candidates from inside or outside of the company, from selection to job assignment are conducted through the way of fairness and voluntary. No compulsive workers, illegal immigrant or slaves, every employee is working with their free will. NTC provides human rights training to employee every year. The training completion rate has reached 100% in 2015. Meanwhile, NTC also provides sexual harassment prevention training as well as human right training to help employee understand, distinguish, and prevent the suffering of sexual harassment. If there are any complaints regarding gender or racial discrimination, employees can report directly based on NTC employee complaint procedure which will be processed fairly and confidentially. There was no case of sexual or racial discrimination reported in 2015.

Every labor condition of NTC is in compliance with local laws and relevant regulations. Employee handbook is officially approved under the jurisdiction of Taoyuan City Government and the handbook is posted on NTC website. Any information related to employees' interests will be announced within legal time restriction and inform employee in advance. With nearly 2,405 employees, NTC makes every effort to solve occasional labor disputes in a harmonious way based on the principle of labor caring and fairness.

To protect human rights, NTC asks our suppliers to commit to EICC code of conduct, including respect for human rights, avoidance to hire child labor and involuntary labor, human trafficking or slavery. After checking supplier's daily practices, NTC doesn't find any items against human rights. Totally,

NTC is evaluated to be the lowest risk for Labor and Ethic management system in 2015. To verify the system, NTC applied EICC VAP and was audited on January 8, 2015, and received a positive audit results feedback on September 11, 2015.

**EICC**  
ELECTRONIC INDUSTRY CITIZENSHIP COALITION

**EICC CONFIDENTIAL – EICC Internal use ONLY**

The EICC Information below is strictly confidential and subject to Agreement on Exchange of Confidential Informa (ACE).

The EICC VA Protocol can only be used by EICC Qualified Audit Firms and EICC VAP auditors.

The EICC VA Protocol is strictly internal to EICC and cannot be used by any organization for any purpose other than EICC recognized Audit Program.

Important Notice		Audit Information	
Company Name	Nanya Technology Corporation	Auditee Name	
Auditee / Facility name	FAS SA, Nanya Technology Corp.	Address	Unkown
Auditee / Legal name		Address	No.92, Hsin-Ling Rd., New Taipei City 240 New Taipei City Taiwan
Country		Facility Manager	
Email		Audit Reference Number	VA820141012-TWN-1A1
Telephone		Start Date	08/01/15
		Close Date	11/09/15 07:35:44 am
		Audit Type	Third Party
		Audit Firm	TUV-Rheinland
		Auditor Name / First Name	Winton
		Auditor Email	winton.tau@tuv.com.tw
		Auditor Tel	
Certification Description and Number Issued by Certificate Issued On/Certificate Valid Until			
Certifications	Labor	ISO14001:2004 (No.:TWN09202012)	LRQA 01/11/14 01/10/16
	Ethics	ISO14001:2004 (No.:TWN09202012)	LRQA 01/11/14 01/10/16
	Environment	0HAG21D2001:2007 (No.:TWN06002011)	LRQA 01/11/14 01/10/16
	Health & Safety		
	Others		
Supporting services	Labor		
	Ethics		
	Environment		
	Health & Safety		
	Labor agent / contractor		
	Others		
Process and summary: Legal Nonconformance Risks	List of Legal Nonconformance Risks: A4.1: Pre-work meeting is not included in paid working time (>10 minutes); A4.2: Isolated violation of daily and monthly overtime hour limit; B1.2: The facility does not submit periodic High/Low Electricity Facilities Report to the local authorities and local electricity company.		
Process and summary: Management attitude	The interview process is conducted with the management and the general workers. Workers interviews are conducted in either individual or group confidential manner. In production offices or isolated areas, 6 groups and 22 individual total 32 workers interviews are conducted. All interviewed workers are chosen by auditors without the influence from the management. Workers show cooperative attitude during the interview.		
Process and summary: Worker attitude			
Process and summary: Process Integrity			
Process and summary: Closing meeting	The close meeting hold on 17:00 pm 8 January, 2015 Mr. Lin-Chin SU / Assistant Vice President Mr. Wesley W.H. CHANG / Assistant Vice President Ms. Bee CHOU / Director Mr. David LIN / Project manager Ms. Joyce LIN / Senior Administrator Ms. Mandy YANG / Administrator Mr. Crep FU / Project manager Mr. Chia-Ti YU / Department manager Mr. Yao-Hsiang KUNG / Deputy manager Mr. Hong-Fun CHOU / Chief Engineer as management join the close meeting. The audit findings have been reviewed with and agreed by the management during the closing meeting.		
Process and summary: Exception management	nil		
	The audit is performed by TUV Rheinland on 8-9 January, 2015, against the requirements of the Electronic Industry Code of Conduct, relevant local rules and regulations, national legislation. The duration was 4 days.		

**EICC VAR報告書**

## 6.5 Healthy Work Environment

### 6.5.1 Safety and Health Management

NTC promotes the OHSAS18001 and TOSHMS management system and identifies activities with high-risk in order to execute PDCA for improvement. First of all, NTC identifies if there's any unsafe or dangerous acts in workplace which would harm employees or put them in dangerous through the record of inspection, safety list, record of accidents, safety analysis, observation, interview, standard procedure, instruction manual, record of maintenance, etc. Next, NTC proceeds to do an assessment with the inspection. For the employee who is or may be exposed to dangerous workplace, NTC investigate if its equipment management and procedures are adopted by the regulations. And then NTC can handle the situation, improve the high-risk items of the procedure, and create a safer workplace for all employees. At last, NTC can develop the strategies and better management system to prevent occupational hazards. NTC already completed the certifications of OHSAS18001 (2007) and TOSHMS. Therefore, NTC is able to come up with solutions based on the types of occupational hazard.

NTC promote process safety management (PSM) with Formosa Risk Center to identify potential equipment risk at PHA meeting every week. NTC conducts abnormal safety events by analysis and control of improvement, as the cross-section audit approach to improve the environment (5S) and mistake during PM. NTC also promotes SWAT to enhance employee safety awareness and reducing the potential job hazards. Work environment monitoring is held twice a year, including environment concentration of harmful substances to protect employees against occupational hazards. NTC promotes employees auditing by self-management on-site and the director walking through on-site, and the mistake by audit is scored in order to reach the environment for clean-up (5S) and maintain the safety and health work environment. Annual fire equipment safety checks by professional fire equipment examining company to avoid the occurrence of fire and explosion hazards keeping employee against the risk of fire. We also commissioned high-pressure gas specific equipment by professional safety inspection every year for security checks.

Number	Management project	Goal	Finish rate	Department
1	Fire and safety facilities improving in drain room 3/4	Management of solvent risk	100%	Waste water treatment
2	Non-slip mat in A8 stairs	Management of human risk (slip)	100%	GA
3	QA machines set with non-flame material	Management of fire risk in FAB	100%	QA/C
4	Set up OHT check sensor	Management of human risk (falling)	100%	CIM
5	Set up unloading tube (oil) in waste water treatment machine	Management of residue risk	100%	Water
6	Set up guide wheeling CUB 4.5 tons elevator	Management of implicating risk	100%	Power
7	Set up trench platform guardrail	Management of falling risk	100%	Gas
8	Prevent the loss from machine move-in	Management of falling risk	100%	AM
9	Set up gas cabinet alert mechanism	Management of falling risk	100%	Gas
10	PSK Dry Pump Outlet line (set up Wet Scrubber)	Management of falling risk	100%	EH
11	NG leak alert mechanism	Management of risk (Fire of gas)	100%	Air condition

Number	Management project	Goal	Finish rate	Department
12	Organic wastewater plant emergency shower change position	Management of residue risk (Leak)	100%	Waste water treatment
13	PPE imprvoing	Management of human risk (PPE)	100%	DF
14	TEL_Mitsubishi_Robot grease function PM procedure improving	Management of human risk (PM )	100%	WET
15	Re-set emergency light in TA rest room	Management of residue risk	100%	MFG
16	Control the Mid/High risk	Management of residue risk	100%	TF
17	Avoid leak in CMP area	Avoid incident occurs and set safety behavior	100%	CMP
18	Avoid PCW water leak	Avoid incident occurs and set safety behavior	100%	PH
19	Management of leak (piping connect)	Management of residue risk (Leak)	100%	WET
20	Management of leak in DF area	Management of residue risk	100%	DF
21	Management of leak in EH area	Management of residue risk	100%	EH
22	Charcoal filter reduction in PH area	Avoid incident occurs and set safety environment	100%	PH
23	Charcoal filter reduction in TF area	Management of inflammable material in FAB	100%	TF
24	Inflammable material reduction in CMP area	Avoid incident occurs and set safety behavior	100%	CMP
25	Inflammable material reduction in WET area	Avoid incident occurs and set safety behavior	100%	WET

### 6.5.2 Safety and Health Committee

The vice president (factory chief) leads the Safety and Health Committee, and the involved directors and the Committee members are responsible for implementation and making the management plan of safety and health. By the way of regularly reviewing the management objectives to achieve status of safety, health and environmental issues induces the managers to announce the relevant information to colleagues. High management is included of supervision on behalf of its environmental impact and assessment, hazard identification and risk assessment. It's important for the participation of all employees in procedure. Environmental management is measurement analysis of pollution control. Occupational safety and health management is to decide the improvement priorities of the acceptable risk, and planning the environment, health and safety policy, pollution prevention, and compliance with labor laws and regulations, and health promotion. The percentage of labor representatives in accordance with regulatory requirements is 34% of the committee representatives, and the committee is to consider matters as shown following monthly.

### 6.5.3 Safety and Health Training

NTC offers training to new staff, senior staff / supervisor, contractors / supervision staff to comply local laws and regulations. The training includes certificates, special hazardous work, emergency response, and other disaster-related courses which are included in the annual training plan and schedule-related courses. In addition to planning training courses, others are for CCR or management system anomaly correction action. After investigation to analyze the reasons to corrective and preventive measures, NTC plans for related education and training programs to strengthen the safety awareness of colleagues, reaching for parallel preventive effect. By continuing education and training so that employees usually develop the safety awareness, culture and habits. Employees improve emergency response capacity, reduce the incidence of unsafe behavior caused the accident, reaching for the health and safety education and training purposes.

Trainer	Number of course	Duration	Number of trainers
NTC employee	32	192.5	2,214
Course	Duration	Number of trainers	
ERT training-1 Introduction of emergency measures for communal unit system (Gas and detector) 2.Fire protection system in clean room 3.Air conditioning system in clean room.			
ERT training-2 Introduction of Gas and chemical for semiconductor			
ERT training-3 Use of chemistry protective clothing			
ERT training-4 Use of SCBA			
ERT training-5 Use of portable gas detector			
ERT training-6 Primary measures of chemical leak (introduction of hazard characteris-	3	23	
ERT training-7 First-aid training	2	26	
ERT re-training	2	49	
Accident recovery training for leaders(BELFOR)	3	71	
Introduction of information technology in NTC	3	71	
General safety and health training	3	71	
General safety and health training-industrial injury	3	71	
Introduction of EICC and green product management system	14	23	
Hazard communication-1	6	30	
Hazard communication-2	2	22	

Trainer	Number of course	Duration	Number of trainers
NTC employee	32	192.5	2,214
Course	Duration	Number of trainers	
Introduction of GHG inventory and carbon footprint	2	22	
Operating of extinguisher training	2	22	
General fluid- introduction of waste water for application	13.5	146	
Shift director training	1.5	26	
First-aid re-training	2	31	
Protection of radiation training	2	47	
Authentication of safety for oversee	3	50	
Total	192.5	2,214	



ERT Training (chemical protective clothing)



Fire and Evacuation Drills



First-aid training (including how to use AED)



DRP Training



OJT (License re-training course)



Traffic Safety Training (safety riding)



Emergency Drills (FAB 1F)



Emergency Drills (FAB 3F)

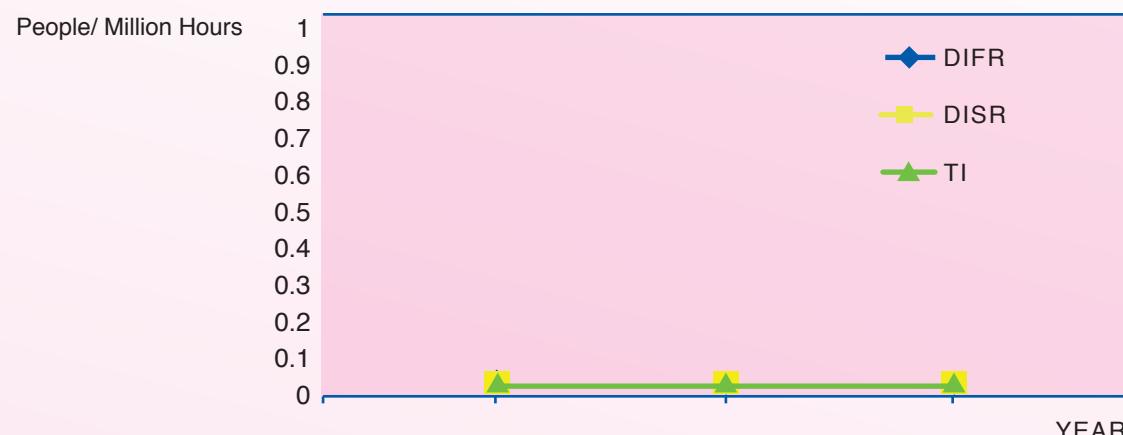
#### 6.5.4 Occupational Hazard Management

The disabling injuries frequency of NTC in 2015 (disabling injury cases / million working hours) and Severity Rate (days lost / million working hours) and the number of occupational diseases were 0 and 0.

In terms of hazard identification, NTC must recognizes the hazards in workplace and confirms the hazards which are associated with this adverse impact may be derived from those, whether such exposure or may be affected, to determine the basis for the workplace inspection records, material safety data sheet, records of accidents and disasters, job safety analysis, operating procedures, equipment manuals, maintenance records; in the hazard assessment to be there or be exposed to the workers exposed to confirm whether the extent of its exposure to compliance, control equipment or management practices to understand whether the Requirements; in the control of hazards to be done against the source control, path control from the reach of harm from the exposure of workers to control, set safety procedures.

NTC employees and vendors have stepped up security to prevent the occurrence of the concept of safe behavior serious occupational hazards, such as Annex Table to NTC last four years of occupational disaster statistics. In addition, the absent rate was 19.8% in 2015.

	Item	2013	2014	2015
Unit	Disabling Injury Frequency Rate(DIFR)	0	0	0
	Disabling Injury Severity Rate(DISR)	0	0	0
	Total Injury Index(TI)	0	0	0
	1. Fatal Accident	0	0	0
	2. More than 3 workers impacted accident	0	0	
	3. Ammonia, chlorine, hydrogen fluoride, phosgene, hydrogen sulfide, sulfur dioxide and other chemical leak more than 1 person injured in the hospital	0	0	0
	Disabling Injury	0	0	0
	Impacted Working Days	0	0	0
	Injury with Contractors	0	0	0
	Occupational Disease Case (Doctor Certified)	0	0	0



## 6.6 Social Contribution

"The value of one's life is not how much money he earns, but his contributions to the society" said by Mr. Yung-Ching Wang (1919-2008), the founder and chairman of Formosa Plastics Group which is the biggest industrial group in Taiwan. NTC acknowledges Mr. Wang's spirit as a very important value and manifest its persistent commitment to the society, including technology innovation, talent-breeding, give back to the society, and pursue the goal of corporate sustainability. Recently, NTC encourages employees to dedicate their time and give back to the society as volunteers in order to pursue the corporate goal.

### 6.6.1 Being Neighborly

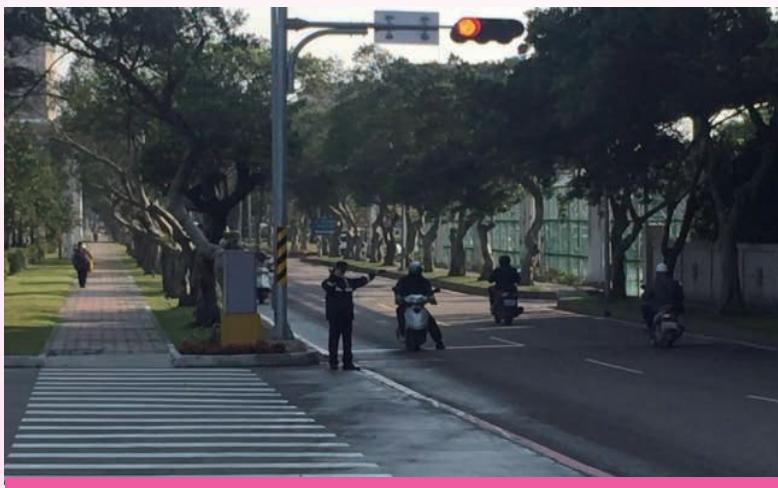
NTC not only maintains the condition of nearby road systems and the relationship between residents. Also, NTC strives to offer many kinds of assistance for the residents and continues to be involved with any activities in local community, such as temple carnival activities of elder association, weddings and funerals. In addition, NTC hosts lots of activities for residents, making a harmonious relationship between company and the residents.

#### •Traffic Control

As a member of the community, NTC provides professional guards to direct the traffic, keep traffic flow smooth during peak hours. Furthermore, NTC installs more traffic signs to make sure the safety of local traffic and provides a safe environment for the residents.

#### • Setting Up CCTV on the Nanlin Road

There are a lot of people jogging or hiking along the Nanlin Road in the morning and evening. For the safety concern of the residents, NTC sets up a lot of CCTV along the Nanlin Road and the host monitors is set at our office to provide a safe environment for the communities.



Traffic Control



CCTV Set-up

## 6.6.2 Social Contribution

### NTC Good 100

Being generous and spreading kindness are important values for NTC. NTC believes that the smallest act of kindness can bring people closer and make the world better. In 2013, NTC launched “NTC Good 100” campaign to pursue a goal of 100 philanthropic giving every year. With the main focus on sustainable environment in Taiwan, NTC makes the best use of limited resources, encourages employees to give back, and maintains long-term collaborative relationship with non-profit organization to fulfill its responsibilities to environment and society. As a sustainable enterprise, NTC continues to support local art performances and activities, help people in rural areas, and provide care and compassion for underprivileged children.

#### • NTC Beach Cleanup

In collaboration with Tourism Bureau, M.O.T.C. Republic of China (Taiwan) and North Coast & Guanyinsha National Scenic Area, NTC engaged employees and members of their family to join NTC Beach Cleanup which was inspired by International Coastal Cleanup (ICC) to take action in 2015. The challenges we face when it comes to a clean and healthy ocean are trashes and pollutions caused by human. Thus, NTC seeks the best and brightest to advocate for a clean and healthy ocean and sustain life on our planet.

There are more than 52 Kg of trash was collected by 35 volunteers during the Beach Cleanup. The trash in the water is cigarettes, plastic products, straws, and needles. NTC believes the purpose of this project is not only removing more trash from the beach but also letting people understand what types of waste entering the ocean.

#### • Refurbished Computer Project

NTC has participated in Refurbished Computers Project created for the purpose of spreading recycle and reuse ideas and providing underprivileged students with refurbished computers by Triple-E Institute since 2013. In 2015, NTC donated 552 used computers to support this project. In fact, NTC has donated total 944 used computers in past three years. Protecting our earth and supporting people who need help are definitely not a one-man job. Thus, NTC hopes to improve information infrastructure and green education in rural areas through this project. (For more information about Refurbished Computer Project, please visit [www.triple-e.org.tw](http://www.triple-e.org.tw).)

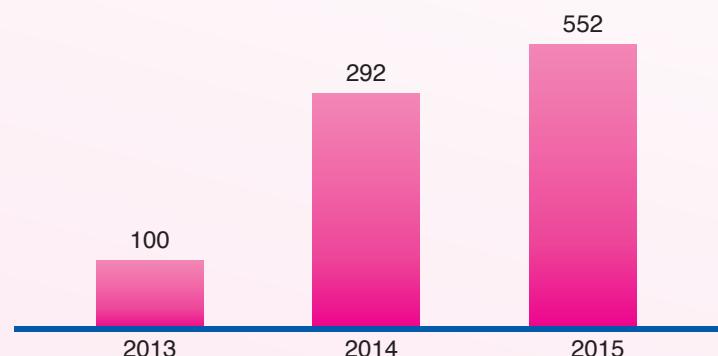


Refurbished Computer Project



“You Are the Best Daddy!” Project

The Amount of Refurbished Computer Donation



### • “You are the best, Daddy!” Project

Every father is always seen as a superhero to their child. Before Father's Day, NTC Welfare Committee prepared small gifts for all employees to pre-celebrate the holiday and show appreciation for their contribution to family. The cute mustache chocolate is made by women who are from 甜心工坊 of The Garden of Hope Foundation. NTC Welfare Committee purchased 2,460 mustache chocolates with total NT \$67,240. The mission of 甜心工坊 is helping female survivors of domestic violence to go back to labor market and support themselves through employment training and entry-level job opportunities.

### • Fair Trade Sweet Potatoes Sold by “The Good People”

Have you ever heard about “The Good People?” The Good People is a group of volunteers who are passionate about supporting local farmers to sell their unsellable products with fair prices. In July 2015, The Good People came to NTC office during lunch break with sweet potatoes harvested by farmers from Dounan, Tainan and sold 42 ton potatoes with NT \$105,000. Seeing everyone be generous with their hearts to support local farmers is worth more than the grandest intention.

### • Spring Festival Couplets Fundraiser

Every year, NTC sets up different booths in the office for employees to buy goods and supplies for Chinese New Year holiday in the end of the year. NTC presented Spring Festival Couplets fundraiser while doing holiday shopping in the office last year. The couplet is a pair of lines of poetry which write down the great expectation for the next year in Chinese culture. All employees wrote different types of creative couplets to sell in the office. At the end, NTC fundraised total NT \$23,500 for Syin-Lu Social Welfare Foundation and Genesis Social Welfare Foundation and the whole office was full of couplets and laughter as well.



“You are the best, Daddy!” Project

## 「好人幫」公平交易地瓜開賣囉!

活動日期：7/14 (二)、7/15 (三)

活動地點：南亞科三廠八樓員工餐廳

價格：每袋約4公斤(約6.5台斤) 100元



### 誰是「好人幫」？

「好人幫」是由一群志工所組成，成立以來有過很多好事蹟。好人幫的宗旨就是「找好人用自己的吃喝玩樂，來幫助弱勢者；用最沒壓力的吃來助人，成全農民也成就自己。」更多好人幫事蹟，歡迎上[好人會館FB](#)查詢



號召很多師長同學們抬行李



協助台灣農民銷售生產過剩的農產品 好人幫主協售高麗菜、還下海包高麗菜水餃！

### 為什麼支持購買公平交易地瓜？

事情是這樣的，話說斗南有一群純樸老實地瓜老農，聽到北部加工廠要收台農66號地瓜去做“冰烤地瓜”，愈多愈好。於是大家卯勁種了幾十甲地，結果地瓜成熟了，當初說好要收購的傢伙，卻杳無蹤跡。眼看數十甲的地瓜在炎熱氣溫下逐漸萎爛，農民欲哭無淚...於是好人幫再度出動，運用各種方法促銷大量地瓜



最近如果有經過La New門市，  
可以注意一下，門口幾乎都  
擺上了好人幫的無人菜攤



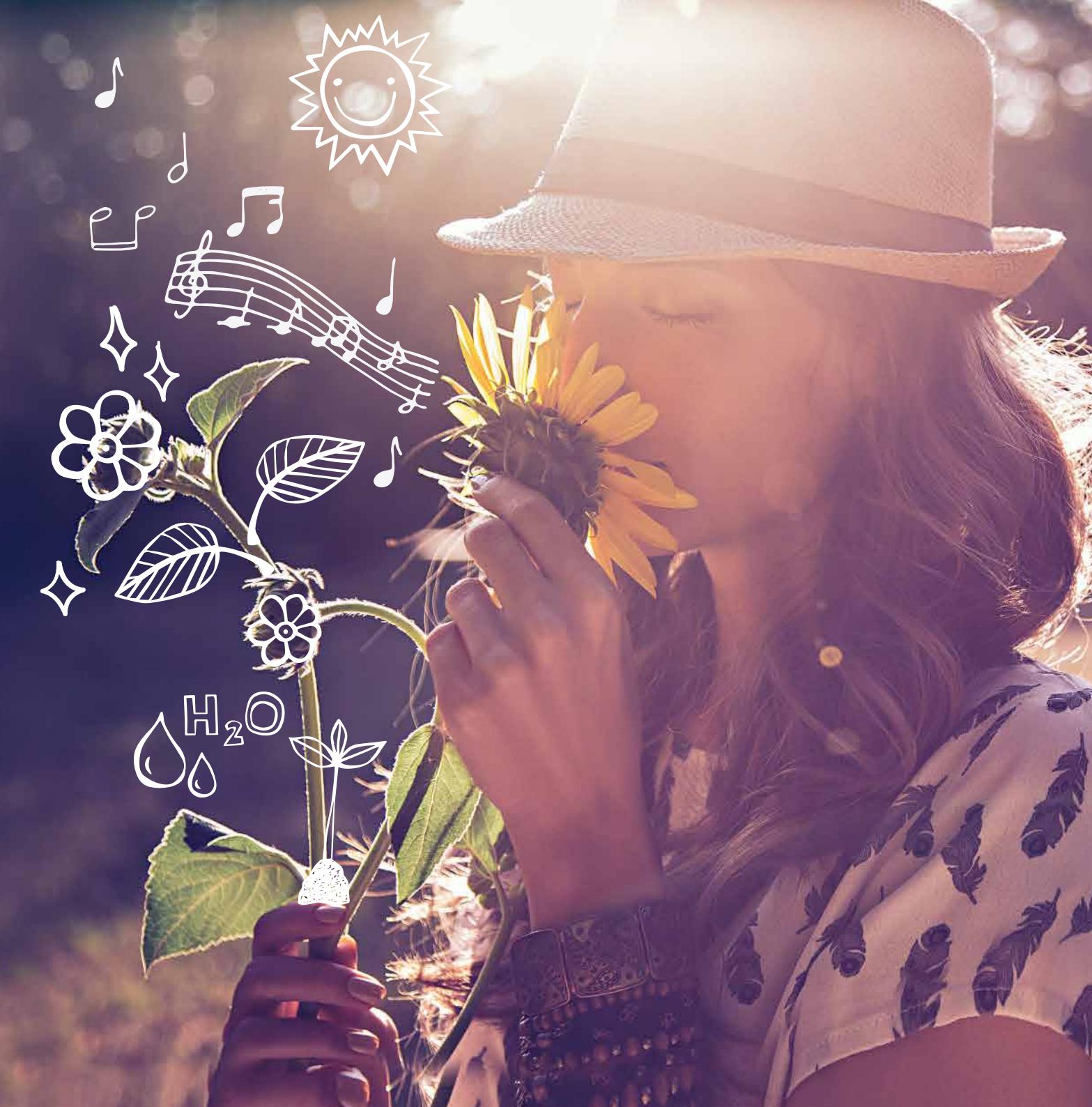
歡迎南亞科熱血有愛心的同仁共襄盛舉  
支持台灣農民



台農66號紅皮地瓜，金黃色  
薯肉美濃可口，鬆甜美味，  
炸地瓜片、地瓜球、地瓜湯  
或蒸煮當主食都很適合

人資處 員工關係部

Fair Trade Sweet Potatoes Sold by “The Good People”



**NANYA**

## 2015 Corporate Social Responsibility Report

### Appendix

Appendix 1  
2013-2015 Summary of Performance

Appendix 2  
GRI-G4 Content Index

Appendix 3  
CSR Certificates

## Appendix 1 2013-2015 Summary of Performance

Economic Dimension					
Indicator	Description	Unit	2013	2014	2015
Operating Performance	Revenue	NT\$ M	45,224	49,108	43,876
	Cost of goods sold	NT\$ M	37,102	26,939	26,568
	Net Income after Tax	NT\$ M	8,138	28,242	17,141
	EPS	NT\$	3.4	11.77	7.07
Board of Directors	Ratio of outside directors	%	25%	25%	25%
	Board members participation rate	%	89%	92%	92%
Patent	Patent granted	Case	169	244	259

Environmental Dimension					
Indicator	Description	Unit	2013	2014	2015
Greenhouse Emission	Kg CO2 equivalent/12" wafer area)	Kg CO2-e/cm2	0.58	0.56	0.52
Greenhouse Emission	Ton CO2 equivalent	Ton CO2-e	250,770	254,018	270,233
Water consumption	Water consumption per wafer	(m3/wafer area m2)	51.00	47.30	42.4
Process Water Recycling Rate		%	83.40	84.60	86.4
Process Water Saving	Million tons	Million Ton	5.16	5.23	5.42
Energy Consumption	Nature gas consumption	Million metric meter/wafer area(m2)	46.2	46.2	46.2
	Electric consumption	mWh/Wafer area(m2)	8.70	8.40	7.80

## Appendix 1 2013-2015 Summary of Performance

Environmental Dimension					
Indicator	Description	Unit	2013	2014	2015
Air pollutant emission	Sox	g/cm2	0.000160	0.000853	0.001369 <sup>Note 1</sup>
	Nox	g/cm2	0.000227	0.001143	0.001801 <sup>Note 1</sup>
	VOC generated	Ton	14.63	10.79	14.49
Waste water treatment	Waste water effluent per wafer	Ton/Wafer area(m2)	42.00	38.10	34.30
Waste Generated	Waste Generated	Ton	6,938	9,173	9,785
	General Waste Generated	Ton	3,785	5,316	4,693
	Hazardous Waste Generated	Ton	3,153	3,858	5,092
	Waste Recycling Rate	%	86.1	75.7	95.2
Suppliers management	No. of audit	frequency/year	26	20	21
Injury safety	Injury Frequency Rate	Injury Number/Million Labor-hours	0	0	0

Note 1:The explanation for the increases in Sox and Nox emissions in 2015: 2 sets of VOC fluidized bed system and Rotor Concentrator & Thermal Oxidizers were in operation in 2015, instead of one set due to wafer capacity increase, and the fuel usage of natural gas(NG) increases , then SOx/NOx increases simultaneously.

Social Dimension					
Indicator	Description	Unit	2013	2014	2015
Diversity Index	Total employees	Persons	2,381	2,356	2,405
	Executives and office employees (male)	%	66.5%	66.6%	66.6%
	Executives and office employees (female)	%	33.5%	33.4%	33.4%
	Production workers (male)	Persons	1,156	1,144	1,293
	Production workers (female)	Persons	728	705	594

## Appendix 1 2013-2015 Summary of Performance

Social Dimension						
Indicator	Description	Unit	2013	2014	2015	
Diversity Index	Contract workers (male)	Persons	7	14	11	
	Contract workers (female)	Persons	4	4	8	
	Handicapped worker	Persons	19	19	23	
Female Leadership	Female rate	%	35.8%	34.8%	33.4%	
	Female manager rate	%	2.7%	2.8%	13.7%	
Turnover rate	Turnover rate	%	11.5%	8.1%	7.7%	
Status of Maternity & Parental Leave	Number of workers who used maternity leave	%	38.9%	53.6%	39.1%	
	Number of workers who used parental leave	Persons	2	2	32	
Human Resources Development	Total No. of trainees	Persons	40,879	25,672	26,680	
	Training per person	Day/Person	1.41	1.13	0.82	
	Training expenses per person	NT\$	161	374	742	
Ethics Training	Total ethic training hours	Hours	15,210	5,225	4,845	
	Training hours per person	Hours/Person	6.33	2.18	2.03	

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Pages
<b>STRATEGY AND ANALYSIS</b>			
G4-1	Statement from the most senior decision maker of the organization	1 Message from the President 4.1 Company profile 4.2 DRAM market development	3 19 21
<b>Organizational Profile</b>			
G4-3	Name of the organization	4.1 Company Profile	19
G4-4	Primary brands, products, and services	4.1 Company Profile	19
G4-5	Location of the organization's headquarters.	4.1 Company Profile	19
G4-6	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report."	4.1 Company Profile	19 19
G4-7	Nature of ownership and legal form	4.1 Company Profile	19
G4-8	Market served	4.1 Company Profile	
G4-9	Scale of the organization, including: • Total number of employees • Total number of operations • Net sales (for private sector organizations) or net revenues (for public sector organizations) • Total capitalization broken down in terms of debt and equity (for private sector organizations) • Quantity of products or services provided"	4.1 Company Profile 4.3 Products Research and Development 4.4 Financial Performance 6.1 Hiring Standards	19 23 24 54
G4-10	Report the total number of permanent employees by employment type and gender.	6.1 Hiring Standards	54
G4-11	Percentage of total employees covered by collective bargaining agreements	6.1 Hiring Standards	54
G4-12	Describe the organization's supply chain	4.2.4 Industrial Supply Chain	22
G4-13	Significant changes during the reporting period	No significant changes during 2015	
G4-14	Report whether and how the precautionary approach or principle is addressed by the organization.	3.4 Risk Management	15

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Pages
G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	No external principles or initiatives signed by NTC	
G4-16	Memberships in associations	3.5 External Association	17
<b>DENTIFIED MATERIAL ASPECTS AND BOUNDARIES</b>			
G4-17	Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	4.4 Financial Performance	Certified by CPA
G4-18	Process for defining the report content and the aspect boundaries	2 Stakeholder Engagement	5
G4-19	List all the material Aspects identified in the process for defining report content.	2 Stakeholder Engagement	5
G4-20	For each material Aspect, report the Aspect Boundary within the organization.	2 Stakeholder Engagement	5
G4-21	For each material Aspect, report the Aspect Boundary outside the organization.	2 Stakeholder Engagement	5
G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	There is not restatements of information	
G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	2 Stakeholder Engagement	5
<b>STAKEHOLDER ENGAGEMENT</b>			
G4-24	List of stakeholder groups engaged by the organization	2 Stakeholder Engagement	5
G4-25	Report the basis for identification and selection of stakeholders with whom to engage.	2 Stakeholder Engagement	5
G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	2 Stakeholder Engagement	5
G4-27	Report key topics and concerns	2 Stakeholder Engagement	5

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Pages
<b>REPORT PROFILE</b>			
G4-28	Reporting period (such as fiscal or calendar year) for information provided.	About This Report	2
G4-29	Date of most recent previous report(if any)	About This Report	2
G4-30	Reporting cycle (such as annual, biennial)	About This Report	2
G4-31	Contact point for questions	About This Report	2
G4-32	In accordance' option, the GRI content index and external assurance	About This Report	2
G4-33	In accordance' option, the GRI content index and external assurance	About This Report	2
<b>Governance</b>			
G4-34	Governance structure	3.1Corporate Governance	12
<b>ETHICS AND INTEGRITY</b>			
G4-56	Values, principles, standards and norms of behavior such as codes of conduct andcodes of ethics.	3.1Corporate Governance	12

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
CATEGORY:ECONOMIC				
Aspect:ECONOMIC PERFORMANCE*				
G4-DMA	Generic Disclosures on Management Approach	4.1 Company Profile	19	
G4-EC1	Direct economic value generated and distributed	4.4 Financial Performance 6.2.1 Overall compensation	24 57	Certified by CPA
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	5.3.1 Climate Change Risks and Opportunities	42	
G4-EC3	Coverage of the organization's defined benefit plan obligations	6.2.1 Overall compensation 6.2.2 Comprehensive employee benefits	57	
Aspect:MARKET PRESENCE				
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	6.2.1 Compensation Overview	57	
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	6.1.1 Stable Workforce	54	
Aspect:PROCUREMENT PRACTICES				
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	4.6.1 Supplier Relationship	27	
CATEGORY: ENVIRONMENTAL				
Aspect:MATERIALS				
G4-EN1	Materials used by weight or volume	5.2.3 Usage of Raw Materials	41	
G4-EN2	Percentage of materials used that are recycled input materials	5.2.3 Usage of Raw Materials	41	
Aspect:ENERGY*				
G4-DMA	Generic Disclosures on Management Approach	5.2.2 Energy Saving	39	

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
G4-EN3	Energy consumption within the organization	5.2.2 Energy Saving	39	
G4-EN4	Energy consumption outside of the organization	5.2.2 Energy Saving	39	
G4-EN5	Energy intensity	5.2.2 Energy Saving	39	
G4-EN6	Reduction of energy consumption	5.2.2 Energy Saving	39	
G4-EN7	Reductions in energy requirements of products and services	5.2.2 Energy Saving	39	
<b>Aspect:WATER*</b>				
G4-DMA	Generic Disclosures on Management Approach	5.2.1 Water: Reduce, Reuse, and Recycle	37	ISO 14001 Certified
G4-EN8	Total water withdrawal by source	5.2.1 Water: Reduce, Reuse, and Recycle	37	
G4-EN9	Water sources significantly affected by withdrawal of water	5.2.1 Water: Reduce, Reuse, and Recycle	37	
G4-EN10	Percentage and total volume of water recycled and reused	5.2.1 Water: Reduce, Reuse, and Recycle	37	
<b>Aspect:EMISSIONS</b>				
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	5.3.2 Greenhouse Gas Reduction	44	
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	5.3.2 Greenhouse Gas Reduction	44	
G4-EN18	Greenhouse gas (GHG) emissions intensity	5.3.2 Greenhouse Gas Reduction	44	
G4-EN19	Reduction of greenhouse gas (GHG) emissions	5.3.2 Greenhouse Gas Reduction	44	
G4-EN20	Emissions of ozone-depleting substances (ODS)	No substances used to damage Ozonosphere in NTC		
G4-EN21	NOX, SOX, and other significant air emissions	See appendix 1: 2013-2015 Summary of Performance	80	

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
<b>Aspect:EFFLUENTS AND WASTE*</b>				
G4-DMA	Generic Disclosures on Management Approach	5.1 Pollution Prevention	34	ISO 14001 Certified
G4-EN22	Total water discharge by quality and destination	5.1 Pollution Prevention	34	
G4-EN23	Total weight of waste by type and disposal method	5.1 Pollution Prevention	34	
G4-EN24	Total number and volume of significant spills	No leakage incident cases like oil, fuel, waste, chemicals in 2015		ISO 14001 Certified
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	5.1 Pollution Prevention	34	
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	5.1 Pollution Prevention	34	
<b>Aspect:PRODUCTS AND SERVICES*</b>				
G4-DMA	Generic Disclosures on Management Approach	5.4 Eco-friendly Products	46	
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	5.4 Eco-friendly Products 5.2.3 Usage of Raw Materials	46 41	
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	5.2.3 Usage of Raw Materials	41	
<b>Aspect:COMPLIANCE*</b>				
G4-DMA	Generic Disclosures on Management Approach	3.1.5 Compliance with NTC Regulation	13	ISO 14001 Certified
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	3.1.5 Compliance with NTC Regulation	13	ISO 14001 Certified

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
<b>Aspect:OVERALL*</b>				
G4-DMA	Generic Disclosures on Management Approach	5.5 Overview	48	
G4-EN31	Total environmental protection expenditures and investments by type	5.5 Overview	48	
<b>Aspect:SUPPLIER ENVIRONMENTAL ASSESSMENT</b>				
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	All new waste contractors were screened by environmental criteria, all new material suppliers must meet the criteria of restricted substances.		
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	4.6.2 Supplier Evaluation	29	
<b>Aspect:ENVIRONMENTAL GRIEVANCE MECHANISMS</b>				
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	No environmental appealing case in 2015.		ISO 14001 Certified
<b>CATEGORY: SOCIAL</b>				
<b>SUB-CATEGORY: LABOR PRACTICES AND DECENT WORK</b>				
<b>Aspect:EMPLOYMENT</b>				
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	6.1.2 High Quality and Innovative Talents Recruitment 6.1.3 Employee Benefits	55 56	
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	6.2.2 Comprehensive Employee Benefits	58	
G4-LA3	Return to work and retention rates after parental leave, by gender	6.2.1 Compensation Overview	57	
<b>Aspect:LABOR/MANAGEMENT RELATIONS*</b>				
G4-DMA	Generic Disclosures on Management Approach	6.3.2 Employee Relations	61	
G4-LA4	Minimum notice periods regarding operational changes including whether these are specified in collective agreements	6.3.2 Employee Relations	61	

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
<b>Aspect: OCCUPATIONAL HEALTH AND SAFETY*</b>				
G4-DMA	Generic Disclosures on Management Approach	6.5 Healthy Work Environment	71	OHSAS 18001/ TOSHM Certified
G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	6.5.2 Safety and Health Committee	73	
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	6.5.4 Occupational Hazard Management	75	
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	6.3.7 Care Program	67	
G4-LA8	Health and safety topics covered in formal agreements with trade unions	NTC don't have any agreement with labor unions		
<b>Aspect: TRAINING AND EDUCATION*</b>				
G4-DMA	Generic Disclosures on Management Approach	6.3.4 Training System	63	
G4-LA9	Average hours of training per year per employee by gender, and by employee category	6.3.4 Training System	63	
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	6.3.4 Training System	63	
<b>Aspect: DIVERSITY AND EQUAL OPPORTUNITY</b>				
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	6.1 Hiring Standards	54	
<b>Aspect: Equal Remuneration For Women And Men</b>				
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	6.2.1 Compensation Overview	57	

## Appendix 2 GRI-G4 Content Index

dex	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
<b>Aspect:SUPPLIER ASSESSMENT FOR LABOR PRACTICES</b>				
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria	4.6.2 Supplier Evaluation	19	
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken	4.6.2 Supplier Evaluation	19	
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms	3.2.5 Grievance Channels	14	
<b>SUB-CATEGORY: HUMAN RIGHTS</b>				
<b>Aspect:INVESTMENT</b>				
G4-HR2	Total hours of employee training on human right policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	6.4.2 EICC Validated Audit Process (VAP) Certification	70	Completed EICC Validated Audit Process (VAP) audit
<b>Aspect:FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING</b>				
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	6.3.2 Employee Relations 6.3.3 Employee Welfare Committee	61	
<b>Aspect:CHILD LABOR*</b>				
G4-DMA	Generic Disclosures on Management Approach	6.1.2 High Quality and Innovative Talents Recruitment	55	Completed EICC Validated Audit Process (VAP) audit
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	6.1.2 High Quality and Innovative Talents Recruitment	55	Completed EICC Validated Audit Process (VAP) audit
<b>SUB-CATEGORY: SOCIETY</b>				
<b>Aspect:LOCAL COMMUNITIES</b>				
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	6.6.1 Being Neighborly	76	

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
<b>Aspect:ANTI-CORRUPTION*</b>				
G4-DMA	Generic Disclosures on Management Approach	3.2.3 Anti-Corruption	14	Completed EICC Validated Audit Process (VAP) audit
G4-SO4	Communication and training on anti-corruption policies and procedures	3.2.4 Code of Conduct	13	
G4-SO5	Confirmed incidents of corruption and actions taken	3.2.3 Anti-Corruption	14	Completed EICC Validated Audit Process (VAP) audit
<b>Aspect:COMPLIANCE*</b>				
G4-DMA	Generic Disclosures on Management Approach	3.1.5 Compliance with NTC Regulation	13	
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	No case of personal information protection violation during 2015		
<b>Aspect:SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY</b>				
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	4.6.1 Supplier Relationship	27	
<b>Aspect:GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY</b>				
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	3.2.5 Grievance Channels	14	
<b>SUB-CATEGORY: PRODUCT RESPONSIBILITY</b>				
<b>Aspect:PRODUCT AND SERVICE LABELING*</b>				
G4-DMA	Generic Disclosures on Management Approach	4.5.1 Customer Service 4.5.2 Customer Satisfaction	25 26	ISO9001, ISO/TS16949Certified
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements	5.4 Eco-friendly Products	45	

## Appendix 2 GRI-G4 Content Index

Index	Description	Related NTC CSR Report Section	Page(s)	Explanatory Notes
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	There is no incident of non-compliance with regulations concerning product and service information and labeling in Y2015		
G4-PR5	Results of surveys measuring customer satisfaction	4.5.2 Customer Satisfaction	26	ISO9001, ISO/TS16949 Certified
<b>Aspect:MARKETING COMMUNICATIONS*</b>				
G4-DMA	Generic Disclosures on Management Approach	5.4 Eco-friendly Products	45	
G4-PR6	Sale of banned or disputed products	There is no sale of banned or disputed products in Y2015		
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	There is no incident of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship in Y2015		
<b>Aspect:CUSTOMER PRIVACY*</b>				
G4-DMA	Generic Disclosures on Management Approach	4.5.3 Customer Privacy	27	ISO9001, ISO/TS16949 Certified
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	There is no substantiated complaints regarding breaches of customer privacy and losses of customer data in Y2015		
<b>Aspect:COMPLIANCE*</b>				
G4-DMA	Generic Disclosures on Management Approach	3.1.5 Compliance with NTC Regulation	13	
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	There is no Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services in Y2015		

\*Stakeholder's concerned issues

## Appendix 3 CSR Certificates