

# 2016

## Nuvoton Technology Corporation

### Corporate Social Responsibility Report



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## Best Workplace

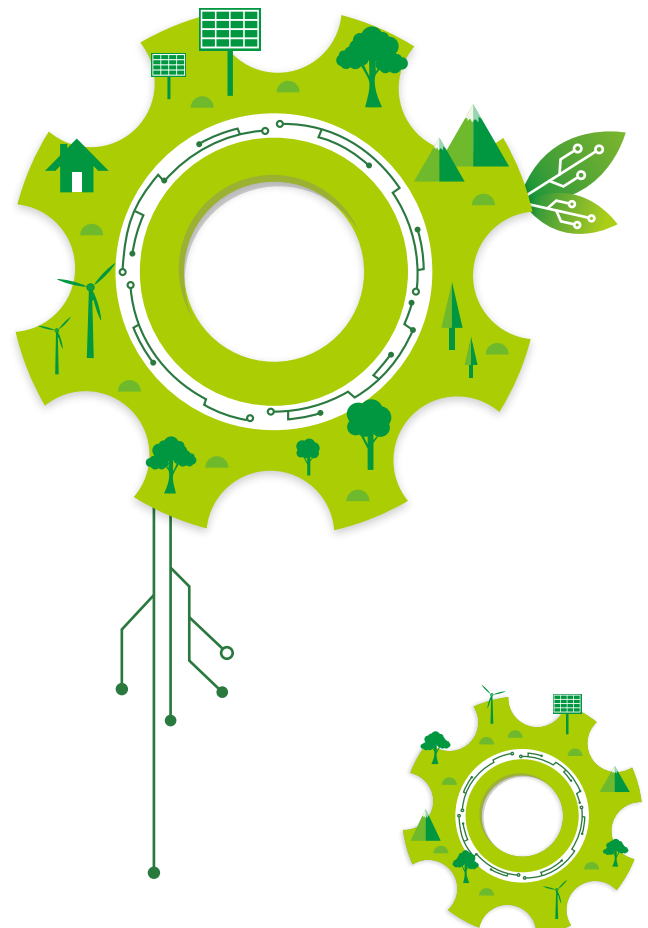
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# Words from the Chairman

2016 has been a challenging year for the semiconductor industry worldwide. With declining demand in the PC end market and meager growth in smartphones, the overall semiconductor industry has maintained only a slight amount of growth. The hard work and effort of the employees at Nuvoton created a new record in revenue history, reaching an important milestone for the company's growth. In addition to achieving good financial performance, we have also continued to deepen various policies for sustainable development in three major aspects: economic, environmental and social, incorporating the concept of sustainable development into the company's operational decisions and events. Nuvoton hopes to integrate business strength and resources, and utilize corporate influence to continue towards its goal of sustainable development.

## Corporate Governance

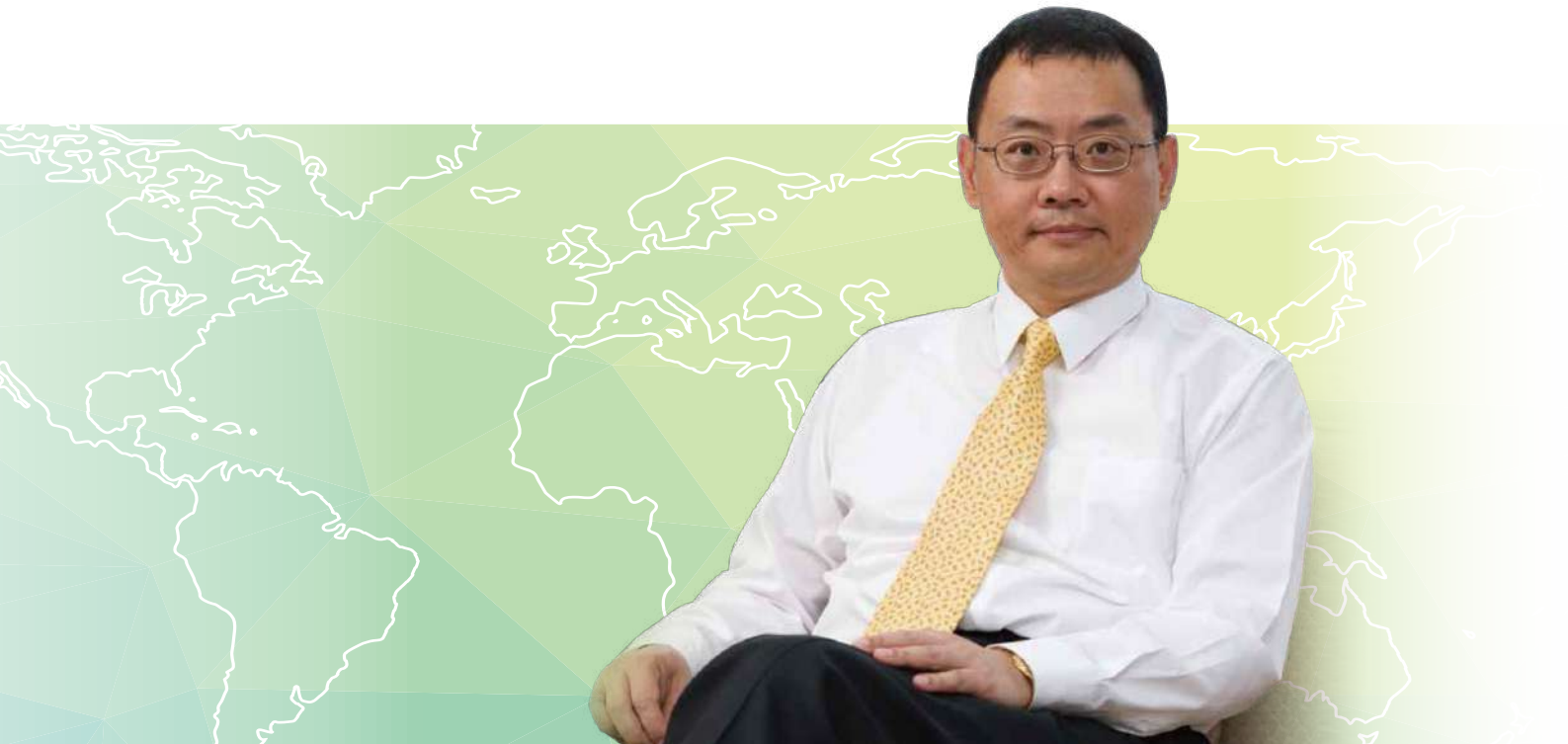
For corporate governance, we uphold the principle of integrity by establishing a robust corporate governance framework, while also continuing to strengthen management functions. In addition, through a robust internal control mechanism, ensuring financial information transparency while instantly revealing important information to prevent internal corruption. In the third corporate governance evaluation in 2016, Nuvoton ranked in the top 20% in all publically traded companies, affirming our efforts in corporate governance.

## Customer Service and Supplier Management

Nuvoton values its long-term partnership with its customers and suppliers. We are committed to providing customers with the best service. Through regular customer satisfaction surveys, we hear the views of customers and instantly respond to customer needs to become trusted partners of customers. In addition, we also work together with competitive suppliers towards the common goal of establishing a long-term and stable supply chain of semiconductors. Nuvoton also integrates the concept of sustainable development into supplier management, ensuring that suppliers meet the regulatory requirements in labor, ethics, environment, management system, health, safety, and other such specifications. We work together with suppliers to implement corporate social responsibility (CSR).

## Environment-Friendly

In 2016, to counter the effects of global warming, the United Nations gathered leaders of all countries to sign the Paris Agreement, demonstrating the world's determination to combat climate change. Therefore, reducing greenhouse gas emissions is an important issue for our corporate sustainable development. Faced with the challenge of low carbon power, Nuvoton complies with various



environmental protection laws and conducts greenhouse gas inventory checks and registration in accordance to the provisions of the Environmental Protection Administration (EPA). Through greenhouse gas inventory, Nuvoton examines the main sources of greenhouse gas emissions to actively implement mitigation and adaptation actions. For energy conservation, we have implemented a total of eight major energy conservation measures, saving an estimated 1.28 million kWh in electricity consumption. In 2016, we passed the verification of ISO14001 2015, incorporating the concept of life cycles into our environmental management system. At the same time, we have also completed a water footprint inventory assertion, achieving the verification of ISO14064 by DNV GL Business Assurance Co., Ltd.

## Best Workplace

In a highly competitive environment, Nuvoton believes that talent is the driving force behind corporate development. We are committed to giving employees a good working environment. With competitive salary and benefits, comprehensive education and training, as well as a comfortable and safe working environment, we attract new talent to join Nuvoton. Nuvoton places emphasis on the learning and career development planning of each employee, providing a wide range of leaning channels, as well as abundant internal and external

learning and development resources to create a passionate learning culture. In 2016, employees at Nuvoton received a total of 22,745 hours of training, with a total number of 12,857 attendees. Furthermore, to promote a work-life balance, Nuvoto's Lohas group has diligently planned various events, such as celebrity lectures, music appreciation lectures, parent-child ecological environment educational events, and interdepartmental competitions. We have also printed an exclusive Lohas rewards card for every employee to promote participation.

## Philanthropy




To fulfill corporate social responsibility, Nuvoton continues to cultivate campus relationships and nurture core talent. In addition to continuing to promote existing university programs, Nuvoton joined forces with National Chung Cheng University to create the "Ultra-Low Power Microcontroller Laboratory" in 2016. Through this project with National Chung Cheng University, we hope to work together to cultivate talent in ultra-low power microcontrollers. In addition, we have launched the "Nuvoton NuMicro® Accredited Engineer" (NNAE) project. Through this global project, students can gain accreditation from the Arm® Cortex®-M project in design skills and technical support abilities, which will serve to benefit their career development plans. For



public welfare events, in addition to organizing beach cleaning and environmental protection events, Nuvoton also regularly donates to help disadvantaged groups in society. In the future, we also plan to help poor patients in the hospitals in Hsinchu to uphold the spirit of "honoring old people as we do our own aged parents, and caring for other's children as one's own."

Looking to the future, Nuvoton upholds the corporate culture spirit of "sustainable contribution." We continue to improve our research and development energy while developing various product applications and services. We combine corporate management and corporate social responsibility strategies, and actively promote various CSR projects. Nuvoton hopes to work together with customers and suppliers to utilize corporate influence, bringing more positive power and change to society. We seek to fulfill our CSR vision of "providing a sense of safety, reassurance, and empathy."

Chairman

Sustainable Aspect		2016 Performance
 Economic	Economic Performance	<ul style="list-style-type: none"> <li>Nuvoton's 2016 consolidated revenue amounted to NTD 8.3219 billion, up 13.9% from 2015; consolidated net profit before tax amounted to NTD 709 million, up 24% from 2015.</li> </ul>
	Corporate Governance	<ul style="list-style-type: none"> <li>In the third corporate governance evaluation, Nuvoton ranked in the top 20% in all publically traded companies.</li> <li>Stock was enlisted in the TWSE High Salary 100 Index.</li> </ul>
	Customer Satisfaction	<ul style="list-style-type: none"> <li>Customer satisfaction survey shows average satisfaction at above 4 points (satisfied).</li> <li>Customer privacy invasion cases: 0.</li> </ul>
	Supplier Management	<ul style="list-style-type: none"> <li>Nuvoton's top three packaging and testing plants and top twenty raw material vendors have completed corporate social responsibility self-evaluations and counseling.</li> </ul>
 Environmental	Water Conservation	<ul style="list-style-type: none"> <li>Implemented a total of eight major energy conservation measures, saving an estimated 1.28 million kWh in electricity consumption.</li> <li>Completed water inventory assertion, achieving the verification of ISO14064 by DNV GL Business Assurance Co., Ltd.</li> <li>Recognized as a water conservation outstanding performance unit by the Water Resources Agency of the Ministry of Economic Affairs, and received the water conservation outstanding performance vendor award by the Science Park Administration of the Ministry of Science and Technology.</li> </ul>
	Waste Management	<ul style="list-style-type: none"> <li>Unit product waste decreased by 4% from 2015.</li> </ul>
	Greenhouse Gas Reduction	<ul style="list-style-type: none"> <li>Greenhouse gas intensity decreased by 8% from 2015.</li> </ul>
 Social	Labor Relations	<ul style="list-style-type: none"> <li>Discrimination complaints: 0; human rights-related complaints: 0.</li> </ul>
	Educational Training	<ul style="list-style-type: none"> <li>Total employee training hours: 22,745; total attendees: 12,857.</li> <li>All employees completed CSR courses, amounting to a total of 2,933 attendees with a passing rate of 99.56%.</li> </ul>
	Occupational Safety	<ul style="list-style-type: none"> <li>Safety and health education and training had a total of 1,634 attendees; contractor education and training had a total of 499 attendees.</li> <li>Recognized as good occupational safety and health personnel by the Hsinchu Science Park Bureau.</li> </ul>
	University Projects	<ul style="list-style-type: none"> <li>Promoted the Nuvoton NuMicro® Accredited Engineer (NNAE) project.</li> <li>Donated to "Ultra-Low Power Microcontroller Laboratory" at National Chung Cheng University.</li> </ul>
	Public Welfare Events	<ul style="list-style-type: none"> <li>Total donations: NTD 1,604,466.</li> </ul>



## 2 / Overview

Description

Communication and Participation of the Stakeholders

Modes of Communications with the Stakeholders





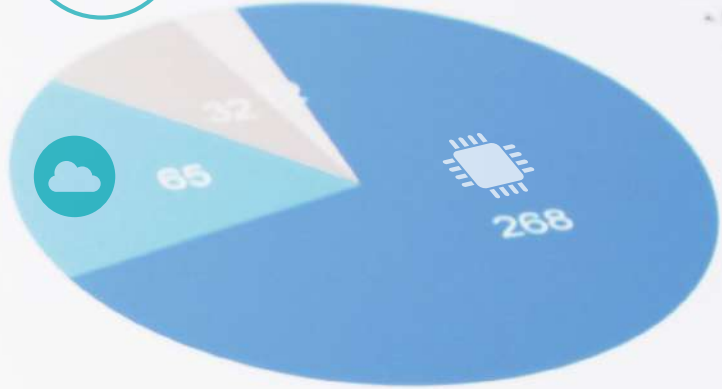


FIG.16



FIG.8

100  
90



# Overview

## Description

In 2014, Nuvoton voluntarily issued its first CSR report to practice corporate social responsibility. We started to regularly issue CSR reports in 2016, providing stakeholders with Nuvoton's efforts and performance in regard to the economy, environment, and society. At the same time, Nuvoton also publishes its report on the CSR area of the company website to establish a transparent and effective channel of communication for all stakeholders.

## Scope

Covering the period from January 1, 2016 to December 31, 2016, this report explains the various aspects of Nuvoton's business and their performance in regard to fulfilling corporate social responsibility. The financial data of this report is drawn from information listed in consolidated financial statements, which are inclusive of Nuvoton's global subsidiaries (including the United States, Israel, China, Hong Kong, and India). Calculated in New Taiwan Dollars (NTD), the financial statements were audited and certified by Deloitte Taiwan. Other areas of the content, such as corporate finance, environmental protection, and social engagement, are specific to Nuvoton's headquarters in Taiwan.

## Framework and Guidance

The framework and guidance of this report are based on the analysis of concerns held by Nuvoton's stakeholders, as well as issues considered to be significant during the period covered by this report. We have prepared this report in accordance with GRI G4, the latest standards released by Global Reporting Initiative (GRI). The appendix contains a comparison table of the framework for readers to reference.

## Release Notes

- 2016 CSR report: Scheduled to be released in November 2017.
- 2017 CSR report: Scheduled to be released in November 2018.

To fulfill CSR in regards to environmental conservation, an electronic copy of this report will be published on the company website. This report will be available in Traditional Chinese and English versions.

## Warranty

This report has commissioned an independent third party impartial unit, "SGS Taiwan Ltd.", to verify that the content complies with GRI G4 Core Option

and AA1000AS TYPE 1 Assurance Engagement. The third-party verification statement can be found in the appendix.

## Feedback to the Report

We welcome your suggestions to the content of this report.

Contact us here at:

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- Fax : +886-3-5792525
- E-mail : CSR@nuvoton.com
- Website : www.nuvoton.com

## Communication and Participation of the Stakeholders

Nuvoton is focused on sustainable management issues as well as communication with stakeholders to understand the major issues of interest to stakeholders. This report serves as a response to relevant major issues so stakeholders are able to better understand the actions and efforts that Nuvoton put into corporate social responsibility.

## Defining the Stakeholders

Taking into consideration foreign and domestic sustainable development and organizational operations, Nuvoton's Corporate Social Responsibility Committee categorizes the 8 main stakeholders of Nuvoton into the following groups: employees, customers, shareholders, directors and supervisors, suppliers, the government, community, and media.

## Identified Material Aspects

The Corporate Social Responsibility Management Committee has referred to the Electronic Industry Code of Conduct (EICC) and Global Reporting Initiative (GRI) on economic, environmental, social, and product aspects before consolidating 46 topics of concern for stakeholders. The following describes the process for identifying the concerns of stakeholders :

- Collection

In accordance with the stakeholders as defined by the Corporate Social Responsibility Management Committee, as well as the standards of GRI G4, we consolidated the various topics of concern to stakeholders and divided them into four aspects: economic, environmental, social, and product. We listed a total of 46 material aspects for stakeholders.

• Investigation

Through surveys, stakeholders and the representatives from the Corporate Social Responsibility Management Committee reported the degree of concern on various aspects. We collected a total of 84 questionnaires for this survey, of which 71 questionnaires were from stakeholders and 13 questionnaires were from the Corporate Social Responsibility Management Committee.

• Analysis

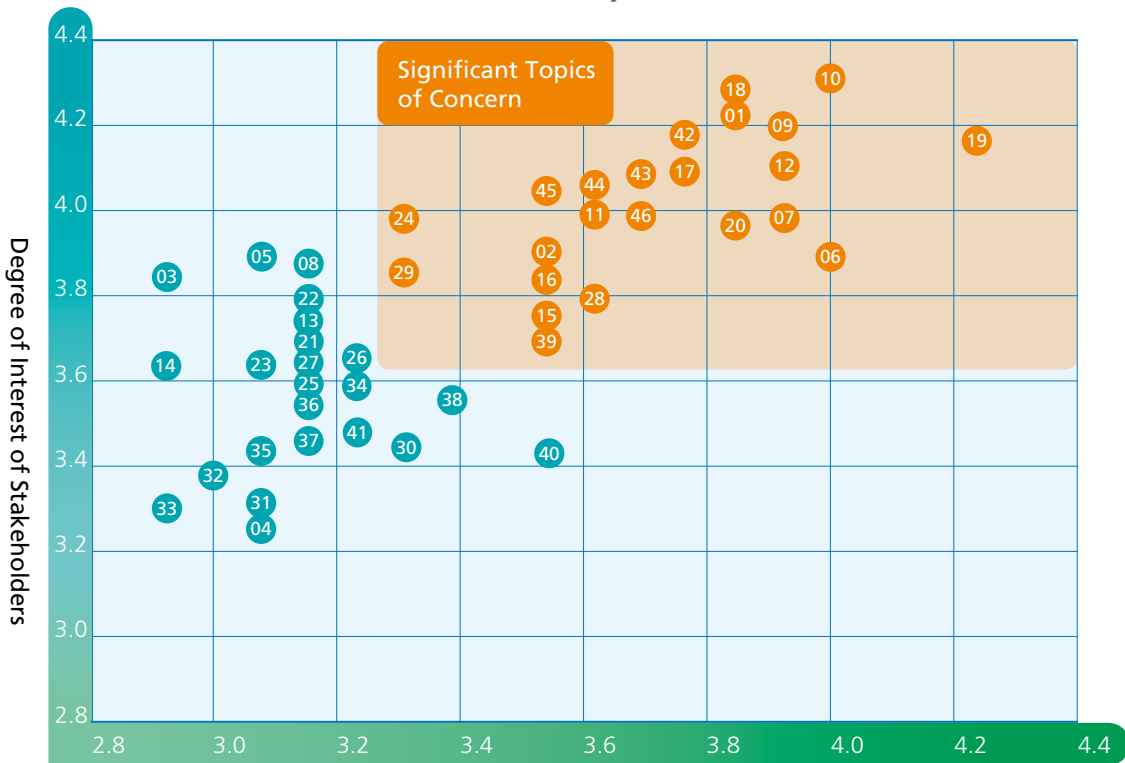
We analyzed the results of the selection (the

degree of concern for the issues and their impact on business operations) before identifying and prioritizing topics of concern.

• Submission

After receiving approval from the Corporate Social Responsibility Management Committee, the results of the analysis laid the framework for this report. Furthermore, Nuvoton has responded to various significant issues and based its goals for further improvement on the results of this analysis.

Substantive Analysis Results







- |                                 |   |   |  |
|---------------------------------|---|---|--|
| 01 Economic performance         | 12 Environmental law compliance             | 24 Grievance mechanism for labors                   | 36 Anti-corruption                           |
| 02 Market Image                 | 13 Transportation                           | 25 Investment                                       | 37 Political donations                       |
| 03 Indirect economic impact     | 14 Environmental expenditure and investment | 26 No discrimination                                | 38 Anti-competitive behavior                 |
| 04 Procurement Practices        | 15 Environmental assessment of suppliers    | 27 Freedom of association and collective bargaining | 39 Ethical law compliance                    |
| 05 Raw material                 | 16 Appeal mechanism on environmental issues | 28 Child labor                                      | 40 Supplier assessment for impact on society |
| 06 Resources                    | 17 Employee-employment relationship         | 29 Forced and compulsory labor                      | 41 Grievance mechanism for impact on society |
| 07 Water                        | 18 Labor/capital relationship               | 30 Security practices                               | 42 Customer health and safety                |
| 08 Biological Diversity         | 19 Occupational health and safety           | 31 Aboriginal rights                                | 43 Product and service labeling              |
| 09 Emissions                    | 20 Education and training                   | 32 Human rights assessment                          | 44 Marketing communication                   |
| 10 Sewage and waste             | 21 Diversification and equal opportunity    | 33 Supplier human rights assessment                 | 45 Customer privacy                          |
| 11 Products and services        | 22 Equal wages for men and women            | 34 Grievance mechanism for human rights             | 46 Product law compliance                    |
| 12 Environmental law compliance | 23 Assessment of supplier labors            | 35 Local communities                                |  |

### Response to the Significant Topics of Concern

Based on the results of the material analysis, we have listed 23 significant topics of concern for stakeholders in the following table. This report

discloses GRI G4 material aspects, management policies, and related indicators to conduct comprehensive performance disclosure. For topics that are of low degree of concern for stakeholders, we have conducted partial indicator performance disclosure.

Element	Material Aspect	Within the Organization	Outside the Organization	
			Government	Suppliers
 Economic	Economic Performance	•		
	Market Image	•		
 Environmental	Energy	•	•	
	Water	•	•	
	Emissions	•	•	•
	Sewage and Waste	•	•	•
	Products and Services	•		•
	Environmental Law Compliance	•		
	Environmental Assessment of Suppliers	•		
	Appeal Mechanism on Environmental issues	•	•	
 Social	Employee-employment Relationship	•	•	
	Labor/capital Relationship	•	•	
	Occupational Health and Safety	•	•	
	Training and Education	•		
	Grievance Mechanism for Labors	•	•	
	Child Labor	•		
	Forced and Compulsory Labor	•		
	Ethical Law Compliance	•	•	•
 Product	Customer Health and Safety	•	•	•
	Product and Service Labeling	•	•	•
	Marketing Communication	•		
	Product law compliance	•	•	•
	Customer Privacy	•		

## Modes of Communications with the Stakeholders

Nuvoton has collected significant topics of concerns for stakeholders, establishing a diverse and open communication channel so it can provide immediate

responses to the expectations and recommendations of stakeholders. Nuvoton also has a corporate social responsibility email, [csr@nuvoton.com](mailto:csr@nuvoton.com), so internal and external stakeholders can put forward corporate social responsibility issues.

Stakeholder	Topics of Concern	Communication Channel	Communication Frequency
 Employees	<ul style="list-style-type: none"> <li>• Employer-Employee Relationship</li> <li>• Labor/Capital Relationship</li> <li>• Occupational Health and Safety</li> </ul>	Labor-Management Meeting	Quarterly
		Executives Quarterly Meeting	Quarterly
		Executives Management Sharing Meeting	Quarterly
		Employee Welfare Committee	Quarterly
		Employee Complaint Box	Irregularly
		Grievance Mailbox and Hotline	As needed
		Intranet	Irregularly
		Irregular Meetings within the Organizations	Irregularly
 Employers	<ul style="list-style-type: none"> <li>• Customer Privacy</li> <li>• Customer Health and Safety</li> <li>• Products Responsibility - Compliance</li> </ul>	Customer Satisfaction Survey	Yearly
		Customer Survey or Site Audit	Irregularly
		Company Website - Members Zone	Irregularly
		Technical Seminar	Irregularly
		Phone and Email	As needed
 Shareholders	<ul style="list-style-type: none"> <li>• Economic Performance</li> <li>• Market Image</li> <li>• Procurement Practices</li> </ul>	General Shareholders' Meeting	Yearly
		Investor Conference	Half-yearly
		Financial Annual Report	Yearly
		Company Website	Irregularly
 Directors and Supervisors	<ul style="list-style-type: none"> <li>• Products Responsibility Compliance</li> <li>• Economic Performance</li> <li>• Environmental Law Compliance</li> </ul>	Board of Directors Meeting	Quarterly
 Suppliers	<ul style="list-style-type: none"> <li>• Procurement Practices</li> <li>• Products Responsibility Compliance</li> </ul>	Supplier Evaluation	Half-yearly
		Supplier CSR Survey	Yearly
 Government	<ul style="list-style-type: none"> <li>• Compliance</li> <li>• Environmental Law Compliance</li> <li>• Sewage and Waste</li> </ul>	Official Notice	Irregularly
		Legal Rules Conference	As Needed
		Communication with the Competent Authorities through the Allied Association for Science Park Industries	As Needed
 Communities	<ul style="list-style-type: none"> <li>• Sewage and Waste</li> <li>• Emissions</li> </ul>	Company Website	As Needed
		Email	As Needed
 Media	<ul style="list-style-type: none"> <li>• Market Image</li> <li>• Economic Performance</li> <li>• Marketing Communication</li> </ul>	Press Conference	Irregularly
		Press Release	Irregularly
		Company Website	Irregularly



# 3 / About Nuvoton

Introduction

Vision

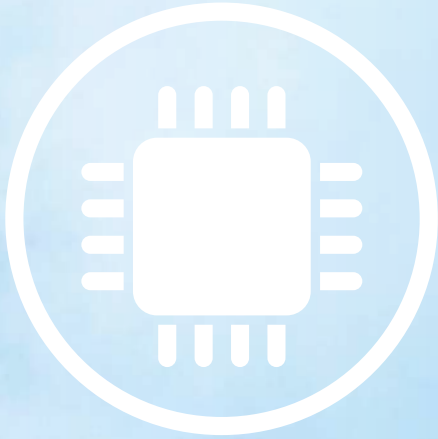
Innovative Technology and Products

Responsibility to Our Investors

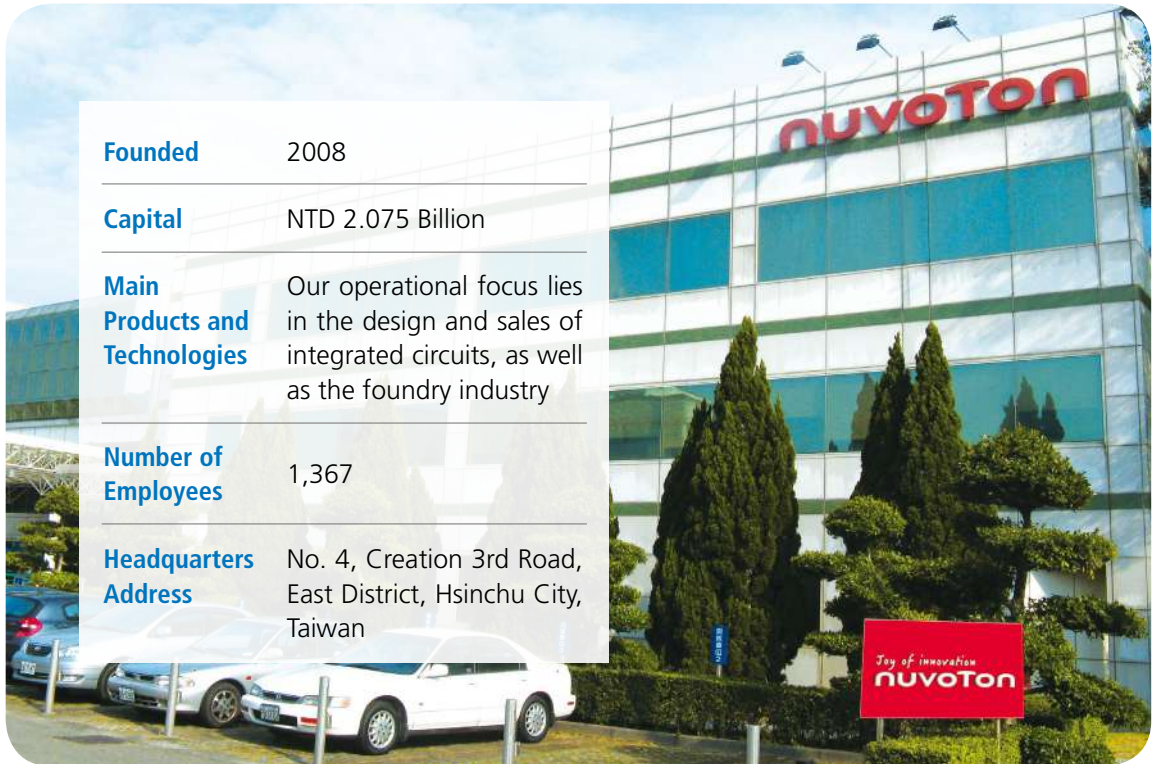
Financial Performance

Association (Guild) Membership

Awards and Honors



# About Nuvoton



<b>Founded</b>	2008
<b>Capital</b>	NTD 2.075 Billion
<b>Main Products and Technologies</b>	Our operational focus lies in the design and sales of integrated circuits, as well as the foundry industry
<b>Number of Employees</b>	1,367
<b>Headquarters Address</b>	No. 4, Creation 3rd Road, East District, Hsinchu City, Taiwan

## Introduction

In 2008, Nuvoton was founded to provide innovative solutions for the semiconductor industry. In July of that year, it was spun-off from Winbond Electronics Corporation Logic IC business unit and officially launched its own operations. In 2010, Nuvoton became publicly listed on the Taiwan Stock Exchange. With a focus on the development of analog/mixed signal, microcontroller, and cloud computing-related IC products, the company holds a leading position in the industrial electronics, consumer electronics, and computer markets. Furthermore, Nuvoton owns a semiconductor foundry that provides customized processes for analog, power, and microcontroller products. Apart from its in-house IC products, Nuvoton also offers a part of its capacity for foundry services.

Nuvoton provides products with high performance/cost ratio for its customers by leveraging flexible technologies, advanced design capabilities, and the integration of digital/analog technologies. Nuvoton values long-term collaborative relationships

with its customers and partners, and strives for continuous innovation and improvement in its products, processes, and customer services. Based in Hsinchu, Nuvoton also has subsidiaries in the U.S.A., China, Israel, and India to strengthen regional customer support and facilitate global operations management.

## Nuvoton's Vision - Joy of innovation

Due to the development of semiconductor technology, the breakthrough in transmission bandwidth and the popularity of information sharing has caused cloud computing to become the developmental focus of digital life. With worsening global warming, limited natural resources, and the pressure to maintain an ecological balance, green technology has become the key to sustaining human civilization. We can experience infinite possibilities in the aforementioned development space.

With courageous, like-minded partners that love learning, our organization is a passionate and creative team, constructing a competitive advantage



with innovation as its core. Nuvoton is committed to creating a happy work environment where employees can have the freedom to imagine and invent, as well as achieve their ideals or learn from failure. The purpose of innovation is to create user value. The manifestation of value is not confined to a single form or source. We set out to create innovation with our customers and partners, driving the development of our industry, while giving back to our employees, shareholders, and community so we can share the joy of innovation.

## Innovative Technology and Products

Nuvoton's operational focus lies in the design and sales of integrated circuits (IC), as well as the foundry industry. General purpose IC remains the principal item of Nuvoton's integrated circuits, but the scope of application is extensive, including microcontrollers (MCUs), audio products, and cloud computing products. In addition, the company also owns a 6" wafer fab with monthly production capacity for 45,000 pieces featured with a diversity of process capacity for foundry service.

Nuvoton's main products and services are as follows:

### General purpose IC

General purpose IC: General purpose IC products include microcontrollers (MCUs), audio products, and cloud computing products. Microcontrollers (MCUs) are applicable to a diversity of markets. Nuvoton's MCU products include the 8-bit product line and 32-bit product line. Its targeted markets are the Internet of Things (IoT), health care electronic products,

industrial application, consumer electronics and communication products.

Audio products include Audio CODEC, Arm® Cortex®-M0/M4, Audio MCU with 4/8-bit MCU as the core, and Class D Speaker Amplifiers. The target market includes portable consumer electronics, tablets, automotive instrument voice prompts, audio automotive amplification, security and monitoring audio input/output equipment, machine to machine (M2M) audio input/output, and various other applications in the industrial market.

For cloud computing products, Nuvoton has provided a wide variety of products in both the "cloud" and "computing" markets. For "cloud", we offer baseboard management controllers (BMCs), voltage and signal converters, hardware monitoring chips, and other related IC products. For "computing", our products include super I/O, highly integrated embedded controllers (EC), temperature sensors, trusted platform module security chips, and power control chips in personal computers and smart devices.

### Semiconductor Foundry

Nuvoton owns an advanced 6" semiconductor foundry. With more than 25 years of experience in wafer fabrication, the foundry upholds the spirit of innovation and transcendence, continuing to provide a long-term and stable production capacity, excellent product quality, and timely deliveries. With the innovative thinking of "More-Than-Foundry", the foundry creates added value, becoming an indispensable partner for our clients in this competitive market.

## Technologies and Products Developed in 2016

### Results

- Launched 32-bit Arm® Cortex® -M0 NUC121/12 MCU - Suitable for high-performance USB processing applications.
- Launched the Innovation IoT Development Platform and obtained ARM mbed OS certification.
- To fulfill corporate responsibility and make every effort to save energy, we launched the high efficiency brushless DC motor NuMicro® specialized microcontroller -NM1500 series.
- N570F064/I91032: Audio MCU (low power consumption audio controller).
- NCT3711D is applicable for AMD AM4 platform multi-power control chips.
- NCT6116D is applicable for industrial PC input/output control chips.
- NCT6796D is applicable for desktop PC input/output control chips.



### Market Analysis

Nuvoton’s main products are sold across the world. Asia was the main sales region for 2016.

Main Products (Services) Sales (Supply) Regions

Sales Region	2016	
	Amount	Percentage (%)
Asia	7,895,516	95%
America	220,700	3%
Europe	117,521	1%
Other	95,549	1%
Total	8,329,286	100%

Unit: Thousand NTD

Production Value Table

Main Product	Year	2016			
		Production capacity (Note)	Amount		Output Value
			Wafer	Die	
General Purpose IC		480	-	684,354	3,652,951
Foundry			323	-	1,116,962
Other			-	-	9,263
Total			323	684,354	4,779,176

Unit: Production Capacity (Thousand) / Wafer (Thousand) / Die (Thousand); Thousand NTD

Note: Production capacity is expressed through 6” wafers

### Responsibility to Our Investors

With innovation as the foundation for its operational guidelines, Nuvoton is committed to the development of new fields of application, and the expansion and strengthening of the company’s capacities and technologies. Every year since Nuvoton became publicly listed in 2010, we have been continuously creating value for investors through dividend payouts and the maintenance of a stable financial structure.





About Nuvoton



Corporate Governance



Customer Service and Supplier Management



Environment-Friendly



Best Workplace



Philanthropy

To quickly share material information with our investors, we host investor conferences every half year to enhance communication and help them fully understand our quarterly financial figures and business condition. After the event, video recordings of the conference are uploaded to our website to serve as a reference. Additionally, major company activities, important events, and other related information can be found in the investor's area of Nuvoton's official website (<http://www.nuvoton.com/>).



## Financial Performance

Nuvoton's 2016 consolidated revenue amounted to NTD 8.329 billion, up 13.9% from 2015; consolidated net profit before tax amounted to NTD 709 million, up 24% from 2015.

The financial performance over the past five years is as follows:

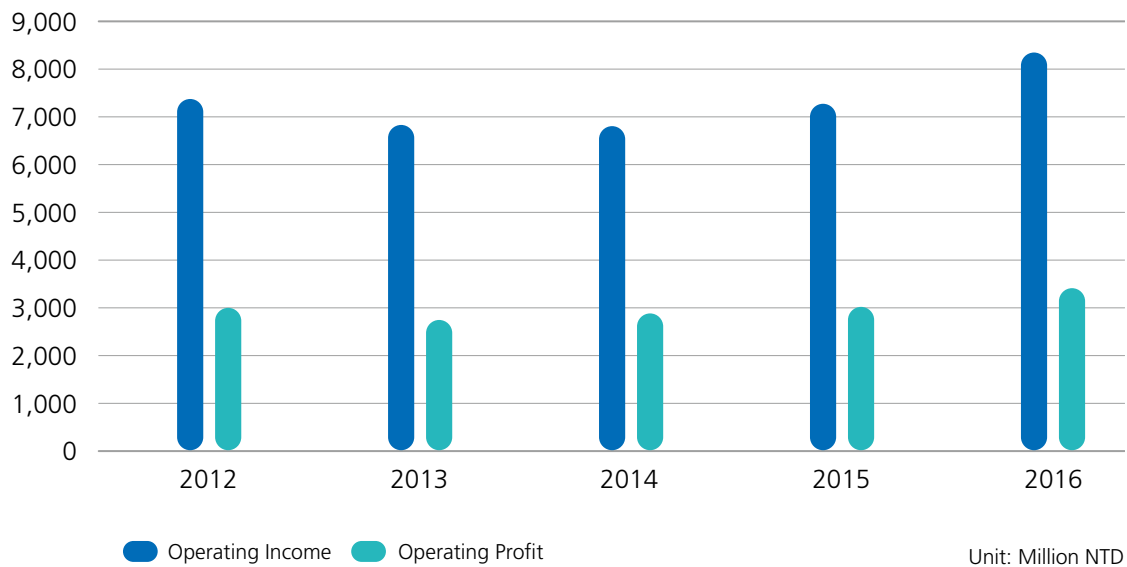
For both 2016 and 2017, Nuvoton allocated earnings from the previous year. For these two years, the earnings per share was NTD 1.8 and NTD 1.4, respectively. For 2015 and 2016, the earnings per share was NTD 2.26 and NTD 2.95, respectively.

The financial performance over the past five years is as follows:

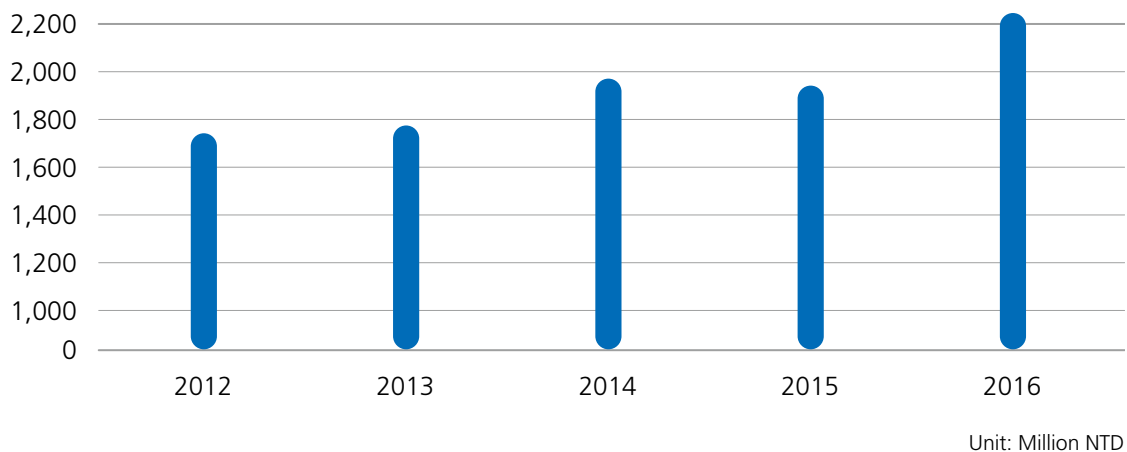
	2012	2013	2014	2015	2016
Operating Income	7,413	6,809	6,822	7,313	8,329
Operating Cost	4,398	4,023	3,926	4,263	4,921
Operating Profit	3,015	2,786	2,896	3,050	3,408
Net Profit Before Tax	777	498	421	572	709
Income Tax Expense	147	239	77	103	96
R&D Expense	1,757	1,783	1,973	1,970	2,216
Employee Benefits Expense	2,147	2,207	2,255	2,348	2,526
Total Assets	4,814	4,896	4,894	5,292	5,898
Retained Earnings	736	643	731	921	1,127
Total Equity	2,845	2,807	2,914	3,122	3,378

Unit: Million NTD

Consolidated Revenue and Gross Profit



Consolidated R&D Expense



### Association (Guild) Membership

Nuvoton actively participates in industry associations, guilds, and technology alliances to obtain the industry's latest technology and establish good relationships with relevant units, contributing to the overall development of the industry.

The external organizations that Nuvoton are involved with in 2016 are as follows

Item	Name of Association (Guild)	Membership
1	The Allied Association for Science Park Industries	•
2	Taiwan Electrical and Electronics Manufacturers' Association	•
3	Micro Sensors and Actuators Technology Consortium	•
4	Power Electronics Systems Consortium	•



About Nuvoton



Corporate Governance



Customer Service and Supplier Management



Environment-Friendly



Best Workplace



Philanthropy

## Awards and Honors

In addition to performing exceptionally well in its main area of business, Nuvoton also adheres to the concept of sustainable development in the working environment. The awards and recognition received between 2014 and 2016 are listed in the table below:

### 2016

- Launched security chip NPCT6xx which obtained TPM 2.0 Common Criteria certification.
- Nuvoton's innovative Internet of Things (IoT) development platform achieved ARM mbed OS certification.
- Ranked in the top 20% in the 3rd corporate governance evaluation.
- Recognized as a water conservation outstanding performance unit by the Water Resources Agency of the Ministry of Economic Affairs.
- Received the water conservation outstanding performance vendor award by the Science Park Administration of the Ministry of Science and Technology.
- The emission reduction for the Environmental Protection Administration's Advanced Program has amounted to 46,198 tons (accumulated to 2016).
- Recognized as good occupational safety and health personnel by the Hsinchu Science Park Bureau.

### 2015

- Launched first security chip in the world to obtain Common Criteria, FIPS and TCG certification at the same time.
- Launched world's first SIO and EC that supports both LPC and eSPI. Equipped with high performance 32-bit ARM based Cortex-M4 computing core, it provides the best solution to the platform management of PC, NB, and Chromebook.
- The 3rd "Taiwan MITTELSTAND Award"
- 2014 Hsinchu Science Park Corporate Environmental Excellence Award.
- Honorary Mention, Nursing Room Competition (Workplace Division)
- Taiwan Corporate Sustainability Report Bronze Award

### 2014

- The 3rd "National Industrial Innovation Award"
- 2014 Award for International Trade Outstanding Export/Import Business Certificate



# 4 / Corporate Governance

Corporate Governance Framework

Board of Directors

Corporate Social Responsibility Committee

Code of Ethics and Business Conduct

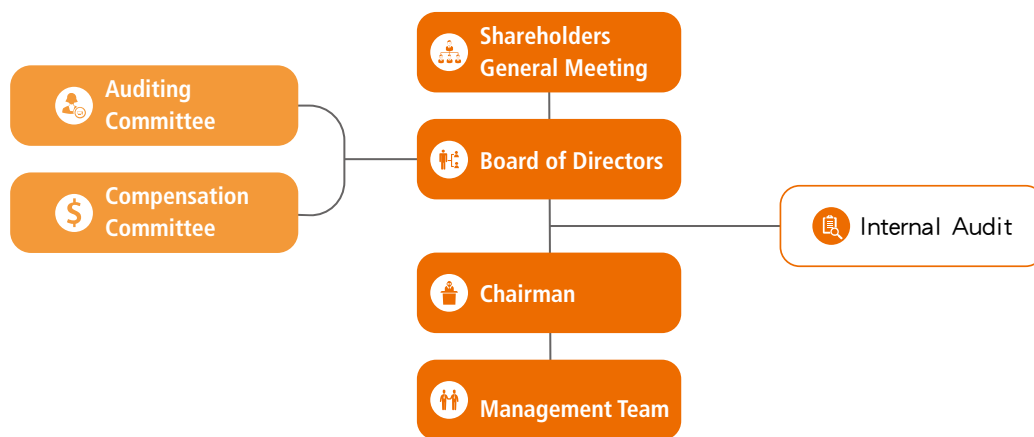
Regulatory Compliance

Risk Management



# Corporate Governance

## Corporate Governance Framework



## Board of Directors

### Board of Directors Organization

Nuvoton’s Board of Directors utilizes a candidate nomination system. The directors are elected through a list of nominees at shareholders’ meetings. The 2016 general shareholders’ meetings elected the 5th Board of Directors (including independent directors). The Auditing Committee was formed by independent directors. The current Board of Directors is comprised of 9 members. Among the 9 directors, 4 are independent directors. 1 director is a woman.

Nuvoton’s Board of Directors is comprised of directors with professional backgrounds and technical experience. We rely on the knowledge, personal insight, and business acumen of each director in assuming responsibility for the operation and supervision of the company. The board members’ background information, academic qualifications, and concurrent positions in other companies, Board of Directors, and functional committees are disclosed in the company’s annual report. Information on the company’s annual report can be found on the Market Observation Post System and the investor’s area of Nuvoton’s official website ([www.nuvoton.com](http://www.nuvoton.com)). To improve supervision functions and strengthen management functions, in addition to the Board of Directors, we have also set up an Auditing Committee and the Salaries and Remuneration Committee to strengthen the structure of corporate governance.

### Board Members

Title	Name	Gender
Chairman	Representative of Winbond Electronics Corp.: Arthur Yu-Cheng Chiao	Male
Vice Chairman	Robert Hsu	Male
Director	Yung Chin	Female
Director	Ken-Shew Lu	Male
Director	Chi-Lin Wei	Male
Independent Director	Royce Yu-Chun Hong	Male
Independent Director	Allen Hsu	Male
Independent Director	David Shu-Chyuan Tu	Male
Independent Director	Jei-Li Xu	Male

- According to Nuvoton’s “Rules of Procedure for the Board of Directors”, the Board of Directors meeting is to be held at least one every quarter. In 2016, the Board of Directors meeting convened 5 times.
- The 5<sup>th</sup> Board of Directors was elected during the shareholders’ meeting on June 15, 2016. The election term will be from June 15, 2016 to June 14, 2019.



## Board Member Responsibilities

Nuvoton’s Board of Directors is responsible for defining the company’s operating principles, long-term and short-term plans for development, annual business plan, and approving budgets and supervising the execution of company policies, as well as other material issues raised during shareholders’ meetings or board meetings. The board’s primary responsibility is to monitor compliance, financial transparency, the immediate disclosure of important information, internal corruption, and other such areas. To fulfill its oversight responsibilities, the Board has established a variety of organizations and avenues, such as a Compensation Committee and internal auditors.

Nuvoton’s management team must report the company’s operating conditions and other important issues to the Board of Directors, and provide information and comments for the board’s reference. Board meetings must be held at least once every quarter. 5 board meetings were held in 2016. Important resolutions are also immediately announced on the Market Observation Post System. As a response to the increasing international emphasis on corporate governance and corporate social responsibility development in recent years, in

addition to scheduling annual training courses for the directors, Nuvoton also irregularly provides directors with professional training course information held by external units. For more information, please refer to the Corporate Governance Area on the Market Observation Post System to search for the attendance and training summary of the directors and supervisors.

## The Auditing Committee

Nuvoton established the Auditing Committee in June 2016. The committee members are mainly responsible for assisting the board in implementing and supervising the company in the quality and integrity of accounting, auditing, the financial reporting process, and financial control. For external investors, the committee represents an independent body that supervisors the company to actively protect the rights of investors.

Nuvoton’s Auditing Committee is fully comprised of independent directors. There are currently 4 members, of which one is the convener. At least 1 member must have accounting or financial expertise. An Auditing Committee meeting is held at least once every quarter. Meetings are to be convened on an as-needed basis. 2 meetings were held in 2016.

### Nuvoton’s Auditing Committee Members

Title	Name
Independent Director, Auditing Committee Chairman	Allen Hsu
Independent Director, Auditing Committee Member	Royce Yu-Chun Hong
Independent Director, Auditing Committee Member	David Shu-Chyuan Tu
Independent Director, Auditing Committee Member	Jeï-Li Xu

## Compensation Committee

Members of the Compensation Committee are appointed by the Board of Directors. Through a professional and objective perspective, this committee assesses, established and regular reviews the policy, system, standards, and structure of compensation for directors, supervisors, and managers of the company according to defined policies and systems, and makes recommendations

to the board to serve as a reference for its decisions.

According to the “Compensation Committee Charter”, the committee must be comprised of 3 or more members. Currently comprised of 4 independent directors, the Compensation Committee holds a general meeting at least once every six months. 2 meetings were held in 2016. The committee’s articles of association are published in the investor’s area of the company’s website.

Compensation Committee Members

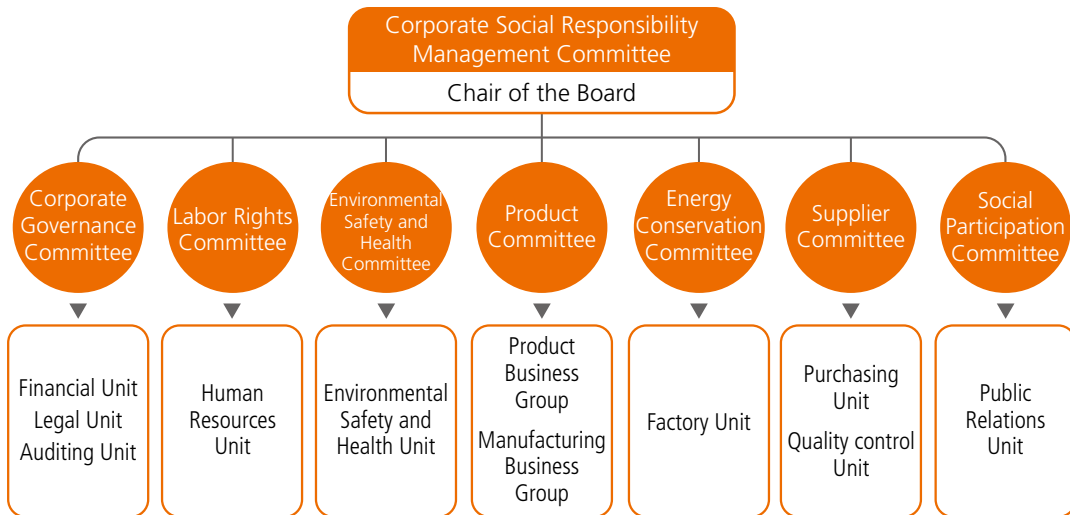
Title	Name
Independent Director, Compensation Committee Chairman	David Shu-Chyuan Tu
Independent Director, Compensation Committee Member	Royce Yu-Chun Hong
Independent Director, Compensation Committee Member	Allen Hsu
Independent Director, Compensation Committee Member	Jei-Li Xu

Corporate Social Responsibility Committee

Nuvoton established the Corporate Social Responsibility Management Committee in 2012 to improve the management of corporate social responsibility. The committee is responsible for corporate social responsibility policies, systems, and related management policies, as well as the formulation, implementation, and promotion of plans.

to serve as the chair of the committee to convene functional groups that are responsible for promoting and implementing corporate social responsibility policies. Each year, the Corporate Social Responsibility Committee will set CSR performance objectives and project implementation measures. A regular meeting is held every six months to examine corporate social responsibility compliance and the implementation results of the various programs. Starting from 2016, the Corporate Social Responsibility Committee will give an annual CSR performance report to the Board of Directors every year.

The chairman has designated a high-level supervisor



Code of Ethics and Internal Auditing System

Adherence to Ethical Values

Nuvoton complies with domestic and foreign ethics laws and regulations, and pays close attention to updates or changes made to regulations and decrees. Nuvoton regularly stipulates or amends internal related work practices or measures. "Corporate Social Responsibility Best Practice Principles", "Ethical Corporate Management Best Practice Principles",

"Integrity Management Breach Measures", and "Corporate Social Responsibility Code of Conduct" requires Nuvoton's overall operating activities to comply with relevant laws and regulations.

Under Nuvoton's Corporate Social Responsibility Code of Conduct, Ethical Business Conduct Guidelines (hereinafter referred to as "Guidelines") are defined that require all employees of Nuvoton to abide by the highest standards of integrity, and to ensure compliance with all laws and regulations. The guidelines are as follows:



About Nuvoton



Corporate Governance



Customer Service and Supplier Management



Environment-Friendly



Best Workplace



Philanthropy

- Comply with all relevant government regulations and international norms.
- Ensure business integrity, and prohibit all acts of bribery, corruption, extortion, and embezzlement.
- Do not offer or accept improper benefits, and avoid conflicts of interest.
- Emphasize corporate governance, disclose company information in accordance with laws and regulations, and avoid being hypocritical.
- Comply with principles of good faith and fair trade. Do not conduct exaggerated/false advertising and marketing.
- Provide a safe and healthy working environment.
- Implement “Customs-Trade Partnership Against Terrorism (C-TPAT)” program guidelines in daily operations.
- Ensure that all employees enjoy equal rights without discrimination.
- Respect internationally-recognized labor principles and rights. Do not hire people under the ages of 15 or involuntary personnel (through coercion, mortgage, debt, indentured servitude, enslavement, or human trafficking).
- Do not harass, unlawfully discriminate, coerce, or inhumanely treat employees (including prospective employees).
- Do not use internationally banned substances in the production processes.
- Comply with all relevant environmental protection regulations and laws.
- Respect intellectual property rights and protect the personal information of those who do business with us.
- Require suppliers to comply with all relevant laws while emphasizing corporate social responsibility

## Training

To help employees establish correct legal concepts and enhance their understanding of corporate social responsibility, Nuvoton regularly holds business integrity education and training courses on “Corporate Social Responsibility Best Practice Principles” and “How to Implement Integrity

Management”. The courses explain the regulations in a clear and easy way, and employees are required to take tests after the courses to enhance their understanding of related law compliance.

The educational training data on the compliance of relevant laws and regulations of corporate social responsibility are as follows:

### New staff training data

	Corporate Social Responsibility Code of Conduct	How to Implement Integrity Management
Number of trainees	140	140
Completion Rate	97.9%	96.4%

### General staff training data

	Corporate Social Responsibility Code of Conduct Course	How to Implement Integrity Management
Number of trainees	1,333	1,333
Completion Rate	99.8%	99.8%

**Grievance Mechanism**

In “Grievance Regulations for Violations of Integrity Management”, Nuvoton has stipulated grievance operating procedures for integrity management violations. We have also set up many grievance channels, such as a physical suggestion box and an inbox for internal disclosure of illegal activities. If there are any unjust or unfair illegal acts, internal or external personnel can conduct anonymous or named reports through various grievance channels. When a complaint is received, a specialized group will start an investigation. No complaints were received during 2016.

**Internal Auditing System**

Nuvoton has set up an internal auditing unit under the board of directors. In accordance with the company size, business conditions, management needs, and other relevant laws and regulations, Nuvoton has appointed a total of two full-time internal auditors. Nuvoton established its internal control system according to laws and regulations, and stipulated internal auditing implementation regulations in accordance with the internal control system, implementing and examining the existing control system, the effectiveness of the procedures, and the degree of compliance. The scope includes all Nuvoton operations and subsidiaries.

The internal auditing unit operates according to the auditing plans, which are stipulated in compliance with the risk assessment results and approved by the board of directors. Recommendations for improvement are made into an audit report for the shortcomings of the internal auditing system and regularly reported to the board of directors.

The internal auditing unit reviews Nuvoton’s internal control system and various operations through the aforementioned auditing work, assisting the board and the management in confirming the completion of operations, reports, compliances, and other related targets. The operational effectiveness and efficiency include achieving operational and financial performance objectives, maintaining asset security, and ensuring the reliability, timeliness, and transparency of internal and external financial and non-financial reporting, as well as its compliance with related laws and regulations.

The internal auditing unit supervises the various units and subsidiaries in their annual self-inspections of the effectiveness of their internal control systems. Then, the internal auditing unit reviews the self-inspection reports of all units and subsidiaries, as well as the effectiveness of their internal control systems. The consolidated self-inspection results serve as a basis for the board and president in their Internal Control Systems Statement.

In 2016, the internal auditing unit conducted a total of 39 audit items and supervised 38 factory units in completing the annual internal control self-assessment. The results of the aforementioned audit items and self-assessments reasonably affirm that the design and execution of Nuvoton’s internal control system are valid and that they comply with all statutory rules and regulations.

**Regulatory Compliance**

Nuvoton has customers from all over the world. To ensure the implementation of integrity management and regulatory compliance, we continue to pay attention to domestic and foreign policies and regulations that may affect Nuvoton’s businesses and finances. We also regularly promote the core values of integrity management. Nuvoton complies with the Company Act, Securities and Exchange Act, Business Entity Accounting Act, Political Donations Act, Anti-Corruption Act, Fair Trade Act, and other related laws. Furthermore, Nuvoton has stipulated corporate governance rules and procedures for employees to follow.

Nuvoton employees can check relevant training course information and promotional materials on the internal website to further ensure our commitment to compliance. All Nuvoton employees participate in compliance policies. Cooperation between various departments improves execution performance. Nuvoton launches compliance-related programs and courses to provide employees with a better understanding of intellectual property rights. The courses also stress the importance of protecting trade secrets and help employees become more familiar with the latest laws and regulations. The following legal-related training courses have been conducted in 2016:

### 2016 Legal-related Training Courses

Course Name	Number of Trainees
Getting Contracts Right the First Time	121
New Employee Orientation - Common Discipline_ The Legal Risk of Intellectual Property Rights	167
New Employee Orientation - Common Discipline_ Patent search: How to Write a Patent	167

## Risk Management

Risk	Contents
Financial Risk	<p>The influence of interest rate fluctuations : At present, Nuvoton mostly uses its own funds for operating expenses, so interest rate fluctuations will not have a significant impact on operations. Furthermore, Nuvoton maintains good relationships with multiple financial institutions and can receive lower interest rates when needed. Therefore, interest rates will not have a significant impact on company operating costs.</p> <p>The influence of exchange rate fluctuations: The majority of Nuvoton’s sales and purchases are conducted in US dollars. The offset of foreign currency income and foreign currency expenditure produce a natural hedging effect. For the difference in the foreign currency balance, Nuvoton can leverage forward exchanges to hedge exchange differences depending on exchange rate fluctuations, reducing the impact that exchange rate fluctuations have on Nuvoton.</p>
Information Security Risk	<p>Nuvoton is committed to maintaining information security and protecting confidential information. A specialized information security representative stipulated Nuvoton’s security policy for company-wide compliance. For physical security, each region is equipped with access control for restricted access. Key areas have an additional video surveillance system for enhanced safety management. For Internet and data security, Nuvoton has stipulated Information Security Management Measures for company-wide compliance. We have also set up a variety of information security measures to avoid data being improperly accessed or tampered with, and to prevent business secrets and intellectual property theft or leakage. In addition, to enhance employee awareness of information security, we also organize various educational and promotional events on information security so as to create a safe working environment.</p>
Risks to Health and Safety	<p>Nuvoton has set up a company-wide “Environmental Security and Risk Management Committee”. The committee holds a meeting every quarter to discuss daily health and safety management issues and to promote occupational safety and health, health management, environmental protection and damage prevention results, regulatory compliance, and constant improvement plans. The meetings serve to implement safety and health communication.</p>
Supplier Risk	<p>Vendors with stable levels of supplies are an important part of maintaining competitiveness. With current degrees of globalization, a natural disaster or accident might affect the stability of the entire supply chain. As a result, we uphold the principle of “many suppliers from many locations” in establishing sources for materials. Long-term agreements with major raw material suppliers not only help increase our own inventory, but also enables zero risk delivery through consignment. If we are unable to establish a second supplier for a particular item, then we request vendors and distributors to prepare safety stock, while using the Just-in-time (JIT) method to reduce supply risk.</p>



# 5 / Customer Service and Supplier Management

Customer Service and Satisfaction

Protecting Customer Privacy

Regulatory Compliance for Products

Sustainable Supply Chain Management



# Customer Service and Supplier Management

## Customer Service and Satisfaction

To guarantee that the quality and reliability of its products will completely satisfy the needs of its customers, Nuvoton is committed to delivering competitive products with “zero defects”. Methods used include quality control, reliability assurance, and failure analysis.

### Quality Control

Nuvoton implements a series of quality control mechanisms that covers every step of the production process. The main steps to its quality control operations include raw material inspection, wafer fabrication process, electrical characteristics test, and die packaging. Nuvoton continuously monitors every step of the manufacturing process. By doing so, Nuvoton is able to gather information about every layer of feedback, detect problems quickly and efficiently, and conduct an assessment analysis followed by corrective measures. The company emphasizes that every step of the manufacturing process must be “done right the first time” to result in an output with “zero defects”, thereby establishing high-quality and reliable product lines.

### Reliability Assurance

At Nuvoton, the purpose of the reliability assurance test is to ensure high-end product performance throughout the expected product life cycle. Each manufacturing stage undergoes constant review, analysis, and evaluation. Amendments are made to improve quality and reliability.

### Failure Analysis

Customers may return defective products to Nuvoton. In the event of this, Nuvoton discusses with the customer the most appropriate method to replace, replenish, or offer a discount to compensate for any loss incurred by the customer. Meanwhile, Nuvoton completes a comprehensive physical and electrical test as well as a failure analysis on any defective integrated circuit (IC) to determine the root causes of product failure, and respond with corrective actions and measures for improvement.

Furthermore, Nuvoton closely monitors this process to ensure that measures for improvement are effectively implemented, while providing customers with a detailed written report of the failure analysis.

## Customer Satisfaction Survey

Nuvoton’s quality assurance unit regularly visits customers to conduct customer satisfaction surveys through face-to-face interviews. This allows Nuvoton to receive valuable suggestions and gain insight into the level of customer satisfaction in regard to new product marketing/sales, delivery, quality improvement, technical support, and customer service. Interviewees include purchasing, quality assurance, research and development, and other such units. Different from the general method of collecting satisfaction scores, Nuvoton uses interactive face-to-face interviews so customers can raise recommendations and topics of concern to promote mutual understanding and achieve common goals. We hope to become an indispensable partner for our customers.

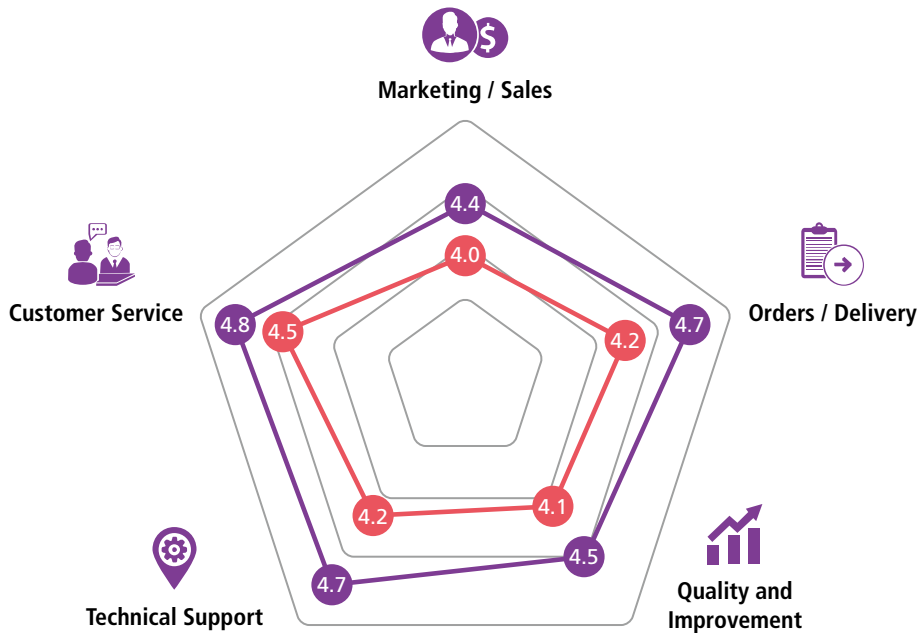
After the interviews have been completed, the Quality Assurance Department summarizes customer reviews, complaints, satisfactions, and suggestions improvement for before convening the Business Department, Sales Department, R&D Department, and Production Management Department to answer each customer feedback and draw up improvement plans. They are required to propose improvement plans within a month to serve as Nuvoton’s performance goal and respond to customers so customers can receive direct and immediate feedback. This interviewing method of gathering information regarding customer satisfaction levels have been affirmed by the majority of customers. The Quality Assurance Department delivers the final consolidated results to management to serve as a resource to continue improving satisfaction.



In addition to responding to the topics of concern that year during the interviews, we conducted evaluations according to various satisfaction indexes. Evaluations include the following items:



- Marketing / Sales**  
 Development speed of new products, application files, new product features / breadth, new product information / promotion / propagation.
  - Orders / Delivery**  
 Flexibility of receiving orders, response time for orders, on-time delivery, product packaging.
  - Quality and Improvement**  
 Defect rate, sample quality, analysis of defects, improvement measures.
  - Technical support**  
 Prompt technical support, analysis capabilities, development flexibility.
  - Customer Service**  
 communication channels, service attitude, response speed, professional knowledge, processing returned purchases.
- Lowest rating: 1. Highest: 5
- Ratings are classified as follows: (1) Very Unsatisfied, (2) Unsatisfied, (3) Average, (4) Satisfied, (5) Very Satisfied.

### Customer Satisfaction Survey Results



-  2016
-  2014/2015
- All items have satisfied ratings (4 and above). Satisfaction levels of each item have significantly improved.
- Customers were most satisfied with customer service, which continues to gain satisfaction ratings from customers

2016 Indicators	Results
Total number of occasions in which products or services have violated relevant health, safety, and voluntary guidelines (products and services still within their life cycle).	0
Total number of complaints about proven breaches of customer privacy or loss of customer data.	0
Total number of significant fines due to violations of the law and/or regulations regarding the distribution and/or use of products or services.	NTD 0

## Protecting Customer Privacy

In addition to enhancing customer service, Nuvoton also values the protection of customer privacy and intellectual property rights. Nuvoton signs confidentiality agreements with customers to protect confidential customer information. We also have a confidential data protection program to prevent data from being leaked, properly protecting customer privacy. Nuvoton has not received any complaints regarding breaches of customer privacy or leaked confidential information in 2016.

## Regulatory Compliance for Products

Nuvoton requests that all products use materials that comply with the European Union Restriction of Hazardous Substances Directive (EU ROHS), REACH, and halogen-free requirements. Nuvoton has also reduced the use of chemical substances in its manufacturing process. There were no violations of laws or regulations between 2014 – 2015, meeting both international regulations and customer requirements.

## Sustainable Supply Chain Management

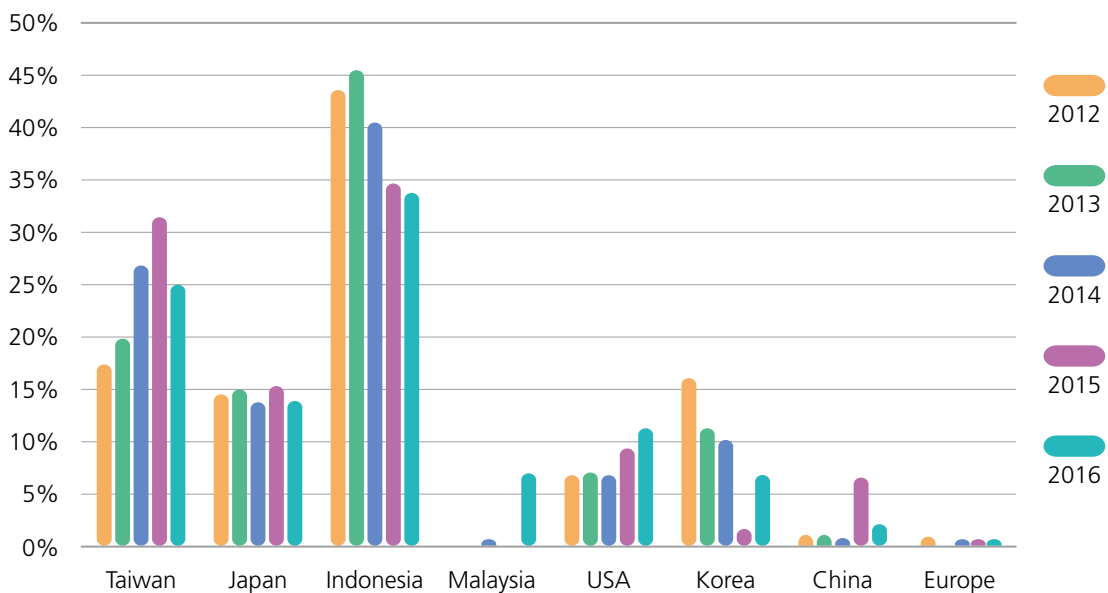
### Supply Chain Management Strategy

Since its inception, Nuvoton has always considered its suppliers as long-term partners towards achieving the common goal of establishing a stable semiconductor supply chain. In recent years, Nuvoton has been committed to the local production of raw materials for the purpose of reducing transportation costs, diversifying risk, and reducing carbon emissions. Furthermore, Nuvoton hopes to increase employment opportunities by cultivating local production. From 2013 to 2015, the rate of local Taiwanese procurement increased from 20% to 31.5%. In 2016, the rate decreased to 25.1% due to capacity allocation and cost considerations. Nuvoton hopes to maintain close relationships with local suppliers, while striving to reduce overall costs and risks together by achieving win-win situations. Localized procurement is an important strategy for Nuvoton when choosing suppliers.

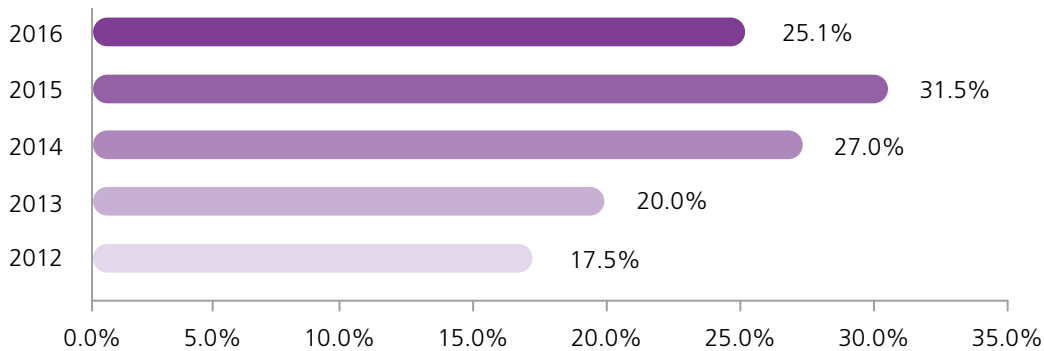
IC Manufacturing Process



Nuvoton's Raw Material Purchases from 2012 - 2016



Nuvoton's Purchases of Local Taiwanese Raw Materials from 2012 – 2016



### Supply Chain Management

Nuvoton stands firm in its commitment to promoting corporate social responsibility. In addition to the factors of quality, delivery, and price, Nuvoton also takes the following approaches to managing its suppliers in order to confirm that the labors, ethics, environment, management systems, health, and safety of suppliers meet the latest regulations, so we can fulfill our corporate social responsibility vision of "providing a sense of safety, reassurance, and empathy"

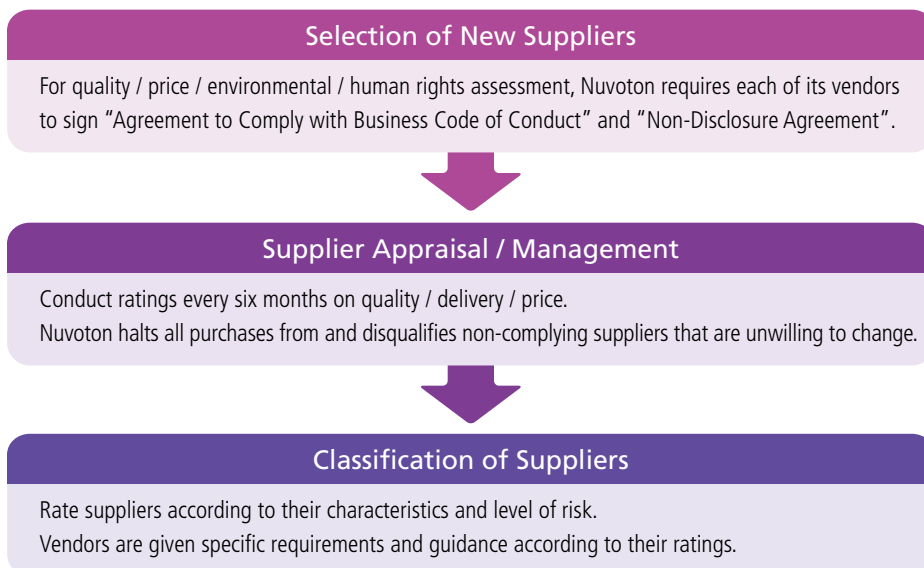
- In addition to complying with industrial safety and environmental protection requirements, Nuvoton also requires suppliers to focus on promoting CSR together.
- Based on principles for the protection of human rights, Nuvoton pays close attention to the issue of conflict minerals. For the raw materials in its

production processes, Nuvoton is committed to avoiding the use of minerals obtained from illegal mining operations that stand in violation of human rights.

- Nuvoton pays close attention to how labor rights are respected throughout its supply chain, and requires suppliers to comply with the laws of the countries they operate in and relevant international industry practices, including the standards defined by the "Electronic Industry Code of Conduct (EICC)" as well as any subsequent changes or amendments.

### Supply Chain Management Method

To establish a supply chain management mechanism with sustainable growth, Nuvoton utilizes the following three methods for control and counseling for its supply chain management:



### Selection of New Suppliers

Nuvoton assesses the factors of quality, price, environmental protection, and labor rights in selecting vendors. Vendors must meet our requirements to become a qualified supplier for Nuvoton.

- Environmental Management System Certification**  
 Nuvoton requires its supply chain vendors to obtain certification from the Environmental Management Systems Standard ISO 14001 or Occupational Health and Safety Assessment Series OHSAS 18001. If a vendor is unable to obtain certification immediately, they are required to establish a schedule to do so. To date, approximately 77.6% of our supply chain vendors have environmental related certification.
- Ethical Requirements**  
 Nuvoton requires each vendor to sign an "Agreement to Comply with Business Code of Conduct" and a "Confidentiality Agreement", which compel them to trade and transact honestly without undermining the interests or image of Nuvoton.
- Social Requirements**  
 Examining the labor rights practiced by vendors: Nuvoton actively uses the standards of the "Electronic

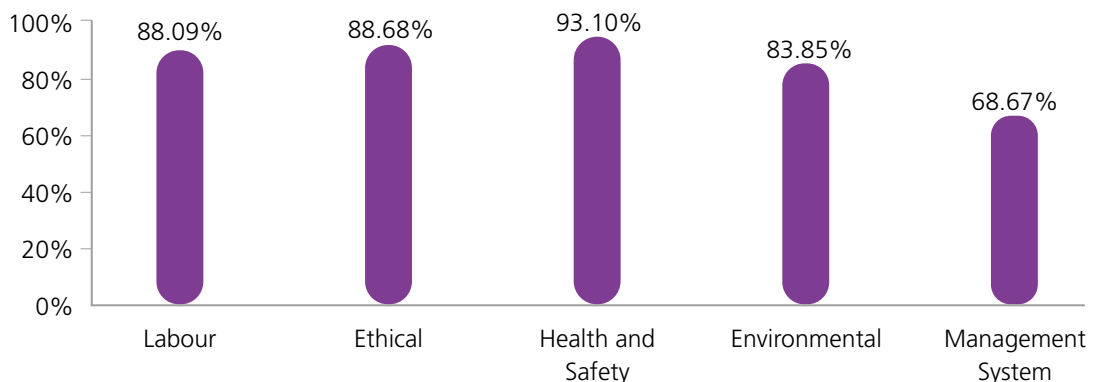
Industry Code of Conduct (EICC)". Nuvoton requires its supply chain vendors to meet its requirements in regards to the environment, health and safety, labor rights, and working conditions.

### Supplier Appraisals

- Half-yearly Appraisals**  
 Nuvoton conducts business review reports every six months to review suppliers' overall performance in regards to quality, delivery, and sustainable management capabilities through our QCDSS assessment. Furthermore, Nuvoton requires vendors to continuously improve and meet its requirements for suppliers.
- Corporate Social Responsibility Self-evaluations**  
 Nuvoton requires its top 3 packaging and testing plants and top 20 raw material vendors to conduct corporate social responsibility self-evaluations every year. The items of self-evaluation include labor, ethics, health and safety, environmental, and management system. Vendors who score under 80 in their self-evaluations are required to conduct educational training to strengthen their basic concepts of CSR. This serves to assist vendors in subsequent CSR implementation. The self-evaluations of vendors in 2016 are as follows (A total of two vendors scored under 80. Both have already completed educational training):

Type	Below 70	70-79	80-89	90-100
Raw Material Suppliers	1	1	10	5
Packaging and Testing Suppliers	--	--	2	1

- The percentage of self-evaluation indexes with a full score in 2015 are shown in the chart below. The chart shows that vendors value health and safety most, while management system had the lowest percentage.



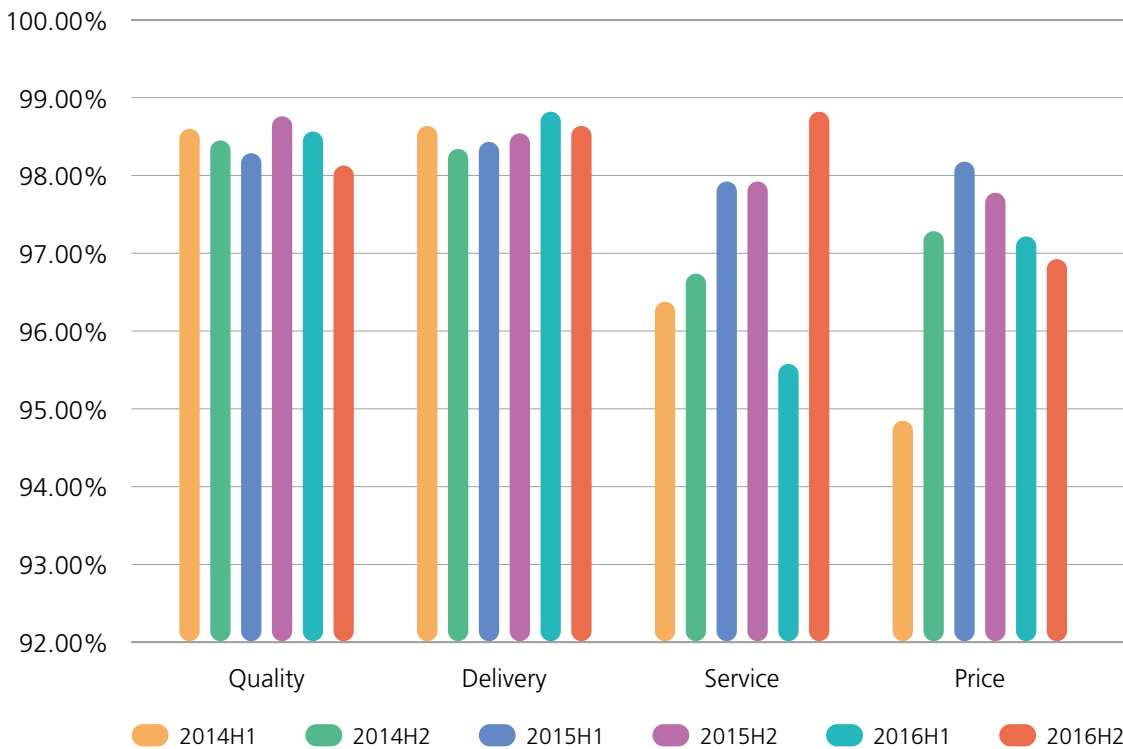
### Guidelines for Classifying Suppliers

- Management Targets: Various types of production-related raw materials suppliers.
- Management Units: Purchasing, Engineering, and Material Management related departments.
- Management Practices:
  - ① Collect information on the performance of suppliers from all relevant units every half-year and rate them accordingly.
  - ② Conduct quality surveys on vendors from time to time according to supply quantity. For domestic production/packaging plants, supplier

inspections must be conducted once every 3 years on suppliers that continue to supply material each year. For suppliers that supply less than 10 SAP inspection batches each year, supplier inspections can be extended to once every 5 years. Inspections are suspended for suppliers that have not supplied material for 2 consecutive years.

Assessment items: "Sustainability Index", "Quality Indicators", "Price Index", "Delivery Targets", and "Service Indicators". Amongst these five items, "Sustainability Index" serves as a benchmark for assessing the CSR commitments of vendors, and urging them to protect the environment, improve levels of health and safety, respect labor rights, and work together to fulfill CSR duties.

Half-yearly Vendor Evaluations



### Conflict Minerals Management for Suppliers

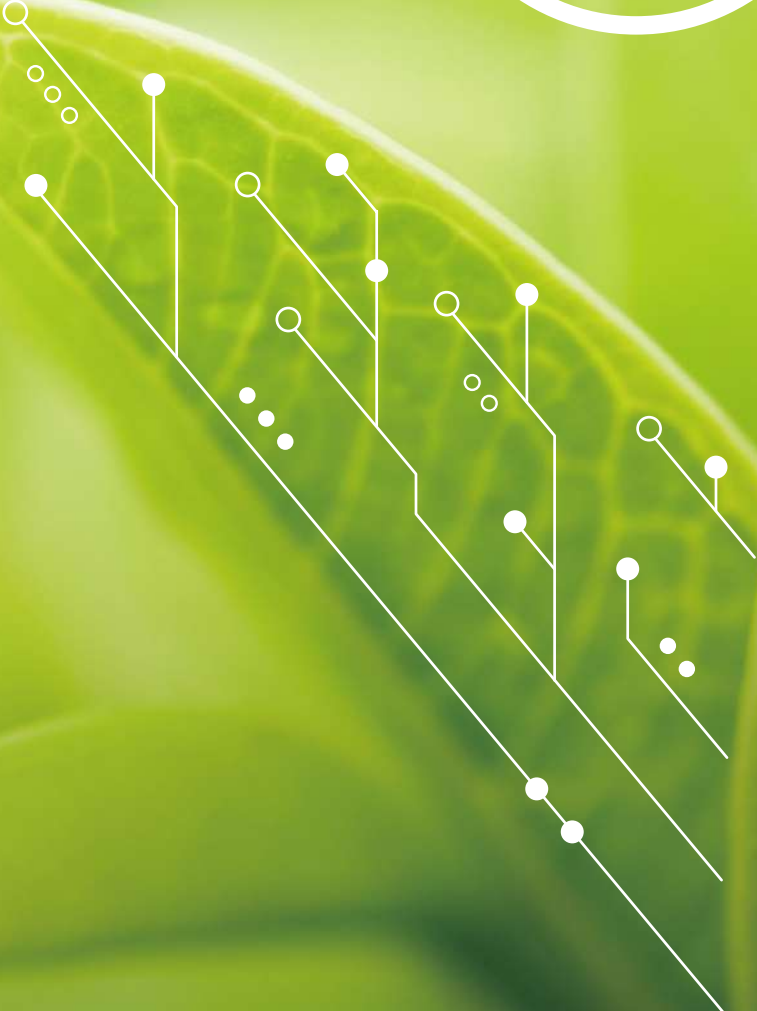
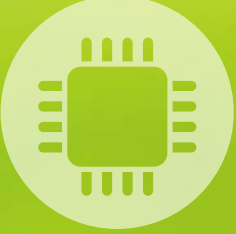
- Nuvoton requires related vendors, including outsourced wafer processing manufacturers, packaging plants, and raw material suppliers (WF6), to investigate and disclose conflict minerals in a due diligence report. Surveys are conducted each time the Electronic Industry Citizenship Coalition (EICC) is updated.

- Nuvoton requires related vendors, including outsourced wafer processing manufacturers, packaging plants, and raw material suppliers (WF6) to sign a statement of non-use of conflict minerals. 23 vendors have signed.
- When a supplier is unable to comply with related requests, the management unit responsible will hold an MRB meeting to discuss the disposition of said supplier.



# 6 / Environment-Friendly

Environmental Management  
Cherishing our Resources  
Pollution Prevention  
Greenhouse Gas Management  
Green Products



# Environment-Friendly

Complying with environmental laws, regulations, and international standards, Nuvoton is committed to becoming a green enterprise with sustainable development. We are also committed to continuous improvement. We strive to reduce the impact of production on the environment, and eliminate any foreseeable environmental pollution risks through source reduction and company-wide participation to protect the natural environment. In our business operations and activities, we will continue striving to achieve a level of development that balances economic, social, and ecological factors.

## Environmental Management

### Environmental Management System

Nuvoton is putting its goal of becoming a green business with sustainable development into practice. Nuvoton draws from the spirit of ISO 14001 and OHSAS 18001 PDCA to continuously improve our Environment, Safety, and Health (ESH) Management System. Through process optimization and company-wide participation, we continue to reduce the use of key raw materials and the emission of pollutants in accordance with environmental regulations. We obtained ISO14001 and OHSAS18001 certifications

when Nuvoton was founded in 2008. In 2016, we passed ISO14001 2015 certification, incorporating the concept of life cycles into our environmental management system.

In addition to promoting environmental management related businesses through daily operations, Nuvoton has also set up an ESH and Risk Management Committee to regularly address and review law compliance, issues of interest to stakeholders, and programs for continuous improvement of the environment. The committee has organized specific groups, such as the energy-saving and greenhouse gas reduction group, to research reduction targets and guidelines for important environmental issues, and implement various related reduction programs.

### Environmental Management Strategy

With an environmentally friendly attitude, Nuvoton has stipulated three major environmental protection strategy items: "cherishing resources", "reducing emissions", and "developing green products". Through the continuous improvement of the ESH system, Nuvoton strives to reduce the impact that products and production activities have on the environment.

Furthermore, for our strategies, we also irregularly



Green Factory Visit Events



take part in relevant environmental award selections or assessments, introducing external guidance or experts to share their experiences to help to identify blind spots or opportunities for improvement in environmental management. In 2015, Nuvoton participated and passed the assessment of the Industrial Development Bureau, Ministry of Economic Affairs' Cleaner Production Evaluation System. In 2016, Nuvoton assisted the Industrial Development Bureau in organizing green factory visit events and related industry exchanges.

### Cherishing Resources

The earth's resources are limited, so we must cherish its usage to achieve sustainable development. The various phases of a product's life cycle - from raw material mining, transportation, manufacturing, usage, to discarding - all have an impact on the environment. Reduced usage can decrease the impact on the environment and also cut cost, achieving a win-win situation of environmental protection and economic benefit. Therefore, through optimized adjustment, source reduction and reducing hydropower energy and key chemical raw materials

have always been one of Nuvoton's most important environmental strategies.

### Energy Conservation

Nuvoton mainly draws its energy from purchased electricity, followed by natural gas and a small amount of diesel fuel and gasoline. The majority of Taiwan's energy supply structure and power generation structure are high carbon types. Taiwan is over-reliant on non-renewable fossil fuels, such as coal and petroleum, which cannot be replenished after they are mined. Furthermore, pollution generated by the burning of fossil fuels will not only affect the environment, but also destroy the complex regulatory mechanisms of nature, causing climate anomalies. Thus, energy conservation to help mitigate climate change should be a goal for every corporation.

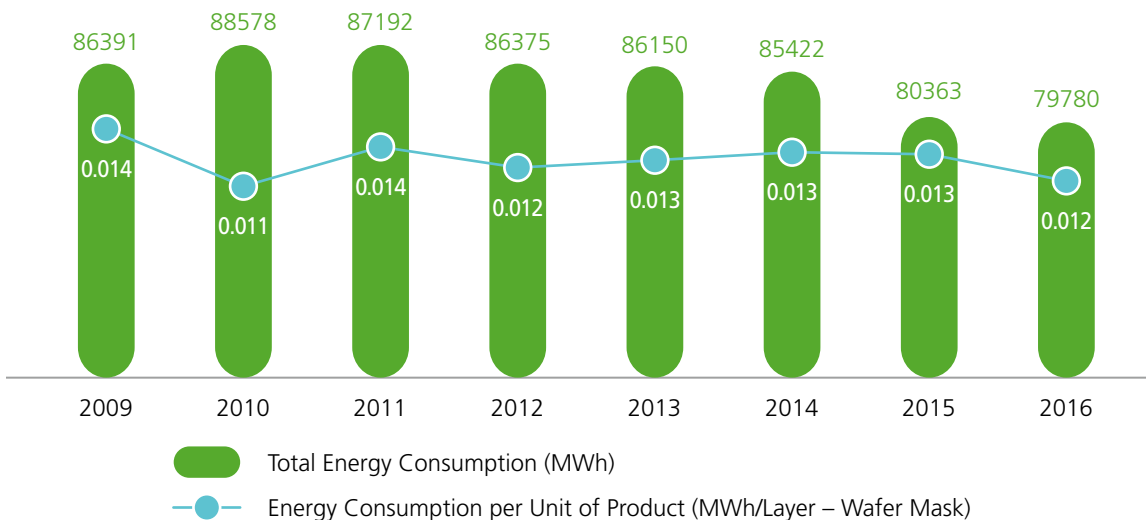
- Energy Consumption

Nuvoton's energy consumption in 2016 was mainly electricity, which accounted for approximately 96.7% of total energy consumption; gas (natural gas and liquefied petroleum gas) accounted for approximately 3.2% and fuel (diesel and car gasoline) accounted for less than 0.1%.

- Energy Intensity

- ① Energy Consumption Statistics:

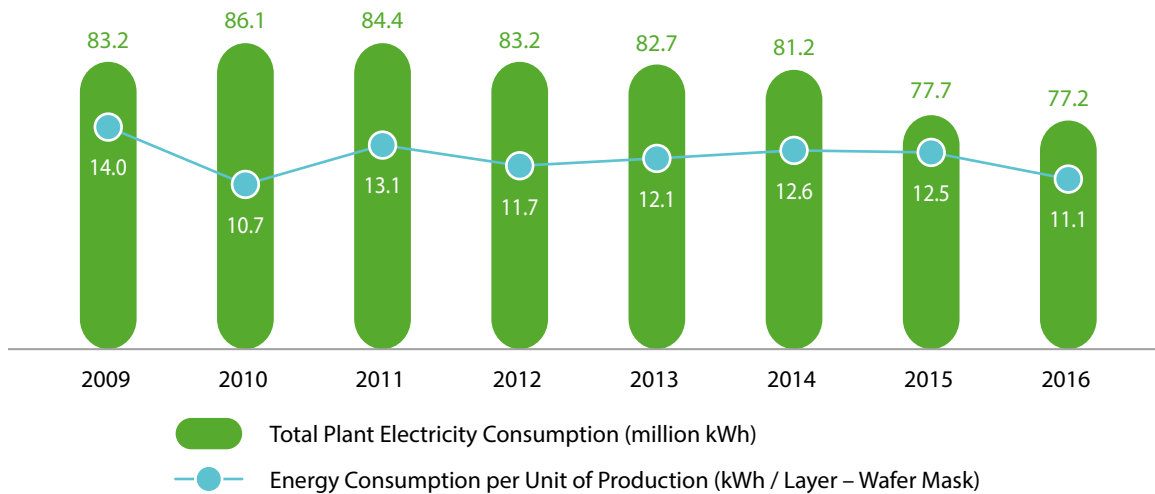
Nuvoton's total energy consumption in 2016 amounted to 79,780 MWh, and energy consumption per unit of product amounted to 0.01 MWh/layer - wafer mask.



② Electricity Consumption Statistics:

Nuvoton's total electricity consumption in 2016

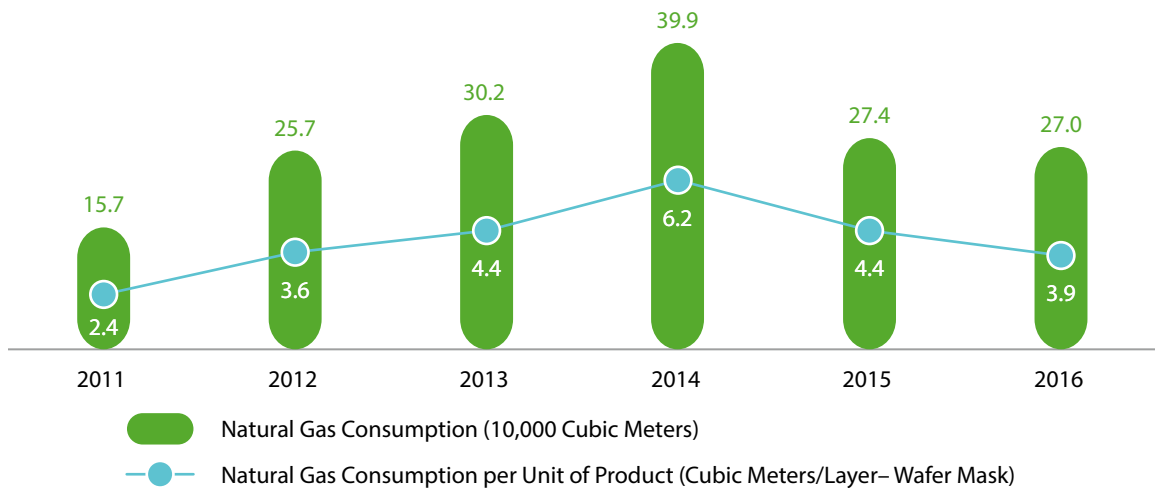
amounted to 77.2 million kWh, and energy consumption per unit of product amounted to 11.1 kWh/layer – wafer mask.



③ Natural Gas Statistics

Nuvoton has been using natural gas since 2011. The kitchens started to use natural gas in April 2013. We adjusted the optimal usage of natural gas equipment from 2014 to 2016. Natural gas consumption in 2016 amounted to 270 thousand cubic meters; natural gas

consumption per unit of product amounted to 3.9 cubic meters/layer – wafer mask. Natural gas usage in 2016 decreased by approximately 1.5% compared to that of 2015, while natural gas consumption per unit of production decreased by over 11%. These results are mainly due to our continuous efforts in optimal usage adjustment.



● Energy Conservation Measures

Nuvoton's main energy conservation policy is to reduce the demand for energy, reduce energy consumption, and improve operating efficiency. Our long-term goal is to reduce electricity consumption by 12% in 10 years. Our goal in 2020 is to reduce electricity consumption by

12% compared to 2010. We have implemented temperature and humidity optimization control range to reduce electricity consumption in our semiconductor foundry, testing facilities, finished products, and raw material warehouses, all of which use a larger proportion of electricity consumption. In our offices and laboratories,



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we have promoted energy-saving habits such as turning off the lights, air conditioning, and machines when getting off work. For natural gas usage, we implemented optimized combustion of organic waste exhaust, and also recycle waste to reduce the overall use of natural gas. To improve power efficiency, we added refrigerant polarizers to the ice machines, set up an exhaust windmill frequency converter, added cooling ducts to the cooling tower, and adjusted the electric boiler to an optimized pressure to avoid excessive heating and enhance power efficiency. In our office areas, we adjusted the ice water pressure and the minimum temperature of air conditioning to avoid setting the temperature too low. We have also adjusted lighting configurations and have been gradually replacing lights with LED lighting.

Nuvoton Technology implemented a total of 8 energy conservation measures in 2016. An estimated 1.28 million kWh were saved in electricity consumption.

### 2016 Energy Conservation Measures

- Lowered air conditioning load at testing facilities
- Replaced all adsorption dryers with heated dryers
- Skipped temporary storage tank in pure water system so the pump stops working
- Stopped UV in the temporary storage tank of the pure water system
- Upper and lower electrode ice machine integration in dry etching machines
- Continued replacing regular lights with LED lights
- Added insulation jackets to exhaust gas treatment equipment pipelines
- Production operation server integration

### Water Conservation

Precipitation patterns have changed drastically in recent years due to climate change. Thus, the issue of water scarcity has begun to receive international attention. The manufacturing processes in the semiconductor industry require a lot of water. Nuvoton uses the tap water provided by a water company. Furthermore, Nuvoton also recycles a small amount of rain and air conditioning condensate to use as a secondary water source. Our two main water conservation strategies are to prioritize source reduction and increase back-end recycling utilization to reduce the consumption of water resources.

We have optimized the process water flow rate, adjusted the frequency of water changes, extended the backwash frequency of the water purification system, installed water conservation facilities for domestic water supply, and adjusted the gardening irrigation frequency to reduce water consumption. We gather and utilize various facilities to process wastewater in accordance with water quality classifications. After recycling, water with high degrees of purity is optimally processed and recycled for process use. Water with suboptimal degrees of purity is used for cooling towers, exhaust gas cleaning towers, and other secondary types of water usage. In addition, we have also set up an air conditioning condensate and rainwater collection and recycling system for secondary water usage.

Nuvoton cherishes water resources and continues to implement various effective water conservation measures. In 2016, Nuvoton received the "Water Conservation Outstanding Performance Unit" award by the Water Resources Agency of the Ministry of Economic Affairs, as well as the "Water Conservation Outstanding Performance Vendor" by the Hsinchu Science and Industrial Park.



To further understand its use of water resources and confirm the direction of water conservation measures, Nuvoton completed the water footprint inventory in 2016, obtaining ISO14064 water footprint inventory verification from DNV GL Business Assurance.

Passed ISO14064 Water Footprint Inventory

**DNV·GL**

**VERIFICATION STATEMENT OF WATER FOOTPRINT INVENTORY ASSERTIONS**

Statement No.: 05001-2016-WFP-TWN  
Issued date: 22 November, 2016  
Page 1 of 2

NUVOTON TECHNOLOGY CORPORATION initiate reporting of

**Non-comprehensive Water Footprint Inventory Management Report (2015)**

**Scope of Verification**  
DNV GL Business Assurance (DNV GL) has been commissioned by NUVOTON TECHNOLOGY CORPORATION to perform a verification of the Water Footprint Inventory assertion of NUVOTON TECHNOLOGY CORPORATION Non-comprehensive Water Footprint Inventory Management Report (2015) (hereafter the "Inventory Report") in Taiwan, ROC with respect to the following area: No. 4, Creation Rd. III Hsinchu Science Park, Hsinchu, Taiwan, R.O.C.

**Verification Criteria and GHG Programme**  
The verification was performed on the basis of ISO 14046:2014, as well as Product-Category Rules (PCR) for preparing an environmental product declaration (EPD) for Integrated Circuits, PCR 2009:1, given to provide for consistent Water footprint inventory identification, calculation, monitoring and reporting.

**Verification Statement**  
It is DNV GL's opinion that the reliability of the information within the Report for site-specific data was verified with a reasonable assurance. The Inventory Report of December, 2015 is free from material discrepancies in accordance with ISO 14046:2014 and Product-Category Rules (PCR) for preparing an environmental product declaration (EPD) for Integrated Circuits, PCR 2009:1.

Chun-Ran Lin  
GHG Verifier

For the issuing office:  
DNV GL Business Assurance Co., Ltd.  
28F, No. 263, Sec. 2, Wenhsueh Rd.,  
Rangien District, New Taipei City 220,  
Taiwan

Place and date:  
Taipei, 22 November, 2016

Management Representative

**DNV·GL**

Statement No.: 05001-2016-WFP-TWN  
Place and date: Taipei, 22 November, 2016  
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**Supplement to Statement**

**Process and Methodology**  
The reviews of the Inventory Report and the subsequent follow-up interviews have provided DNV GL with sufficient evidence to determine the fulfillment of stated criteria. The Inventory Report correctly complies with the requirement of ISO 14046:2014 and Product-Category Rules (PCR) for preparing an environmental product declaration (EPD) for Integrated Circuits, PCR 2009:1.

**Quantification of Water Footprint Emission**  
The Inventory Report covering the period January 1, 2015 to December 31, 2015, it is DNV GL's opinion that the Inventory Report results in quantification of water footprint inventory that are real, transparent and measurable.

**System Boundary of Verification**  
 cradle-to-gate  gate-to-gate

**Functional Unit**  
Per 6" wafer

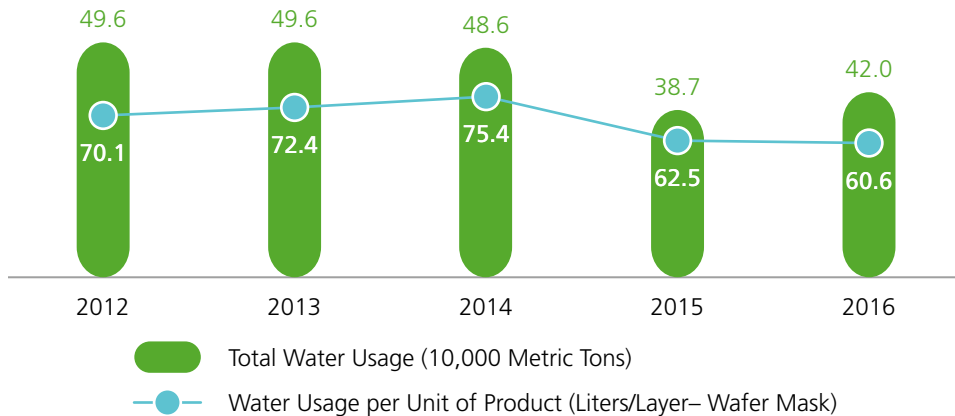
**Non-comprehensive Water Footprint Verified**

	Water Consumption (M <sup>3</sup> of water / unit)	Effluent Water Quality (g of water / unit)	
		BOD	SS
Supplier Phase	0.99	BOD	213.66
		COD	451.13
		SS	470.00
Manufacturing Phase	1.00	BOD	3.40
		COD	10.44
		SS	6.16
Total	1.99	BOD	217.06
		COD	461.57
		SS	476.17

**Verification Opinion**  
 Verified without Qualification  
 Unable to Verify

• Tap Water Usage

Nuvoton's total tap water usage in 2016 was approximately 420,000 metric tons. Water usage per unit of product was approximately 60.6 liters/layer- wafer mask.



● **Water Recovery Rate and Total Amount**

Nuvoton's plant is an old plant built before 1994. Our water recovery rate is much higher than the "Hsinchu Science and Industrial Park's Construction Time Corresponding Recovery

Rate Standard". Although we have encountered difficulties such as modifying the pipelines in our old plant and having no space to set up a recycling facility, we still continue to make efforts towards improvement.

**Nuvoton's 2016 Water Recovery Rate**

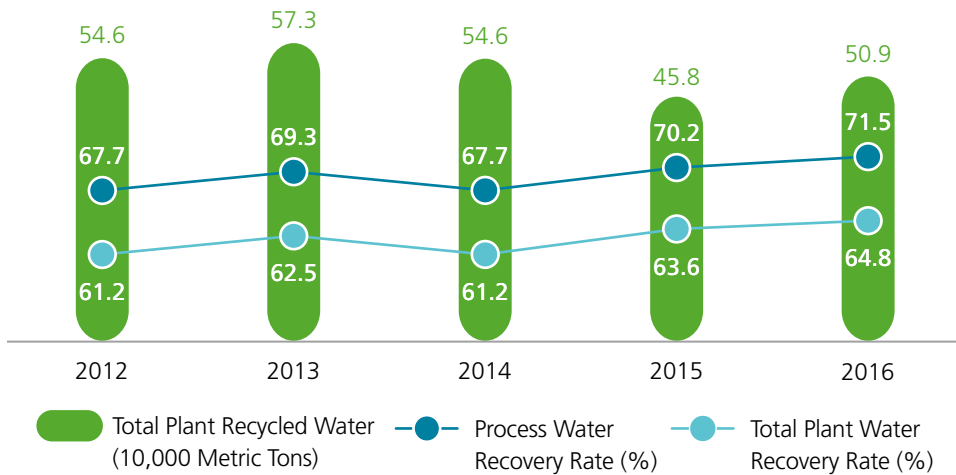
	2016	Recovery Rate Standard
Process Water Recovery Rate	71.5%	>50%
Total Plant Water Recovery Rate	64.8%	>30%

Note 1 : The water recovery rate standard is in accordance with the "plant built before 1994" standard as stipulated in the "Hsinchu Science and Industrial Park's Construction Time Corresponding Recovery Rate Standard".

Note 2 : Process Water Recovery Rate = Amount of Recycled Process Water / Total Process Water Usage; Total Plant Water Recovery Rate = Total Amount of Recycled Water in Plant / Total Plant Water Usage.

① **Water Recovery Rate and Total Amount**

Nuvoton's recycled process water in 2016 was 430,000 metric tons, and the process water rate was 71.5%; the total plant recycled water was 509,000 metric tons, and the total plant water recovery rate was 64.8%.

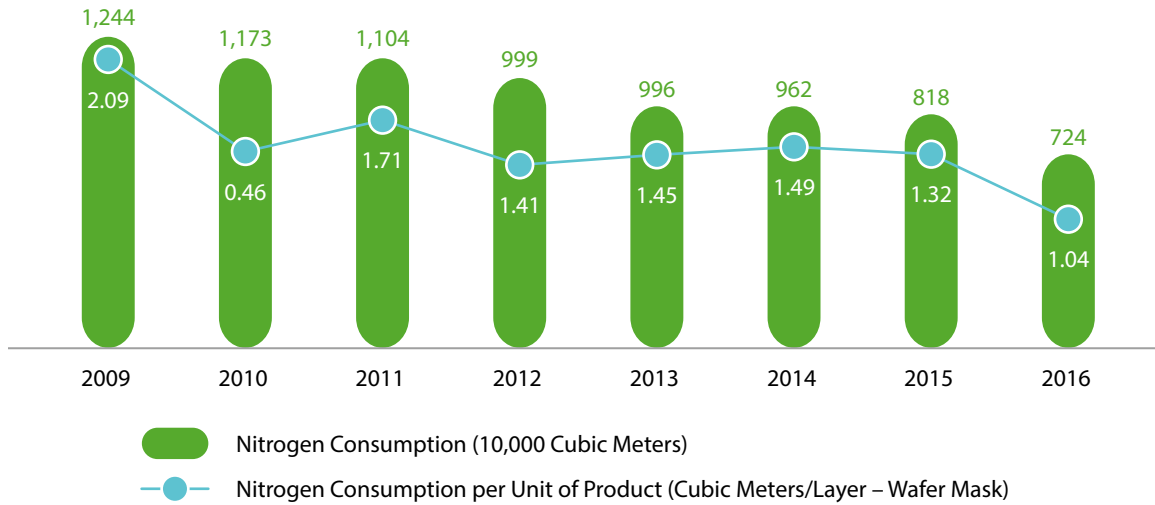


**Other Key Chemical Raw Materials**

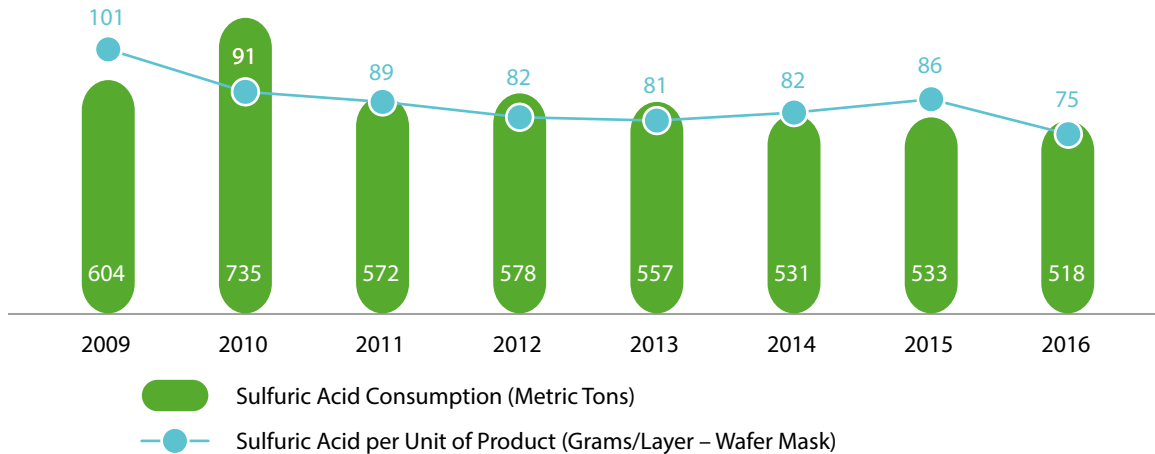
According to Nuvoton's 2009 carbon footprint inventory results, we discovered that the use of nitrogen and sulfuric acid have significant impact on carbon emissions. This part belongs to scope three, "indirect emissions". We list these two chemical raw materials as the main targets for long-term monitoring and mitigation, and set 2009 as the base year to actively promote reduction. The successful

results of our efforts can be seen when compared to the base year. The nitrogen consumption per unit of product in 2016 amounted to 1.04 cubic meters/layer – wafer mask; the amount has decreased by 50% compared to the base year 2009. The sulfuric acid consumption per unit of product in 2016 amounted to 75 gram/layer – wafer mask; the amount has decreased by 25% compared to the base year 2009.

① Nitrogen Consumption



② Sulfuric Acid Consumption



## Pollution Prevention

Reducing pollutant emissions is one of Nuvoton’s most important strategies for achieving environmental sustainability. We utilize process optimization and source reduction to decrease the production of pollutants. The emitted waste gas or wastewater is processed by equipment to comply with regulatory standards before being discharged. When possible, waste is always recycled so as to reduce environmental impact. We have also developed a number of measures for controlling air pollution, increasing the water recovery rate for waste process water, recycling waste, and reducing waste reduction.

## Environmental Law Compliance and Grievance Channels

Nuvoton has no records of penalties or other dispositions for violating environmental laws and regulations in 2016. We stringently practice and comply with environmental laws and regulations. Every six months, we conduct a regular review of the relevant laws and regulations to confirm that the company complies with the existing laws. In response to the frequent changes in the Taiwan’s environmental laws and regulations, we regularly collect new or revised environmental regulations each month for assessment. This is to avoid accidental noncompliance due to changes in laws.



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A contact email is located in the CSR area on Nuvoton's website. Stakeholders interested in our environmental issues can email or call us to provide comments or file complaints on environmental related issues. There have been no grievance cases in 2016.

### Air Pollution Control

Nuvoton's air pollution treatment strategy is comprised of source control, utilizing optimized process dosage to reduce the generation of air pollutants. The air pollutants generated in the production process include volatile organic compounds (VOC), nitrogen oxides, sulfur oxides, ammonia, chlorine, hydrochloric acid, nitric acid, and phosphoric acid. We confine and collect waste gas according to their characteristics before processing them with air pollution control equipment. The pollutant concentration levels of all the exhaust are vastly lower than those prescribed by emission standards.

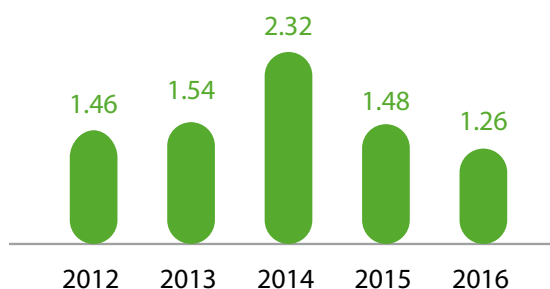
Nuvoton's air pollutant treatment system operates 24 hours a day, 365 days a year. System monitoring and processing are conducted when required to maintain normal operation. Exhaust gases are processed separately in accordance with their characteristics:

- The flammable, poisonous and FCs gasses are specially treated on the processing equipment end through absorption, electrothermal methods, or on-site washing facilities to reduce hazards. Afterward, the acid-base properties in the exhaust gasses are discharged to the central waste washing tower for processing.
- Exhaust gas containing volatile organic compounds are first absorbed using disk-type rotors before being discharged to incinerators. High-boiling point organic waste gas are condensed, collected, and processed through temperature difference. Tested every year, the emission per year are all less than 0.6 kg/hr. The total emissions of volatile organic compounds in 2016 amounted to 1.26 metric tons.

In addition, NOx and SOx are estimated in accordance with the Environmental Protection Administration's emissions coefficient. Nuvoton's NOx and SOx emissions in 2016 amounted to 1.539 and 0.622 metric tons, respectively.



Total Emissions of Volatile Organic Gasses (Metric Tons)



### Water Pollution Control

The wastewater produced by Nuvoton is primarily comprised of process and domestic wastewater. The source for process water can be mainly categorized as cleansing, film forming, etching, contrasted, and diffused. Wastewater is processed according to its characteristics. Wastewater is first neutralized, and calcium chloride is added to fluoride-containing wastewater before undergoing coagulation and sedimentation processes, and then discharged to Hsinchu Science Park's sewage treatment plant for processing. Then, through specialized pipes, it is discharged into Keya Creek. Domestic wastewater is discharged directly through the sewers to Hsinchu Science Park's sewage treatment plant.

The total wastewater of the entire foundry in 2016

amounted 308,145 tons. The discharge water quality meets the requirements of the "Discharged Water Quality Standards in Hsinchu Science and Industrial Park Sewerage"

The Discharged Water Quality Standards in Hsinchu Science and Industrial Park Sewerage will implement the third phase of ammonia nitrogen emission standards in 2017. The regulatory limit will be tightened from 75mg/L to 50mg/L. Thus, we added ammonia nitrogen monitoring equipment to monitor and control discharge water quality. In addition, we developed an optimized process for reduction management measures to comply with the above regulations.

### Waste Management

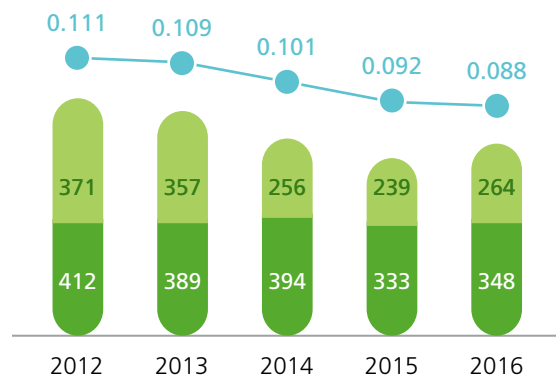
Nuvoton's waste management strategy is to implement source classification and reduction, and reduce the amount of waste generated per unit of product as well as strengthen the recycling of waste. Our disposal method prioritizes reuse treatment to reduce the high environmental impact caused by incineration and landfilling, achieving the maximum benefits of waste recycling and sustainability.

We set up a stockpile area in the plant that is in line with regulatory requirements. We conduct self-audits in the factory every month to enhance the environment and ensure regulatory compliance. We have contracted a qualified cleaning company to properly service the stockpile area. In order to make effective use of resources and properly monitor the status of the vendor's cleanup, we assess the severity of the impact on the environment in accordance with the hazardous and production volume of waste every year. We evaluate the possibility level of the vendor in adequately handling risk according to the results of the field scores. Then, we use a severity and possibility risk matrix to schedule a different audit frequency from quarterly to once every 3 years. We draft up an annual waste factory audit program to audit the cleaning company's field operations, stockpile area treatment, and document processing to ensure that the waste is properly disposed of, practicing waste source responsibility.

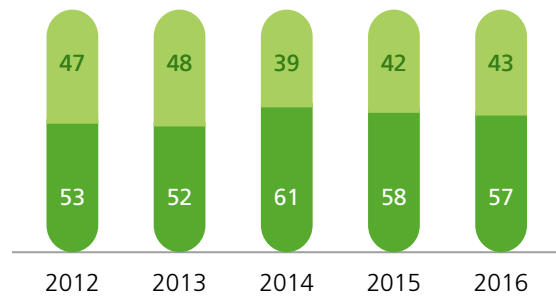
		Possibility Level			
		1	2	3	4
Severity Level	1	3 Years	2 Years	1 Years	1 Years
	2	2 Years	1 Years	1 Years	1 Years
	3	1 Years	1 Years	1 Years	6 Months
	4	1 Years	1 Years	6 Months	Quarterly

### Production of Waste

The waste generated by Nuvoton can be divided into general business waste (includes recycled waste and domestic waste generated by offices) and hazardous business waste. In 2016, total corporate waste amounted to approximately 612 metric tons, of which general waste accounted for approximately 264 metric tons (43%) and hazardous waste accounted for approximately 348 metric tons (57%); waste generated per unit of product amounted to 0.088 kilograms/layer – wafer mask. The amount of waste generated per unit of product in 2016 decreased by 4% from 2015. This is mainly due to our continuous promotion of extending chemical usage time to reduce the output of waste sulfuric acid, extending the time frame for replacing parts to reduce the amount of waste generated.



■ General Waste Output (Metric Tons)  
■ Hazardous Waste (Metric Tons)  
● Waste Generated per Unit of Product (Kilograms/Layer – Wafer Mask)

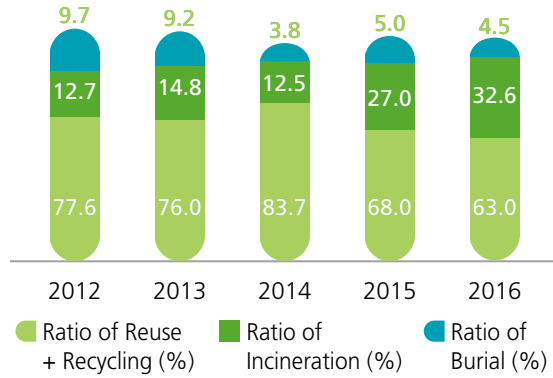


■ Hazardous Waste Ratio (%)  
■ General Waste Ratio (%)



● **Statistics of Waste disposal Methods**

Nuvoton’s waste treatment prioritizes reuse. The following table shows the types and applications of reuse. Waste that currently cannot be reused are incinerated and buried. In 2016, the company’s reuse of waste (including recycling) accounted for 63%, incineration accounted for 32.6%, and burial accounted for 4.5%. Incineration usage increased by 20% compared to 2014. This was mainly due to radical changes in the photoresist stripping market, so we could not find a suitable vendor and had to use incineration instead.



**Nuvoton’s Waste Reuse / Recycling Treatment Description**

Waster Type	Waste Reuse / Recycling Treatment Description
Waste Sulfuric Acid	Vendor recycles and dilutes into industrial-grade sulfuric acid
Waste Isopropanol	Vendors recycle and distil into industrial-grade isopropanol
Waste NMP	NMP Vendors recycle and distil into industrial-grade NMP
Emptied Chemical Waste Barrels	Emptied chemical waste barrels are either washed and reused, or crushed and made into plastic or glass materials
Waste Photomasks	After the vendor removes all patterns, waste photomasks are either made into new ones or optical materials
Waste Lead-Acid Batteries	Vendor recycles, and lead blocks, plastic, etc. are recycled after processing
Waste Mixed Metal Scraps	Vendor processes the scraps, and recycles the metal
Fluorescent Lights	Vendor processes the lights, then recycles any metals, non-metals, glass, etc.
Waste Mercury	Vendor uses distillation equipment to process and reuse the mercury
Resources	Waste paper, glass, aluminum scraps, styrofoam scraps, aluminum foil bags, plastic bottles, plastic waste, etc. are reused by recycling vendors

**Waste Disposal Methods and Quantities**

Waste Category	Disposal Method	2012	2013	2014	2015	2016
General Waste	Incineration	100	110	81	148	182
	Burial	76	66	25	29	27
	Reuse (including recycling)	196	181	150	62	54
Hazardous Waste	Incineration	0	0	0	6	17
	Burial	0	3	0	0	0
	Reuse	412	386	394	327	332

Unit: Tons

## Greenhouse Gas Management

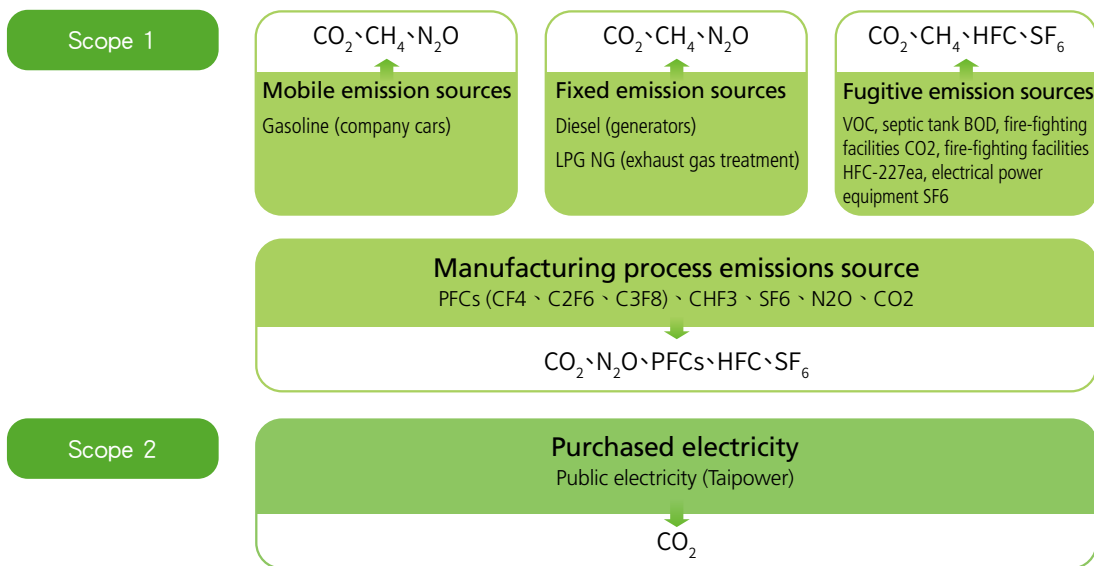
Due to the rise in surface temperatures, climate change has directly affected the manufacturing and operation of the manufacturing industry in recent years, causing flooding, water interruption, power supply shortage, increased raw material costs, and other such problems. The Paris Climate Conference (COP21) was held in 2015 to reduce greenhouse gas emissions, mitigate climate change, and improve the adaptability to climate change. Thus, reducing greenhouse gas emissions is an important issue for the sustainable development of enterprises. Through greenhouse gas inventory, Nuvoton examines the main sources of greenhouse gas emissions to actively implement mitigation and adaptation actions. Nuvoton's greenhouse gas management strategy consists of first conducting greenhouse gas inventory and registration in accordance with the Environmental Protection Administration's regulations. Then, through inventory checks to understand the main sources of

emissions, Nuvoton actively takes relevant mitigation and adaptation actions.

### Greenhouse Gas Inventory

In order to grasp the status of the company's greenhouse gas-related activities and develop reduction targets and priorities, in 2009 Nuvoton established a greenhouse gas inventory mechanism in accordance with ISO14064-1 and the Environmental Protection Administration's Greenhouse Gas Emissions Inspection and Registration Guidelines. Nuvoton conducts annual inventory of greenhouse gas emissions in the plant area, setting 2009 as the base year for greenhouse gas emissions. The content of the examination includes Scope 1 – "Direct greenhouse gas emissions"; Scope 2 – "Indirect greenhouse gas emissions from energy use", which does not include Scope 3 – "Indirect greenhouse gas emissions". Since 2009, the data from Nuvoton's greenhouse gas inventories have always passed inspections and obtained verification statements by third-party verification agencies based on ISO14064-1 standards.

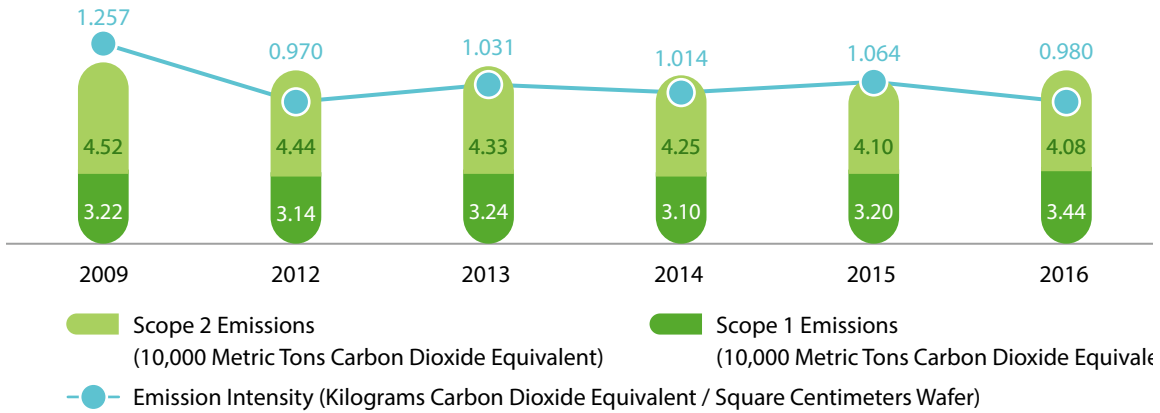
#### Greenhouse Gas Emission Categories



Due to the requirements of the 2016 Environmental Protection Administration's Greenhouse Gas Emissions Inspection and Registration Guidelines, we changed our calculation references from the Global Warming Potential (GWP) in IPCC Second Assessment Report (1995) to the GWP in IPCC Forth Assessment Report (2007). The differences in the total amount of greenhouse gases in the base year have already

surpassed the guideline's significance threshold of 3.0%, so we recalculated the total amount of greenhouse gas emissions to date (2009 to 2016). We have also changed the electrical power coefficient before 2011 in accordance with the amendment of the Ministry of Economic Affairs' Energy Bulletin 2011 revised version.

### Greenhouse Gas Emissions Inventory Results



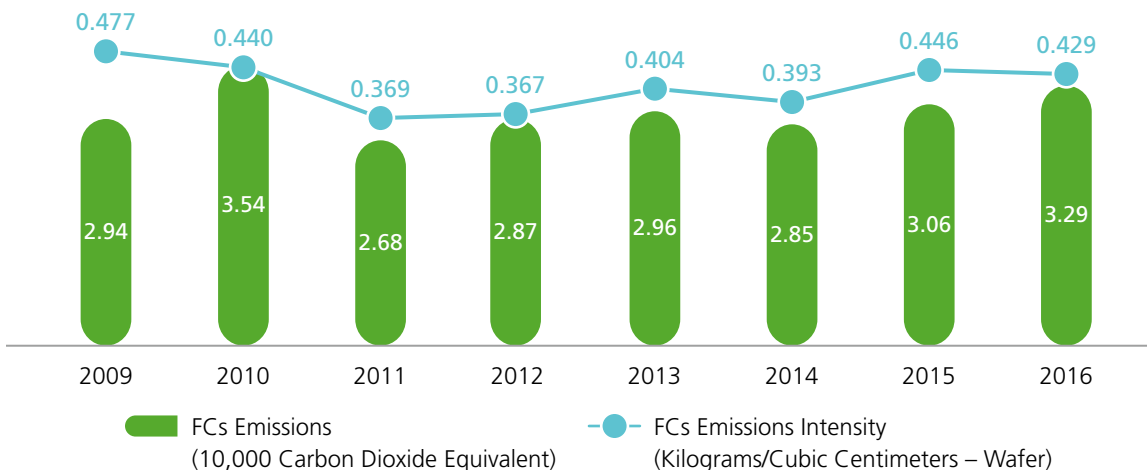
### Greenhouse Gas Reduction

The results of the inventory reveal that the majority of emissions are generated from electrical consumption, followed by the FCs fluorinated greenhouse gasses used in the manufacturing process, such as tetrafluoromethane (CF4), hexafluoroethane (C2F6), sulfur hexafluoride (SF6), fluoroform (CHF3), octafluoropropane (C3F8), and octafluorocyclobutane (C4F8). These two items account for more than 90% of our total emissions. Nuvoton's greenhouse gas reduction measures include setting annual energy efficiency targets to enhance electricity efficiency and reduce carbon emissions, as well as conceiving clean manufacturing for specific production. Therefore, greenhouse gas mitigation measures are mainly the two aforementioned measures mentioned. Electricity reduction measures have been described in section 6.2.1 above. To reduce the FCs used in manufacturing, we mainly utilized gas replacements in the beginning. We use the greenhouse gas, C3F8, which has a lower Global Warming Potential (GWP), to replace CF4 and C2F6 used in thin film processing, and SF6 which is

used in wafer backside etchings. At present, our main reduction strategy is adjusting the process parameters to reduce emissions.

- Process FCs Carbon Dioxide Equivalent Emission Volume and Intensity

According to the inventory results, the previous process-used FCs greenhouse gas emission intensity shows a trend of increasing every year. The main reason for this is due to changes in product combinations and the development of new processes. Nuvoton strives to make adjustments and improvements from the manufacturing process according to the results of the inventory. In 2016, process-used FCs greenhouse gas emissions amounted to the carbon dioxide equivalent of 32.9 tons, and the emission intensity amounted to 0.429 kilograms/cubic centimeters – wafer. Emission intensity has slightly decreased compared to 2015. The increasing process-used FCs greenhouse gas emission intensity has slowed down.



## Green Products

### Green Product Policies

In response to international environmental trends and customer needs, Nuvoton is committed to designing green products with low toxicity, low carbon, and low energy consumption, so as to enhance green competitiveness and grasp global business opportunities. These policies apply to all product-related activities of Nuvoton. From the company's internal design stage to external supplier sourcing and the manufacturing and transportation phases, Nuvoton promotes and implements the green concept to the overall value chain. Nuvoton conducts project planning, execution, inspection, and action in each phase using the PDCA management cycle to ensure that all phases meet policy specifications and goals. In addition, an important part of the policy is to make employees understand the importance of environmental protection. Through educational training and advocacy communication, we incorporate the green concept into our daily work.

Nuvoton established the hazardous substances management system, QC 080000, in 2008. It utilizes a systematic approach in coordinating all internal and external green product-related matters to assist sales, purchasing, research and development, and manufacturing in the phases of design, production, and shipping, effectively monitoring the management processes of environmental product development. Furthermore, we comply with international regulations and customer requirements for environmental assessments and imports. We establish and implement green directives and requirements of customers, promote green product continuous improvement projects, control harmful substances, and conduct green product audits to ensure the effectiveness of Nuvoton's green policies.

Nuvoton ensures that the products it designs, manufactures, and sells are able to meet or exceed the standards of international environmental regulations. Furthermore, Nuvoton requires upstream raw material suppliers and downstream packaging and testing firms to work together to reduce their various impacts on the environment and comply with the following international environmental regulations:

- The European Union's (EU) Restriction of Hazardous Substances Directive (RoHS 2.0, 2011/65/EU): Limits the amount of lead (<1,000ppm), cadmium (<100ppm), mercury

(<1,000ppm), hexavalent chromium (<1,000ppm), polybrominated biphenyls (<1,000ppm), and polybrominated diphenyl ethers (<1,000ppm) in products. RoHS 2.0 · COMMISSION DELEGATED DIRECTIVE (EU) 2015/863 · DEHP <1,000ppm · BBP <1,000ppm · DBP <1,000ppm & DIBP <1,000ppm.

- RoHS 2.0 · COMMISSION DELEGATED DIRECTIVE (EU) 2015/863 · DEHP <1,000ppm · BBP <1,000ppm · DBP <1,000ppm & DIBP <1,000ppm.
- Halogen-free requirements for electronic products: In general, a halogen-free product by customer definitions means that the volumes of bromine and chlorine are each <900ppm, respectively, with total content <1,500ppm. All the products of Nuvoton comply with both requirements.
- EU's Registration, Evaluation, Authorization and Restriction of Chemicals (EU REACH): Regarding the hazardous substances and subsequent Substance of Very High Concern (SVHC) announced by EU Reach, all products of Nuvoton comply with the requirements of this regulation.
- Limits for perfluorooctane sulfonate (PROS): Nuvoton prohibits the use of raw materials which contain PFOS in the manufacturing process.

In addition to current international laws and customer requirements, Nuvoton will also continue to focus on potential regulatory requirements for the future, and proceed with all appropriate preparations. None of Nuvoton's products were involved with any illegal or non-compliance matters in 2016, meeting international regulations and customer requirements.

### Nuvoton's Hazardous Substances

#### Management:

- Declaring a Non-hazardous Substances Policy  
Nuvoton focuses on designing, purchasing, manufacturing, and selling products with no hazardous substances to comply with international regulations and meet the needs of customers. Nuvoton also strives to protect the environment to fulfill its social responsibility.
- Creating a List of Controlled Hazardous Substances  
Nuvoton has created a list of controlled substances in accordance with international environmental regulations and customer needs, including banned substances, restricted substances, and declarable substances. The list is amended every year in accordance with current conditions.

- **New Material Assessment System**

Nuvoton has created a new material assessment system to confirm that newly developed products and materials are in line with Nuvoton’s hazardous substance management procedures meets the needs of EHS.

- **Green Procurement and Supplier Management**

Raw material suppliers and contract manufacturers must sign a “Certification of Non-use of Hazardous Substances”, and be inspected by a third party every year or as needed to ensure that their products meet international environmental requirements.

- **IECQ QC080000 Hazardous Substance Management System Certification**

Nuvoton received the hazardous material management standards IECQ QC080000 from the International Electrotechnical Commission (IEC), which was developed in accordance with its electronic components quality evaluation system. Built on the ISO 9001 and ISO / TS 16949 management systems, it utilizes a “process-oriented” approach to reduce or eliminate harmful substances contained in the organization's products. In addition, it systematically manages hazardous substances to reduce or avoid the production of harmful substances. At the same time, it meets RoHS, WEEE, and other special customer needs. A third-party audit is conducted on a regular basis every year to ensure the effective operation of the hazardous material management system.

- **SONY Green Partner Certification**

Nuvoton has been a SONY-certified green business partner since 2009. Nuvoton still continues to pass the regular verification to date.

- **Detection of Hazardous Substances**

In addition to managing factory materials and process raw materials through supplier sources, Nuvoton sample tests harmful substances in wafer and IC products every year. The tests are conducted by a fair third-party, measuring and monitoring raw materials and products that have an impact on the environment, as well as harmful and banned substances.



# 7 / Best Workplace

Human Resources Structure  
Talent Management  
Salary and Benefits  
Learning and Developing  
A Lohas Work Culture  
Employee Welfare Committee  
Occupational Health and Safety  
Health Management Program





# Best Workplace

## Human Resources Structure

As of December 31, 2016, Nuvoton Technology has a total of 1,367 employees, comprised of 145 managerial, 841 professional, and 381 technical personnel. Amongst management personnel, there are 35 senior executives of director level or above. At the end of 2016, 45% of our total workforce is

comprised of female personnel. The male to female ratio among managerial and professional personnel is around 3:1, which is consistent with the fact the proportion of students studying in professional engineering departments relevant to this industry is still mostly male, with the aforementioned ratio illustrating this phenomenon.

Category	Division	Male		Female		Subtotal by Division and Proportion	
		No.	In Proportion to the Division	No.	In Proportion to the Division	No.	In Proportion to all Employees
Position	Managerial	128	88%	17	12%	145	11%
	Professional	609	72%	232	28%	841	61%
	Technical	17	4%	364	96%	381	28%
Total						1,367	

Note: Subdivision managers and higher are considered managerial personnel.

Regarding age distribution, Nuvoton Technology abides by the regulations of the "Labor Standards Act", and does not hire individuals under the ages of 15. Furthermore, we also do not hire underage people between the ages of 15 and 16. Employees between the ages of 16 and 40 are account for 50% of our total workforce. In terms of academic qualifications, more than 36% of employees have obtained a master's degree or higher. For managerial

and professional personnel, this percentage rises to 51%. Concerning the types of Nuvoton employees, except for fixed term contractors, 99% of our workforce comprises staff and operators who are full-time employees. In order to establish a direct communication channel with our employees, Nuvoton holds regular labor-management meetings on a quarterly basis.

Category	Division	Male		Female		Subtotal by Division and Proportion	
		No.	In Proportion to the Division	No.	In Proportion to the Division	No.	In Proportion to all Employees
Age	21~30	117	52%	107	48%	224	16%
	31~40	304	66%	160	34%	464	34%
	41~50	242	49%	250	51%	492	36%
	51~60	91	49%	96	51%	187	14%
Education	PhD	20	100%	0	0%	20	1%
	Master's	414	86%	69	14%	483	35%
	Bachelor's	250	64%	142	36%	392	29%
	Vocational School	55	40%	81	60%	136	10%
	Senior High School	13	4%	305	96%	318	23%
	Below Senior High School	2	11%	16	89%	18	1%





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Category	DiWvision		Male		Female		Subtotal by Division and Proportion	
			No.	In Proportion to the Division	No.	In Proportion to the Division	No.	In Proportion to all Employees
Employment Type	Full-Time Employees	Staff	733	75%	245	25%	978	72%
		Operators	17	4%	364	96%	381	28%
	Part time and Temporary Employees	Fixed-term Contract	4	50%	4	50%	8	1%

## Talent Management

Nuvoton Technology has always regarded employees as our most important asset, and strives to attract new applicants by providing competitive compensation and benefits, comprehensive education and training, and a comfortable and safe working environment. Nuvoton is in full compliance with the rules of the Labor Standards Act, and abides by the labor rights provisions of the EICC Code of Conduct. When hiring new employees, it does not employ people under the age of 15 or involuntary workers (such as those by coercion,

mortgage, debt, indentured servitude, enslavement or human trafficking). Nuvoton further ensures that all employees enjoy equal rights without discrimination, and that the Company shall not unlawfully discriminate against any employees or prospective employees for reasons such as ethnicity or nationality, skin color, age, sex, sexual orientation, gender identity, disability, pregnancy, religion, political stance, corporate background, veteran status, protected genetic information, or marital status. In 2016, no discrimination or forced labor complaints were filed against Nuvoton Technology Corporation.

The turnover and hiring rates of the Company in 2016 for each age group are as follows

Age Group (Note 1.)	2016							
	No. of New Employees <sup>(Note 2.)</sup>		In Proportion to the Total No. of Employees <sup>(Note 3.)</sup>		Turnover <sup>(Note 2.)</sup>		In Proportion to the Total No. of Employees <sup>(Note 3.)</sup>	
	Male	Female	Male	Female	Male	Female	Male	Female
18~20	2	2	0.1%	0.1%	2	1	0.1%	0.1%
21~30	62	51	4.6%	3.8%	21	30	1.6%	2.2%
31~40	42	16	3.1%	1.2%	33	16	2.5%	1.2%
41~50	17	3	1.3%	0.2%	12	2	0.9%	0.1%
51~60	2	0	0.1%	0.0%	3	0	0.2%	0.0%
Sub-total	125	72	9.4%	5.4%	71	49	5.3%	3.7%

Note 1. Age: Age of employee on first day / last day of employment.

Note 2. Number of new employees includes first-time employees, and does not include returning or reinstated employees / Turnover includes only the number of resignations and retirements, and does not include dismissals or jobs placed on hold.

Note 3. Total number of company employees as described in the above table: (number of employees at the beginning of the year + number of employees at the end of the year) ÷ 2 .

## Salary and Benefits

Nuvoton Technology employee salaries are in compliance to the minimum wage rules of the Labor Standards Act, and the salaries of the lowest paid direct employees are at least 1.2 times higher than the minimum stipulated by the Labor Standards Act. In order to provide employees with a workplace in which they can develop both mentally and physically in a balanced manner, we implemented a pre-planned vacation management system to assist employees in planning their vacations. And we also actively remind employees to take adequate vacation time as to promote the concept of healthy work environment. In terms of benefits, Nuvoton provides insurance and pension benefits that are in compliance with local laws and regulations

across the globe. Nuvoton further provides group insurance benefits that are above and beyond the requirements of the law to ensure the work and life safety of its employees. To encourage marriage and birth rates, we provide designated expectant mother priority parking spaces, lactation rooms, maternity gift packets, maternity leave, paternity leave, family care leave, marriage leave, and a cash gift from the employee welfare committee for each birth.

We also abide by the "Gender Equality in Employment Act", which gives male and female employees the right to apply for maternity and paternity leave. In 2016, 16 female employees applied for maternity leave, and 94% returned after the end of their leave period; and 29 male employees applied for paternity leave, and 100% returned after the end of their leave period.

Maternity/Paternity Leave Statistics for Nuvoton Employees

Year	No. of Female Employees	No. of Male Employees	No. of Employees taking Maternity Leave	No. of Employees taking Paternity Leave	No. of Employees Qualifying for Parental Leave
2012	587	670	23	51	74
2013	599	670	18	24	42
2014	594	679	27	42	69
2015	601	712	27	51	78
2016	613	754	16	29	45

Note: The annual division is based on the first day of the maternity leave / paternity leave application.

Nuvoton Post-Maternity / Post- Paternity Leave Job Return Rate

Year	Employees Returning After Maternity Leave		Employees Returning After Paternity Leave		Resigned Within 1 Year of Maternity Leave		Resigned Within 1 Year of Paternity Leave	
	No.	%	No.	%	No.	%	No.	%
2012	22	96%	51	100%	3	13%	7	14%
2013	17	94%	24	100%	2	11%	4	17%
2014	23	85%	42	100%	5	19%	9	21%
2015	24	89%	51	100%	1	4%	7	14%
2016	15	94%	29	100%	0	0%	4	14%

Note: The number of employees who return to work after maternity leave does not include those who apply for parental leave within one week of finishing maternity leave.

The number of employees resigning within one year of maternity leave includes those who resign during parental leave.



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### Nuvoton Post-Parental Leave Job Return Rate

Year	No. of Employees Applied for Parental Leave		No. of Employees Forecast to Return During Current Year		No. of Employees Returning to Work After Parental Leave			No. of Employees Still Working After 1 Year of Returning From Parental Leave		
	Male	Female	Male	Female	Male	Female	Reinstatement Rate	Male	Female	Retention Rate
2012	0	14	0	7	0	6	86%	0	4	80%
2013	2	8	2	12	1	10	79%	0	5	83%
2014	2	15	1	11	0	7	58%	1	9	91%
2015	1	13	1	12	1	8	69%	0	6	86%
2016	0	13	0	11	0	11	100%	0	7	78%

Note: Reinstatement rate = number of people returning to work after parental leave in current year / number of people expected to return to work in current year.

Retention rate = number of people that remain an employee 1 year after taking parental leave / number of people taking parental leave in the previous year.

### Comprehensive Retirement Policy

To ensure the quality of life after retirement of our employees to enhance their service spirit, Nuvoton Technology has formulated an Employee Retirement Management Plan in accordance with the Labor Standards Act. The Plan clarifies retirement conditions, payment standards, application procedures and other matters, as well as setting up an employee retirement fund supervision committee according to law. According to Article 56, Provision 1 of the Labor Standards Act, Nuvoton shall on a monthly basis allocate funds to an employee retirement fund at the Bank of Taiwan. And according to Provision 2 of the same Act and Article, the company shall estimate the number of employees expected to meet retirement conditions by the fourth quarter of each year, assess the current balance of the retirement fund, and make up the difference required to fund the retirement payments. In addition, all employees applicable to the Labor Pension Act are required to make payments of 6% of their monthly salary to their individual Bureau of Labor Insurance pension fund account in accordance with regulations.

### Learning and Development

Nuvoton Technology values the learning and

development of each employee, and the continual improvement of employees' abilities is the driving force behind the growth of the company. As we are in a highly competitive industrial environment, nurturing talented people is the key to strengthening our core competitiveness. We offer a wide range of learning channels and diversified learning styles, focusing on rich and practical learning content, integrating internal and external learning and development resources, and encouraging active learning and the sharing of skills and knowledge, in order to provide employees with a complete, continuous, diverse and broad-based learning environment and development platform. We are dedicated to creating a passionate learning culture in our company.

### A Wire Range of Learning Channels

Nuvoton Technology offers a variety of learning channels and diverse ways of development to meet the various learning and growth needs of employees at all levels, including: course learning (internal and external training courses / practical experience sharing seminars / high-level short-term local and overseas courses / online learning), practical learning (on-the-job training, task or project assignment, work rotation, short-term experience), and learning from others (work instruction, peer learning).



### Course Learning - Classroom Learning

Take managers as an example. A multistep management improvement program is provided according to different manager levels and functions. For lower and middle level managers, we provide customized competency development training. We will first determine the current capability of the lower or middle level manager with a management competency examination, and then make an appropriate development plan accordingly, that includes management training, management case study competitions, active applied learning, and training seminars. During 2016 Nuvoton conducted two different levels of a "Leadership Development Training Program", with the total training time amounting to 1,221 hours.

For high-level managers, lectures are held on a topic-specific basis to share practical experience or discuss industrial and economic trends. This can allow them to understand the latest industry developments and learn from external benchmarked enterprises and talent, in order to absorb new knowledge,

expand their horizons, and establish a network of professionals in the field. Nuvoton places great emphasis on leadership development, focusing on in-depth learning and practical application, and supplemented by the support and observation of the learning process by senior executives and supervisors, to enhance students' commitment to their learning. In addition to focusing on learning needs, an emphasis is also placed on post-study application and follow up, to assist managers in gaining the skills and competencies required of their position.

### Course Learning - Online Learning

Since 2013, Nuvoton Technology has provided a Cloud Learning platform, in order to provide employees with a more diverse and convenient learning environment. The platform includes: an Innovation Academy, Cloud Academy, LOHAS College, Green Technology Academy and other various types of learning content. Establishing this platform has increased the resources and channels available to employees for online learning, and ensuring education is no longer subject to time and space constraints. The company can also integrate all training data from the platform to facilitate training management and record tracking. Employees can choose courses according to their business needs or their own interests. Nuvoton Technology expects its employees to maintain a passionate attitude and a commitment to lifelong learning, in order to continuously improve their job skills. As of the end of 2016, the Nuvoton Cloud Learning platform offers a total of 1,478 online courses, featuring different categories that cover new employee training, communication, management, and professional skills, and language learning.



## On-The-Job Training & Learning From Others

We also emphasize that learning should be linked to practical application, in order to apply what we have learned to our job. In addition to classroom learning, an effective learning method is through on-the-job-training (learning through doing), by being provided with a contextual experience, and by following the guidance of a supervisor or expert to speed up the learning effect. Therefore, we arrange for employees to have an opportunity to be guided by experienced experts and supervisors in their field, as well as encouraging participation in cross-departmental projects or organizational assignments, and to accept work rotation or interaction with peers in other fields. This allows knowledge and skills within the organization to quickly be shared, wisdom to be continuously accumulated, and fosters practically beneficial talent.

## Rich Learning Content

Nuvoton Technology has constructed a complete and diversified education and training system, with appropriate learning content available for all different employee levels, job functions and development needs, from newcomers to senior executives. The system includes diversified training categories, solid

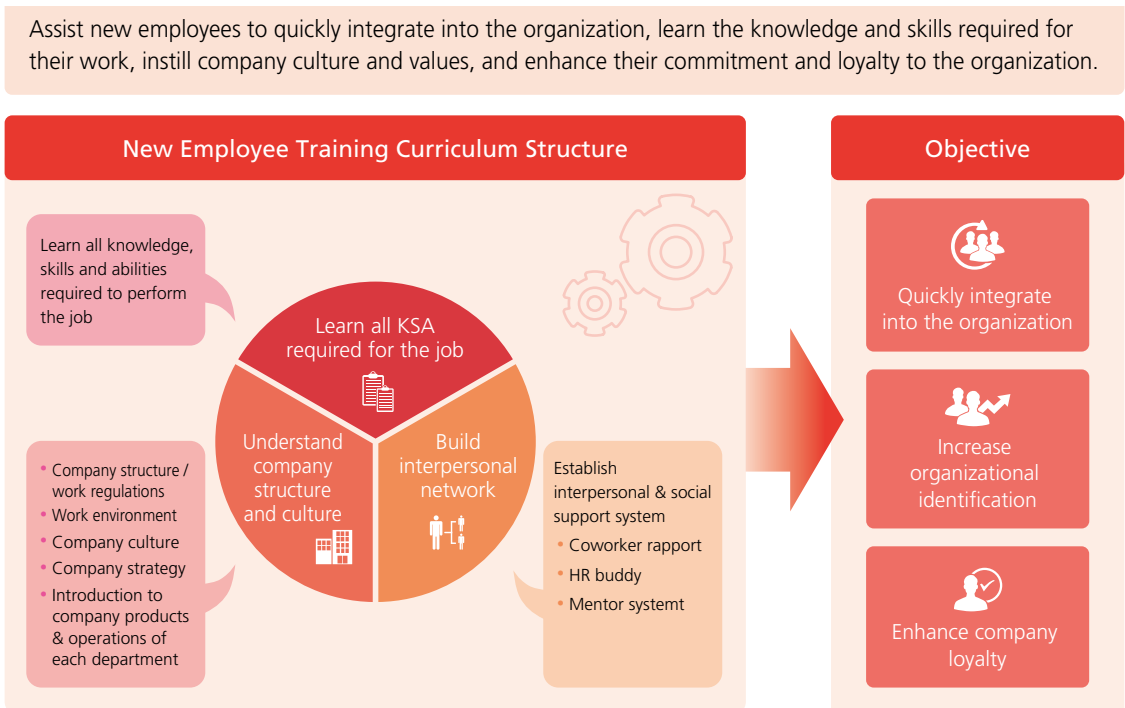
content and an emphasis on interactive learning and shared discussion, while adding importance to post-learning practical application, so that employees can continue to enhance their knowledge and skills in order to more effectively accomplish the tasks assigned by the company.

## Training Categories

### (1) New Employee Training :

To help newcomers quickly integrate into the organization, adapt to the company culture and enhance their willingness to remain, we use new employee training to give them an organizational overview, an understanding of our enterprise's vision and culture, rules and regulations, and various business units and their products, and to learn the basic skills and knowledge required for their job, so that newcomers can become familiar with the Company's business and related operations as soon as possible. At the same time, we also care for new employees and provide them with necessary information and support through the establishment of the HR Buddy system and other assistance mechanisms. This allows new employees to quickly and effectively build an interpersonal connection network and support system.

### NEW EMPLOYEE TRAINING - OBJECTIVES





(2) Management Training:

Nuvoton Technology defines the management competencies that should be possessed by a manager at every different level. To enable managers to possess the necessary competencies required at each level according to the different functions and roles of their job, we provide corresponding training courses on a function-by-function basis. A tailored "Leadership

Development Training Program" is available, including for lower or middle level managers; and high-level managers are required to attend an advanced series of "Topic-Specific Practical Experience Sharing" lectures. There is also a new supervisor training program to provide basic management training to individual workers becoming 1st line managers.



Management Leadership Development Training - Purpose  
From an Individual Worker to a 1st Line Manager





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(3) Professional and technical training:

In order to promote the learning of professional knowledge or skills to employees in different job positions, and to assist in the development of its business and project plans, each organizational unit will arrange on-the-job training within its department per its own specialized fields. Various courses, special lectures, seminars, experience sharing and other technical and professional training will also be provided. The fields of training provided include direct personnel training (workstation skills training), engineering, research and development, marketing / business, finance, import / export / procurement, information technology, and legal services training.

(4) Universal Training:

In order to comply with the requirements of laws, regulations and company policies, we arrange universal basic training. The training, for which all employees are required to attend, includes content about the company's vision and mission, corporate culture and values, corporate social responsibilities, customer satisfaction, quality management, environmental, safety and health requirements (including environmental protection, fire drills etc.) and other courses, and the course content does not vary across employee hierarchy or departmental function. Included within this training, in order to promote the philosophy of "being a good corporate citizen" and with the expectation that employees

can implement this philosophy in their daily work, the Company will arrange new employees to take Corporate Social Responsibility related courses such as the "CSR Code of Conduct" and "How to Do Business with Integrity". In 2016, a total of 2,933 employees completed CSR-related courses, accounting for 99.56% of all employees.

**Training quality and results**

In order to ensure the quality of training, Nuvoton has established "Education and Training Management Procedures", to standardize the differentiation of training needs, the formulation of training plans, the management of training courses and the participation process. Also, it establishes a training follow-up supervision model to ensure that learned skills and knowledge are actually gained and implemented. This model includes: understanding the previous situation of trainees through interviews or surveys conducted before the training, which serve as basic information for curriculum design and curriculum effectiveness; and then conducting post-course surveys and effectiveness tracking, collecting trainee feedback and practical application information, to understand the challenges and difficulties of real-world implementation, in order to improve learning outcomes.

**Education and Training Results for 2016**

In 2016, Nuvoton Technology provided a total of 22,745 hours of training, with a total employee attendance of 12,857 attendees. The average duration of training per employee was 16.64 hours.

The following table gives a summary of education and training in 2016

Training And Education Hours Taken in 2016 by Employee Type & Gender									
	Male			Female			Total		
	Training Hours	No. of Staff	Average Hours Per Staff	Training Hours	No. of Staff	Average Hours Per Staff	Training Hours	No. of Staff	Average Hours Per Staff
Direct Staff	86.44	17	5.08	1,919.71	364	5.27	2,006.15	381	5.27
Indirect Staff	16,357.35	737	22.19	4,381.96	249	17.60	20,739.31	986	21.03
Sub-Total	16,443.79	754	21.81	6,301.67	613	10.28	22,745.46	1,367	16.64

Note 1: The number of employees counted as the number of active employees at the end of 2016.

Note 2: Average hours per staff = training hours / number of employees.

Note 3: The above hourly statistics include internal training (classroom and online courses) and external training.

All of Nuvoton Technology’s training programs are conducted in accordance with organizational / job requirements, gender equality, and equal opportunity principles. We look forward to providing diversified learning channels, physical and online learning methods, a variety of learning resources and opportunities, and integrating internal and external resources, in order to cultivate the abilities of employees and continuously nurture talent, so that employees and their company can grow together.

### A LOHAS Work Culture

In order to create a “work happily, live seriously” LOHAS workplace culture, members of the LOHAS group diligently planned many different kinds of activities, including celebrity keynote lectures (Li Shuang-Qing, Julian Baggini, Lu Su-Wei), music appreciation lectures, eco-environment parent-child educational activities, and a cross-divisional five-events competition. In addition, LOHAS points cards were made and handed out to each employee to encourage participation in each event, assisting employees to create a healthy work-life balance.

#### LOHAS Events Montage

Music Appreciation Lecture



Eco-environmental Parent-Child Educational Activity



Celebrity Keynote Lecture



### 2016 Five-Events Competition Highlights (Tug of War, Table Tennis, Badminton, Talent Competition, Block-Stacking Game Competition)

#### 2016 Five-Events Competition Highlights







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## 2016 Five-Events Competition Highlights

Tug of War



Table Tennis



Talent Competition



Block-Stacking Game Competition



## Employee Welfare Committee

To continue the theme of a LOHAS workplace, the Nuvoton Technology Employee Welfare Committee conducts a wide range of activities to promote physical and mental balance, such as promoting and subsidizing staff associations, organizing parent-child family days, company trip planning, and various arts activities. The Company has also signed agreements with 1,510 different businesses and organizations to provide employees with special offers to ensure that they can enjoy discounts and other deals on food, clothing, hotel reservations, traveling, childcare, and entertainment in their lives outside of work.

## Nu Family - Nuvoton Colorful and Vibrant Family Day

In 2016, the Employee Welfare Committee held a "colorful and vibrant" multi-activity family day. Highlights included food stalls serving regional delicacies, charity stalls, a new technology experience zone, a nostalgic children's play zone, a puppet performance theater, a children's musical group show, a lively Samba performance, and a concert. Also included was the very popular Baby Boss experience, "One Day as a Nuvoton Employee". All employees and their dependents were invited to attend, to promote parent-child interaction. Around 2,600 employees and their dependents participated in this year's event.

## Nu Family - Nuvoton Colorful and Vibrant Family Day

Puppet performance theater



New technology experience zone



**Nu Family - Nuvoton Colorful and Vibrant Family Day**

Concert



Food stalls & Charity stalls



One Day as a Nuvoton Employee



One Day as a Nuvoton Employee



**Employee Clubs**

- The 12 currently existing employee clubs include a guitar club, bicycle club, runners club, basketball club, softball club, badminton club, volleyball club, table tennis club, yoga club, bridge club, board games club and a baking club.
- Through an employee club evaluation system, outstanding clubs are awarded financial subsidies

to cover operational costs, encouraging clubs to actively host events and organize activities.

**Company Trips**

- We encourage employees to participate in company trips and promote team building through our travel fee reimbursement system. In 2016, the cumulative staff participation rate for company trips was 86%.

**Employee Clubs & Company Trips**

basketball club



baking club





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## Employee Clubs & Company Trips

Softball Club



Company Trips



Table Tennis Club



Company Trips



Bicycle Club



Company Trips



## Occupational Health and Safety

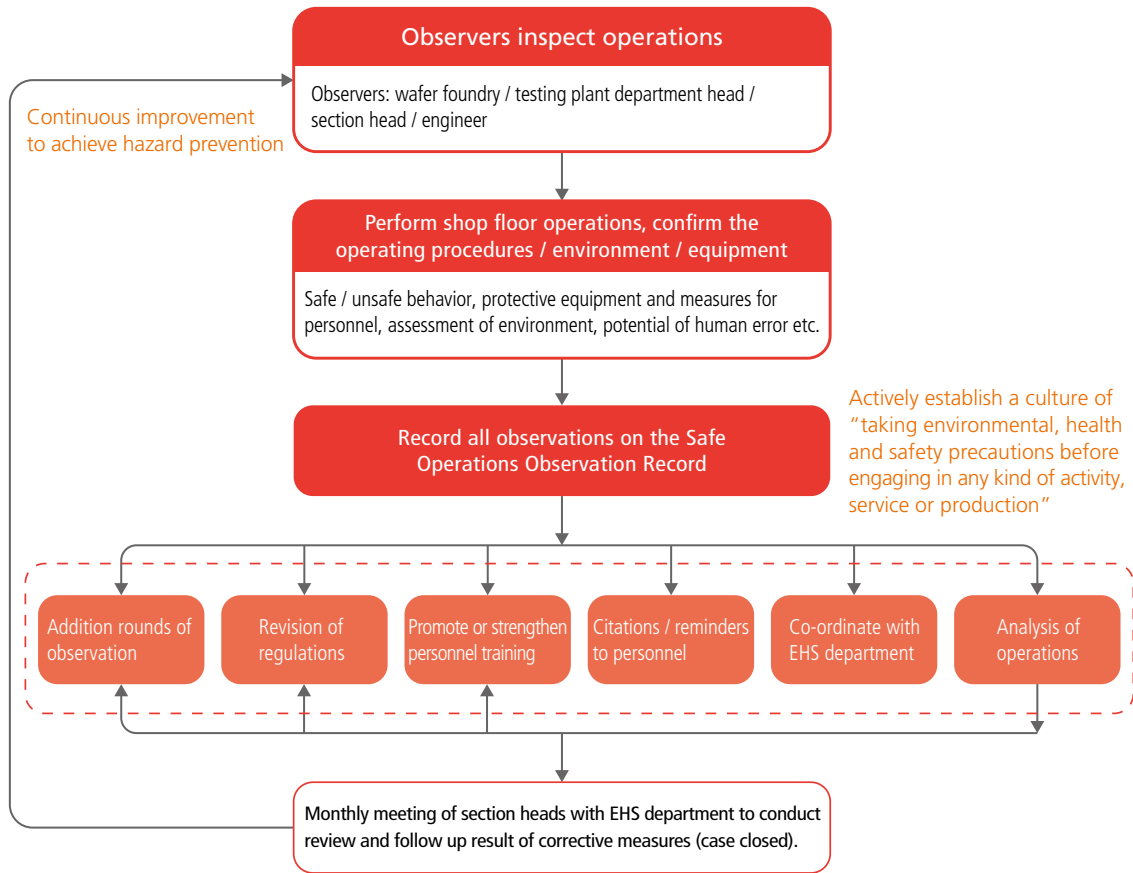
Nuvoton Technology has implemented environmental, safety, and health policies that are committed to meeting progressive international standards and concepts promoting safety, sanitation, environmental protection, and health, promising to provide and maintain a work environment that complies with statutory regulations and industrial practices, and to continually improve in order to eliminate any foreseeable risks that may lead to employee injury or illness, environmental pollution or property damage. Possible loss or hazard can be prevented with comprehensive management and active participation of all employees.

### Establishing a Safety First Culture

To Nuvoton Technology, ensuring zero occupational accidents and promoting employee health are

obligatory responsibilities. We are actively establishing and promoting a culture of environmental protection, safety, and health: "Before engaging in any activity, service, or production, environmental protection, safety, and health concerns must be considered first." Monthly inspections of production operations are conducted by department heads and engineers, and by analyzing actual operations they can cultivate the ability of employees to discover any potential risks, while giving praise to employees who demonstrate safety first behavior. If any risk is detected, a safer method of operation is established through consultation and discussion. Continuous improvement is made to prevent hazards and accidents, and a culture of safety is practiced in day-to-day operations. Leaders at all levels will also meet with employees to conduct and review safety and hygiene management.

Nuvoton Technology – Safe Operations Observation Process Flowchart



**Confirming Measures for EHS Management Contributions and Incentives**

Nuvoton Technology achieved ISO 14001 and OHSAS 18001 certifications as soon as it was established in 2008. To date, the EHS (Environmental, Health and Safety) management unit has continued to follow the P-D-C-A method and the spirit of continuous improvement to maintain our environmental, health and safety management system. Nuvoton is committed to advancing a culture of safety first in the workplace, with implementation from top to bottom, including by promoting regular inspections by plant office personnel down to section head level. The objective is to enable supervisors to understand the work operations of their colleagues and safety conditions of the workplace through on-site inspection, and to detect and reduce potential

risks during the inspection and observation process, in order to enhance the safety of work operations and the workplace environment. Personnel safety training and knowledge is not only a basic part of health and safety management, but it is also the main basis for enhancing a culture of safety first in the workplace. All employees who participate in regular EHS training, emergency response training and other related kinds of training can enhance their safety awareness and resilience. Therefore, the EHS management unit established a “EHS Management Promotion Performance” scoring system, to confirm the active contribution of all units in providing a safe and comfortable work environment. An evaluation of the “EHS Management Promotion Performance” is conducted quarterly, with awards and recognition given during each plant section’s health and safety meeting.

### Evaluation Items of “EHS Management Promotion Performance” for Each Section

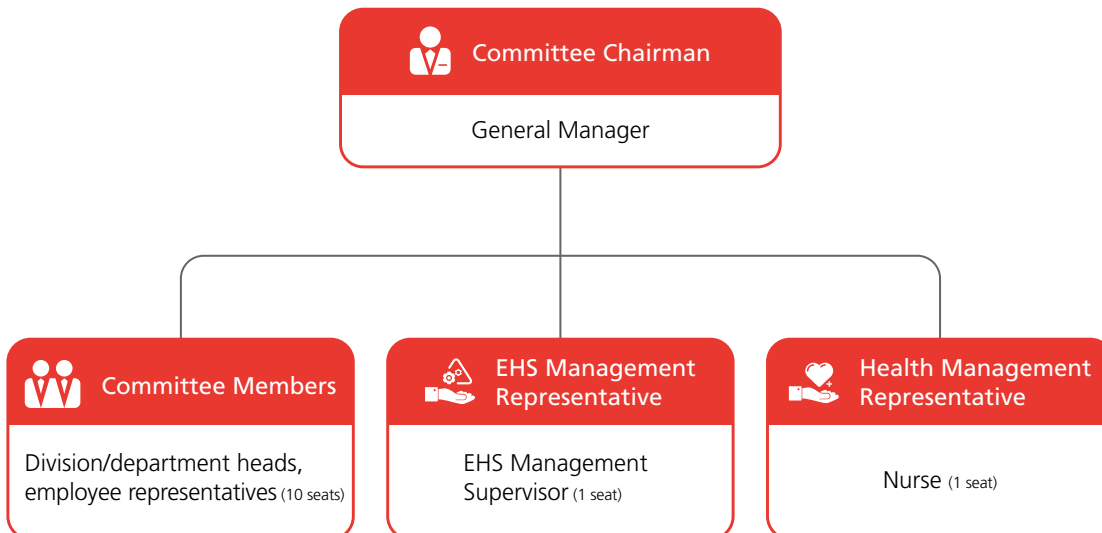
Evaluation Items	Wafer Foundry Unit	Testing Unit	R&D Unit
Supervisor inspection and observation of operations	•	•	•
Emergency response professional skills test	•	•	
Education and training participation rate	•	•	•
EHS system audit	•		
EHS issues QA	•		•
Occurrence of accident or loss	•	•	

### Establishment of a EHS Committee to Implement a Communication Mechanism

Nuvoton Technology has established a company-wide “EHS and Risk Management Committee”. Chaired by the General Manager of Nuvoton, 10 employees representing each company unit have a seat on the committee, who make up 77% of the

total number of 13 committee members. Quarterly meetings are held to discuss daily health and safety management issues and to promote occupational EHS, employee health management, environmental protection and damage prevention, regulatory compliance, continuous improvement programs, and other issues, as well as to implement EHS communication.

### Nuvoton Technology - EHS and Risk Management Committee Organization Chart

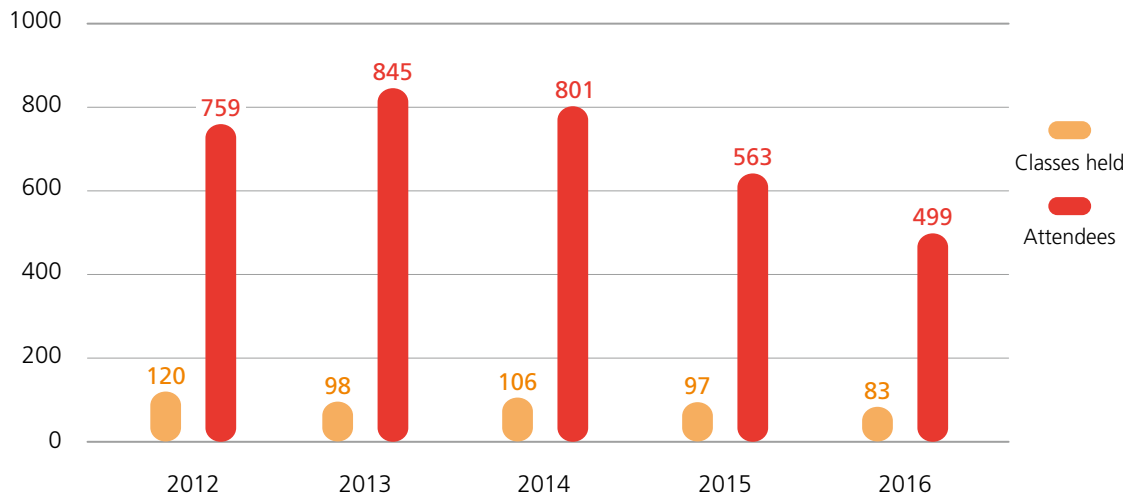


### Contractor Management and Operational Safety Control

In relation to contractor management and operational safety control, we have established clearly defined environmental, health and safety protocols for vendors during visits to the foundry. A requirement to apply for a construction safety permit allows for the management of construction operations and risks. Contractors are further required to undergo relevant education and training, or be informed of hazard factors, operating environment hazard risks and relevant health and

safety regulations, which will help to strengthen operational safety precautions and emergency procedures. These measures are combined with routine inspections and the adoption of mobile management to fully carry out safety policies. For high-risk operations, such as hot work, lifting and lowering of heavy loads, working with limited space, working above ground level, drainage or handling of special gasses or chemicals, demolition or other such operations, special management and control measures have been implemented, requiring on-site authorization to ensure the safety of workers at each job station as well as to avoid environmental impact.

Contractor Education and Training Results for 2016



### Change Management Systems

Concerning change management, the most crucial element is to fully inform everyone about these changes at an early stage. Therefore, Nuvoton Technology requires that all units not only take the initiative of reporting changes, but also systemize the change application process, sample material identification procedures, material supplier PCN (Process / Product Change Notices), production process or equipment change review meetings (Process Change Review Board), purchasing and other management systems, in order to rapidly manage change. EHS management and related departments will also carry out a preliminary risk and impact assessment. If the addition or change is assessed as having a significant risk or impact, then relevant precautions will be taken. When confirming if the necessary precautions are completed, if there are derivative work control requirements, relevant norms should be set or amended, and relevant personnel should be trained in implementation.

### Employee Training and Emergency Response Management

In addition to promoting related health and safety activities, Nuvoton Technology also places emphasis on safety and sanitation training, strengthening risk awareness abilities, harm prevention and emergency response capabilities, and other knowledge and skills, as well as training in emergency response capabilities and safety concepts for our employees. Every 3 years, Nuvoton employees should undergo firefighting training, including the use of fire extinguishers, fire hydrants and emergency smoke escape suits, to strengthen their awareness of disaster prevention and escape. In addition, every year emergency response drills are held to cover a variety of accidents that may occur at the Company, and every 2 years emergency response teams conduct recurrent training, so that employees are familiar with notification procedures, emergency site control, first aid, disaster rescue equipment operation and support.



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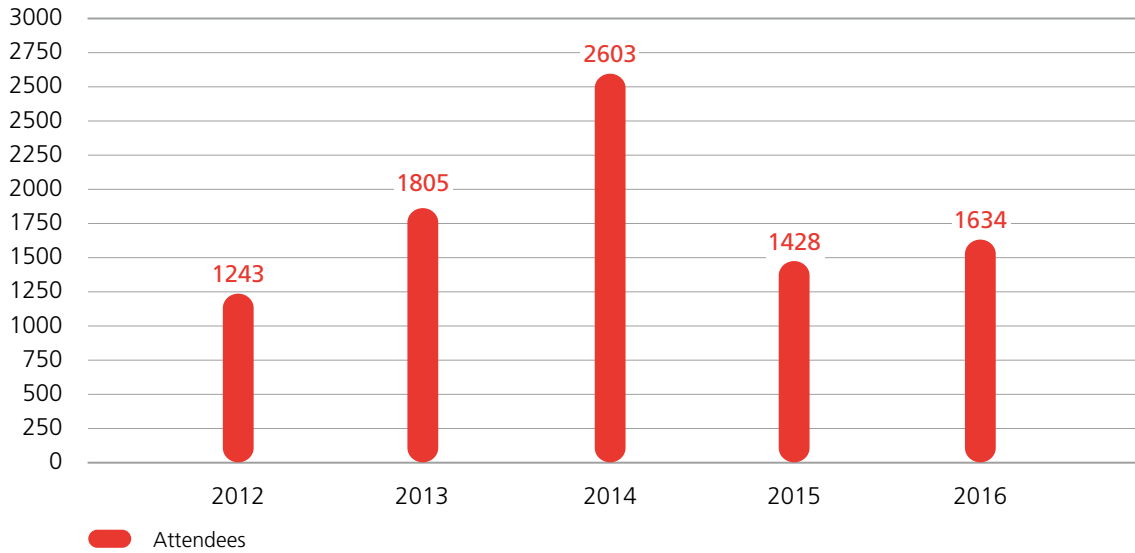


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### 2016 Safety and Sanitation Education and Training Performance



Employee Safety and Sanitation Training



Emergency Response Commander Training - Sand Table Exercises



Qualified First Aid Personnel Training



Emergency Response Commander Training - On-Site Exercises



Firefighting practical training



Firefighter training



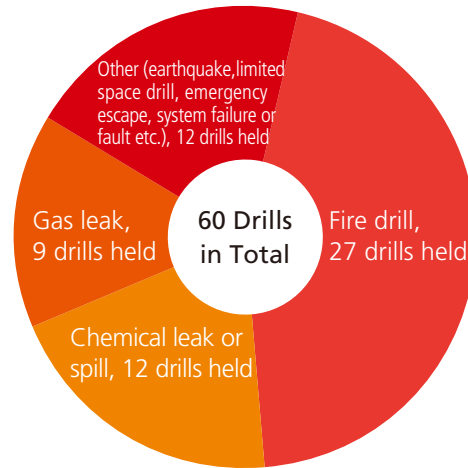
Various Emergency Response Drills During 2016



In response to possible emergencies that could occur such as internal accidents in various areas or natural disasters, Nuvoton has formulated emergency response procedures that provide a basis for internal departments to formulate contingency plans for individual situations, emergency response team formation, and holding drills and training. These procedures will minimize the impact of personal injuries, property damage and disruptions caused by various emergencies that could occur.

In 2016, a total of 60 emergency response drills (including fire drills, chemical leak drills, gas leak drills and emergency evacuation drills) were held. Holding these drills will enable rapid and correct emergency responses in the event of a real emergency.

2016 Emergency Response Drill Type / No. of Drills Held



Occupational Accident Indicators

Following the indicators published by the Ministry of Labor, Nuvoton Technology's occupational accidents analysis uses the Disabling Frequency Rate (FR) and Disabling Severity Rate (SR) for its statistical basis (statistics do not include incidents resulting from traffic accidents from and to work). In 2016, both the FR and SR were zero, illustrating that the Company has been effective in strengthening employee's hazard awareness abilities, and has made continuous improvement in immediately responding

to unsafe environments, allowing all employees to work in a safe environment and grow together with the company. Regarding the statistics of accidents occurring to employees during their commute to and from work in 2016, the FR was 1.38 for male employees and 0.84 for female employees, while the SR was 11.7 for male employees and 0.8 for female employees. In addition, Nuvoton contractors have reported a zero number of occupational accidents in the past five years.

Employee Accidents (Non-Traffic Related)	2012		2013		2014		2015		2016	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Number of Disabling Injuries	1	0	1	0	3	0	1	1	0	0
Total Number of Lost Days Due to Injury	7	0	3	0	8	0	3	3	0	0
Disabling Injury Frequency Rate (FR)	0.71	0	0.71	0	2.13	0	0.71	0.81	0	0
Disabling Injury Severity Rate (SR)	5.0	0	2.1	0	5.7	0	2.1	2.4	0	0



Employee Accidents (Non-Traffic Related)	2012		2013		2014		2015		2016	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Occupational Disease Rate (ODR)	0	0	0	0	0	0	0	0	0	0

Note 1: Disabling Injury Frequency Rate (FR) = (number of disabling injuries × 106) ÷ total working hours (rounded off to two decimal places)

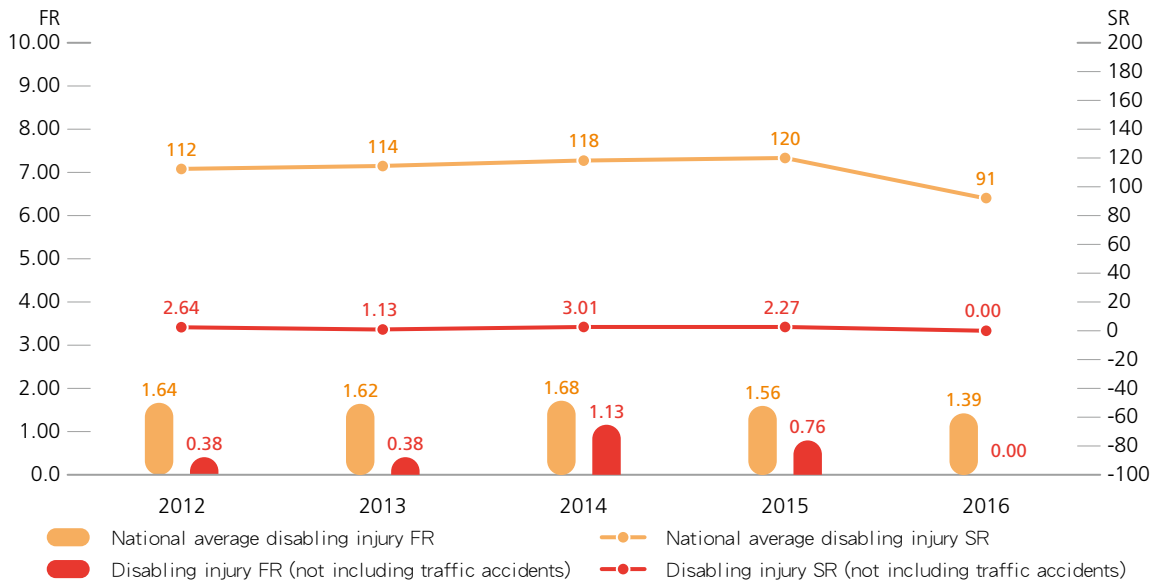
Note 2: Disabling Injury Severity Rate (SR) = (Number of days lost to injury × 106) ÷ total working hours (rounded off to one decimal place)

Note 3: Occupational Disease Rate (ODR) = (Number of occupational disease incidences × × 106) ÷ total working hours (rounded off to whole number)

Employee Accidents (Traffic Related)	2012		2013		2014		2015		2016	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Number of Disabling Injuries	2	2	4	2	4	5	4	1	2	1
Total Number of Lost Days Due to Injury	2	30	13	6	49	20	20	2	17	1
Disabling Injury Frequency Rate (FR)	1.43	1.60	2.83	1.61	2.84	4.01	2.84	0.81	1.38	0.84
Disabling Injury Severity Rate (SR)	1.4	24.1	9.2	4.8	34.7	16.1	14.2	1.6	11.7	0.8

Contractors	2012		2013		2014		2015		2016	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Number of Disabling Injuries	0	0	0	0	0	0	0	0	0	0

**Disabling Injury Frequency Rate(FR) and Injury Severity Rate(SR)**  
Disabling injury frequency and severity rate per one million working hours



The Company's absenteeism rate in 2016 is as follows

Year	2016	
Leave Type	Hours Absent	Absenteeism Rate
Work-Related Sick or Injury Leave	174	0.01%
Sick Leave	12,197	0.48%
Personal Leave	4,834	0.19%
Sub-total	17,205	0.68%

Note: The absenteeism rate is calculated as: (hours absent for each type of leave / total number of normal working hours) \* 100%

### Health Management Program

Only if employees are healthy can the development of innovation and vitality can be sustainable, so healthy employees are an important asset of the Company. Nuvoton Technology's health management and promotion plan is to keep working towards the LOHAS goal of "Work Happily, Live Healthily". We are committed to taking good care of our employees' health and well-being, and even extend our support to assist with the health issues of employees' dependents and families. We also are committed to providing a high quality workplace environment and culture. This is so that our employees can have peace of mind, and balance and develop in unison the key areas of their lives such as health, family, work, sports and leisure.

### Health Management Plan

Nuvoton Technology's health management unit is positioned as a service management unit, providing "a warm and friendly service, and goal-oriented management". The management structure incorporates OHS and environmental protection elements, and focuses on creating a safe and hygienic work environment to protect and promote the safety and health of employees, working hard to reduce the health related factors that affect productivity, such as work-related injuries and infectious diseases, and implementing the Company's policy of "a healthy workplace, and a friendly company".





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### • Creating a Comfortable and Friendly Health Center

In addition to being staffed 24 hours a day by a professional nurse, the center creates a comfortable, bright and private space, allowing employees who come in to feel relaxed and safe, and get assistance for any physical or psychological issues.

### • Convenient and Fast Health Management System

Employee's health check results can be found on the "My Health Management" webpage of the Company's intranet, providing a convenient

health management platform for employees. The webpage also allows registration for health promotion activities and provides various health information bulletins. With this platform, an employee can immediately understand their latest health condition and find out the latest health related information. The platform webpage has already been accessed over 18,000 times as of the end of 2016.

### • Health Check Program

Nuvoton Technology provides every employee an annual health check-up, with a participation rate of 100%, and also provides an opportunity for an abdominal ultrasound once every 3 years. Nuvoton cooperates together with medical clinic health check teams in order to provide a "5 star" level of service: careful, attentive, enthusiastic, caring and safe, which our employees have given a satisfaction rating of over 95%. And we will plan health check items according to different categories of employees (new recruits, regular employees, high-level managers) and the special hazards to their health. These items include: electrocardiogram, cardiovascular screening, full-range hearing testing, thyroid function testing, cancer screening, urinary arsenic and nickel testing, lead blood testing, and so on, utilizing the 3 levels + 5 grades preventive medicine concepts of early diagnosis and early treatment.

### • SOP for Health Management

"Employee Health Check Management Standard Operating Procedures" have been established for the management of health checks and

## 健康管理系統



健康活動報名



我的健康趨勢



FB10健康資訊

瀏覽人數：18266人

abnormalities, in order for the Company to keep abreast of the health condition of employees, provide health advice, service and recommendations, and prevent the occurrence of diseases and occupational sickness or injury. Apart from being used in hospital selection and health check quality requirements, following the completion of the health examination is when health management truly begins; determined from

analysis and grading of the health examination results data, employees with slight abnormalities are given physician counseling and health lectures, while those with serious abnormalities are arranged to have medical examination and treatment. We provide comprehensive health care and treatment in order to ensure the health of our employees.

Grade	Grade 1 (Normal)	Grade 2 (Slight Abnormality)	Grade 3 (Abnormality)	Grade 4 (Severe Abnormality)	Grade 5 (Disease Requiring Medical Attention)
Regular Employee	Healthy lifestyle promotion	Provide health counseling and promotion	Outpatient consultation required	Outpatient consultation required	Medical treatment and follow-up tracking
New Recruit	Archive	Outpatient consultation and health counseling	Outpatient treatment and Company follow-up tracking		

● On-Site Medical Services and Occupational Disease Prevention

Every month the Company will arrange the visit of a medical-center or family-clinic physician to give out-patient consultations. In addition to providing medical consultations, the physician will also assist our health center in health management and promotion services, and tour the workplace to understand the working conditions of employees, and to identify and solve problems. There were no instances of occupational diseases occurring in 2014-2016. By the end of 2016, 86% of employees had received face-to-face health consultations from resident physicians. And in order to maintain the quality of consultations, satisfaction evaluations are given to employees after each consultation to provide their feedback and suggestions, and the results are shared back with the physicians. Apart from ensuring the quality and improving the capabilities of the clinical services provided, we also hope to truly

provide our employees with the services they need, and realize our stance towards healthy living.

● Promotion of Workplace Protection Plan

Nuvoton Technology has created different protection plans for different groups of employees. For example, for employees who do a lot of physical repetitive work, we will arrange blind massage therapists, warm-up and stretching exercises, and physiotherapist consultations, to prevent or reduce muscle soreness and injury. And for office workers, we will provide ergonomic desks and chairs, teach employees about correct sitting posture, and invite the head of a physiotherapy institute to give lectures, allowing employees to understand that incorrect posture can cause serious physical injury. Providing correct knowledge and the best working environment will help to prevent any employee musculoskeletal injuries.



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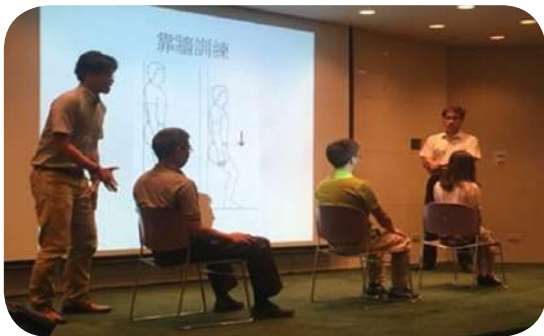
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For pregnant and postpartum female employees, we will arrange physician consultations and care, to ensure the physical and mental health of the mother. Nuvoton Technology also actively encourages colleagues to give birth, not only by providing elegant and practical gifts for pregnant colleagues, but also offering priority car parking and various other offers and care. And for employees with high cholesterol, blood sugar or

blood pressure, we will also provide active health management and pay attention to their working hours, to avoid overwork. Nuvoton Technology has declared its determination to oppose workplace violence. The company is like a big family, living in harmony, solving problems rationally, and relieving any tension if necessary. There is also an Employee Assistance Program (EAPC) available which provides counseling free of charge.

### Promotion of Workplace Protection Plan

EAPC

**員工協助方案 EAPC**  
諮詢服務專線：(03) 5-268-269

誰能聽我說話

輔導中心與「社團法人新竹市生命線協會/員工協助服務中心」合作，提供同仁諮詢服務。  
服務內容：生涯工作、家庭親子、兩性情感、身心壓力、法律諮詢

服務時間：週一至週五，9:00~19:00 (請電話預約)  
服務方式：可選擇電話、面談等方式與諮詢顧問協談

服務地點：面談者可與員工協助服務中心討論至所提供之各駐點場地。  
(每次諮詢服務以60分鐘計，每人每年可享三次服務，費用由公司全額負擔)

nuvoton 18733982

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輔導中心諮詢專線：分機 33246--33248

Female employees workplace

**鼓勵生育 友善母性工作環境**

- 本公司集乳室，裝潢優美高雅，獲新竹市職場哺集乳室認證佳作。(目前15位使用)
- 鼓勵生育，同仁懷孕憑「媽媽手冊」可領取超值好禮。(30位)
- 孕婦專用車位、粉紅色無塵衣、孕婦休息椅。

孕禮優先車位 Pregnant Lady First

• Emergency and First Aid Response

Our established system of various incident notification and response procedures is not only reinforced through education and training courses, but also through the use of e-learning, thereby enhancing employee safety and sanitation concepts and awareness. Several types of advanced emergency equipment have been prepared in the factory area,

such three AED (Automated External Defibrillator) units, and two sets of supplementary oxygen units, in order to ensure the health and safety of employees. In addition, CPR and AED training is actively promoted throughout the company, and at present over 65% of all employees have already received training.

Emergency and First Aid Response

AED (Automated External Defibrillator)



Education and training courses



• Health Promotion Plan

We will continue to develop and deepen health promotion activities. Apart from providing many different types of health examinations such as abdominal ultrasounds, female pelvic and breast cancer examinations etc., we also hope to inspire

a culture of fitness, sports and a healthy diet, and to allow employees to transform themselves using these ideas, so that the concept of "health" will become deeply rooted in the DNA of Nuvoton Technology.





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## Nuvoton Health Promotion Plan

Health Promotion



Walking Activities



Immunisations



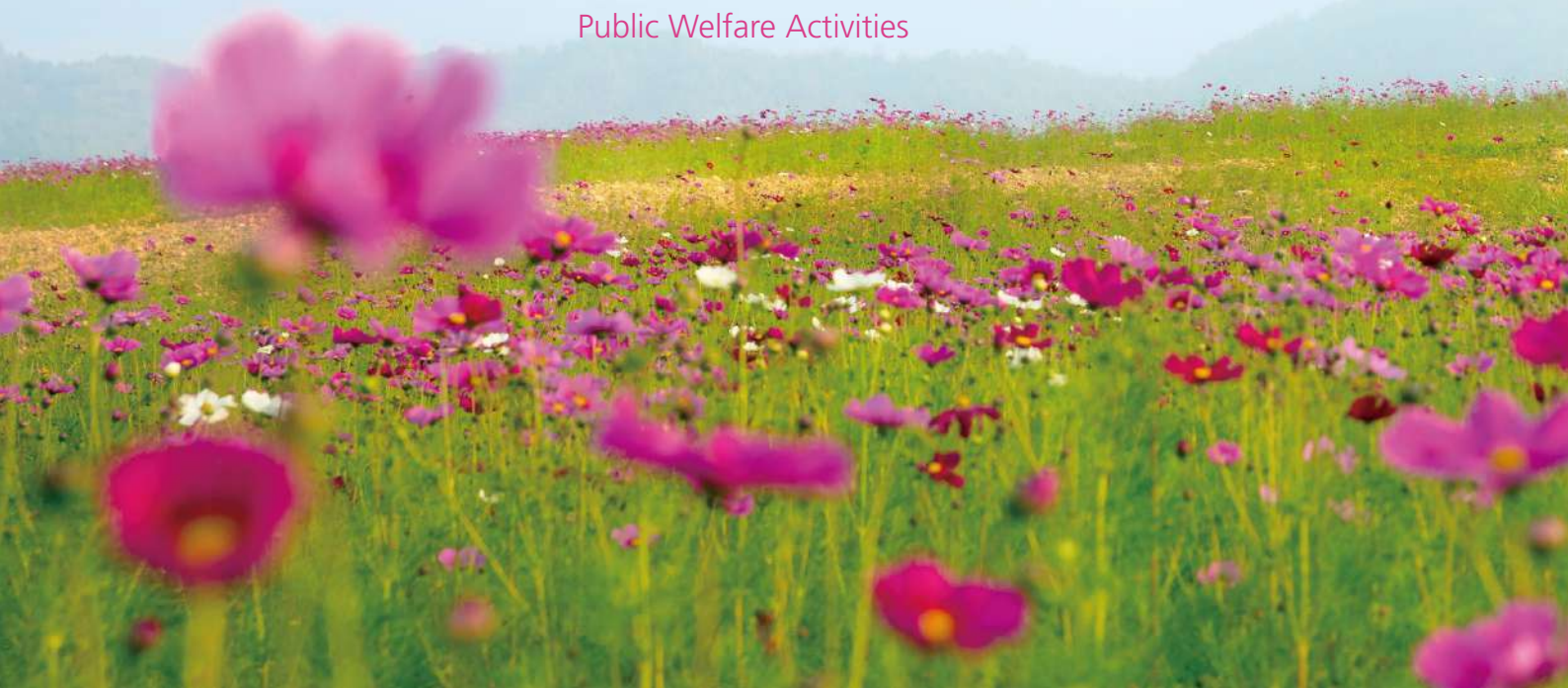
Warm-up and Stretching Classes



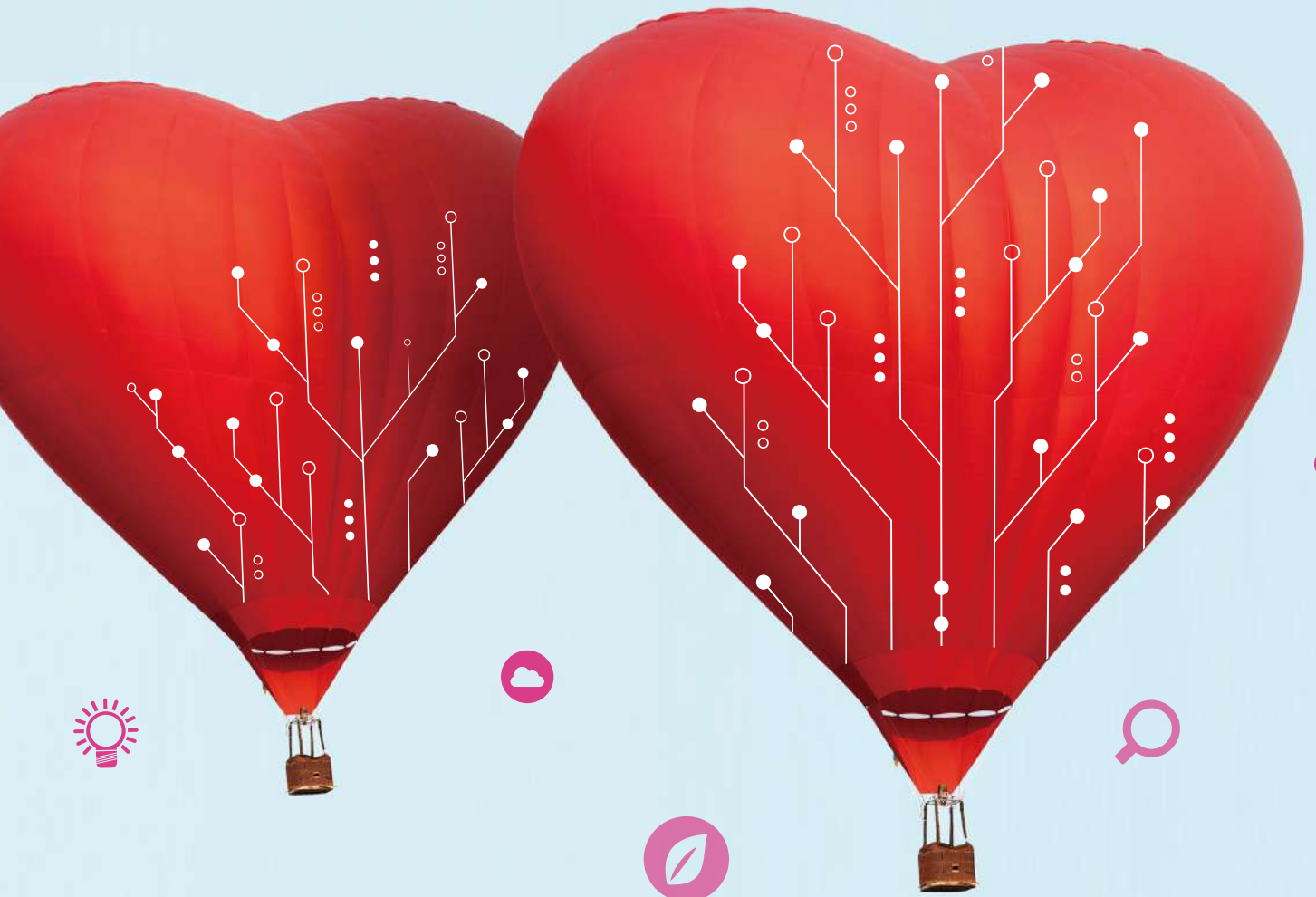


# 8 / Philanthropy

Cultivating Talent and Campus Participation  
Public Welfare Activities







# Philanthropy

## Cultivating Talent and Campus Participation

Outstanding personnel who are motivated by national development form the base of our industry's growth. In order to fulfill the role of a good corporate citizen, Nuvoton Technology continues to nurture our relationship with schools, in order to cultivate key talent. Nuvoton not only regularly takes part in campus recruitment activities, but also provides for student company visits, and organizes a number of campus programs. We hope that by establishing good academic exchanges with schools, and organizing a diverse number of campus programs, we can provide enterprise resources for students, and cultivate talent in line with the needs of the industry, as well as shortening the adaptation period for students to enter the workplace, in order to strengthen the competitiveness of the IC industry.

### University Program

Since 2011, Nuvoton Technology has been actively cultivating innovative thinking in the next generation of engineers through a campus program, the "Nuvoton Arm® Cortex® M Series Microcontroller Teaching Platform", providing an interrelated free software development environment and driver applications to tertiary institutions in the Asia Pacific region, to help students during their studies to learn about current industry mainstream development products and platforms. This will not only help to rapidly enhance students' competitive advantages for employment, but also promote cooperation between industry and educational institutions, and connect students with potential employers. We also hold a series of competitions and certification activities, providing a platform for students to prove their own ability, in order to encourage students to continue to develop and create the next generation of innovative products.

We will continue to promote our university program, having already donated our teaching platform to the following schools:

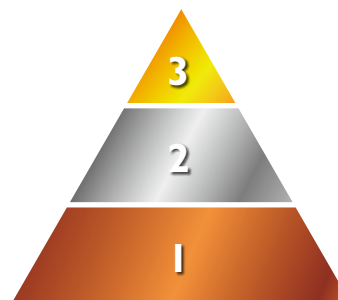
- National  
National Taiwan University, National Chiao Tung University, National Tsing Hua University, National Chung Hsing University, National Central University, National Taiwan University

of Science and Technology, National Pingtung University of Science and Technology, Chung Yuan Christian University, Asia University, Cheng Shiu University, National Taiwan Ocean University, National Formosa University, Oriental Institute of Technology, St. John's University, Shu-Te University, National Changhua University of Education, Minghsin University of Science and Technology, National Kaohsiung First University of Science and Technology, Southern Taiwan University of Science and Technology, Lunghwa University of Science and Technology, and Taipei City University of Science and Technology.

- Overseas

Jilin University, Nantong University, Northeastern University, Xidian University, Tianjin University, Southeast University, Chengdu University College of Electronic Science and Technology, Sichuan University, Xi'an Jiaotong University, Zhejiang University, Southwest Jiaotong University, University of Tun Hussein Onn Malaysia, University of the Philippines Los Baños, Manipal University, Sri Ramaswamy Memorial University, Kasetsart University, Ho Chi Minh City University of Technology, University of Malaya, and Hanoi University.

### Nuvoton NuMicro® Accredited Engineer (NNAE) Program



- 3 Master**
- 2 Expert**
- 1 Specialist**



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Nuvoton Technology launched our Nuvoton NuMicro® Accredited Engineer program in 2016. As long as students are interested in microcontroller application development, they are able to certify their Arm® Cortex®-M project design and technical support capabilities and develop their own career according to this global program.

Since being launched, Nuvoton Technology has cooperated with several tertiary institutions at home and abroad in not only introducing the Arm® Cortex®-M curriculum, but also assisting students in achieving NNAE certification. Through deep-reaching interaction between industry and education, and training students to develop their practical skills, NNAE certification helps students to gain the professional and technical talent required by the industry.

### Nuvoton Technology Competitions: 2016 MCU Creative Design Contest

The MCU Creative Design Contest hosted by Nuvoton Technology invited aspiring developers to indulge in their creativity, by providing a wealth of prize money, as well as the M4 development board - NTT-M451 (NT-M451V), and the IoT Application Development Board - NuMaker Uni (NK-UNI00), allowing teams to use these development boards as a hardware platform for project development and design. Participation in this contest was very active, and participants' submissions were all very rich and colorful. For the result of the competition, please refer to the following list:



#### Group A : IoT Application

Award	Title	Team Name	Team Member
First Prize	Dual audio DTMF-based intelligent lock	Intelligent Lock	Jun Xu, Qingzhao Yin, Xianhao Zhu
Second Prize	Smart equipment monitoring system for intelligent factory	PolyU SmartMon	Chu Sammy Shum, Lee Ling Tam, Yu Hung Chen, Alex Choy, Eric Tsang
Second Prize	Multifunctional distributed measuring instrument	764 Studio	Zhaolin Zhang, Guiyang Gan Zheng, Zhixin Gan
Third Prize	Smart home kit for lighting, watering, and pet feeding	angelwings	Jianyu Li, Zhiwei Ma, Jiawei Cui, Weisen Zhang
Third Prize	Novel egg holder	Preservation of the Great	Kai-Wun Jhang, Youlun Pan, Jili Cai
Third Prize	Household intelligent drip irrigation controller	Hao Park Development Center	Debin Zhou, Yu Jiang, Zongwen Jing
Creative Prize	Dual audio DTMF-based intelligent lock	Intelligent Lock	Jun Xu, Qingzhao Yin, Xianhao Zhu
Creative Prize	Novel egg holder	Preservation of the Great	Kai-Wun Jhang, Youlun Pan, Jili Cai
Creative Prize	Best travel partner	764 Studio	Ying Lai Xiang, Zhenrui Cao

Group B : MCU Application

Award	Title	Team Name	Team Member
First Prize	PLC function realization and extension based on Nuvoton chip	Taizhou Shengfeng Energy Technology	Liang Qiu
Second Prize	Development of vertical/horizontal transport in the multi-storey car park based on M451	HB-ONE	Weimin Yao, Xiaizhi Ma, Jianfei Fang
Second Prize	Portable fingerprint collecting and verification system	SKY	Tian Chen
Third Prize	Tracking device for pets, the elderly and children	Beijing Yiyunxun Team	Gang Cheng, Song Gao, Tianlai Chen
Third Prize	Color identification device based on M451	Love Nuvoton, with Nuvoton	jinglixixi
Third Prize	Safety guard of child passenger	764 Studio	Wenhao Li, Songling Zheng
Creative Prize	PLC function realization and extension based on Nuvoton chip	Taizhou Shengfeng Energy Technology	Liang Qiu
Creative Prize	Safety guard of child passenger	764 Studio	Wenhao Li, Songling Zheng

Laboratory Donation Program

In 2016, Nuvoton Technology cooperated with Chung Cheng University to create the "Ultra-Low Power Microcontroller Laboratory". Through this program, we plan to work together with Chung Cheng University to nurture talent in ultra-low power microcontrollers, helping students to connect with industry during school time, and understand the industry's latest technical skills, knowledge and development platforms.



Company Visit Program

In order to help university students understand our company's operations and conduct preliminary workplace exploration, Nuvoton Technology welcomes students from Chung Cheng University and Hsinchu University of Education to conduct company visits. We introduce students to Nuvoton's vision, organizational culture, working environment as well as the actual operation Nuvoton's products in a lively and vivid way, so that students can learn more about the latest applications of microcontroller products.

No	Company Visit Program	Number
1	Chung Cheng University	60
2	Hsinchu University of Education	52



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Hsinchu University of Education Company Visit Students



Chung Cheng University Company Visit Students



### Nuvoton Technology Scholarships

Nuvoton has established a "Nuvoton Technology Scholarship" program since 2013, in order to nurture cutting-edge talent in the field of IC design and to reward outstanding students in cultivating virtue and advancing intellect. Each year, the scholarship is awarded to outstanding students. In addition to receiving a monthly stipend of NT \$ 20,000 during the scholarship period, students who receive the scholarship are also provided with internship

opportunities during the summer vacation each year as well a summer internship allowance.

Based on the specialist capabilities and research topics of each student, Nuvoton will arrange a supervisor to act as a dedicated mentor, and we will also provide guidance and technical advice to the students through regular meetings. A total of 15 students have been enrolled in the scholarship program from 2013 - 2016.

### Talent Training Program

In order to reduce the disparity between knowledge learned in class and skills required by employers, as well as to cultivate talented personnel, Nuvoton Technology cooperates with a number of universities to provide summer internships, so that students can experience working life earlier. Apart from enhancing their own "hard skills" (research abilities), the internships can also help students strengthen "soft skills" (workplace interpersonal relationship skills, presentation skills and communication skills), helping them increase their job market competitiveness in the future.

Nuvoton Technology also continues to participate in

the Ministry of Education's "System and Architecture Talent Incubation and Training Internship Program", providing a student-themed internship platform to enable students to apply the theories they have learned in school to the workplace, and to enhance students' practical abilities.

After the internship, we also invite their guiding professors and Nuvoton mentors to together attend the student's' final results evaluation presentations. The participating students share their learning achievements at Nuvoton, and their professors also provide many valuable suggestions. In 2016, a total of 6 students interned at Nuvoton Technology Headquarters.

### Nuvoton Student Internship Program

2016 System and Architecture Talent Incubation and Training Internship Program



2016 System and Architecture Talent Incubation and Training Internship Program

2016 Student Intern



### Public Welfare Activities

Nuvoton Technology employees have a kind heart and hope to do their part to give back to the community. Every year, in addition to regularly participating in environmentally friendly public welfare activities such as beach and park cleanups, second hand good sales and recycling activities, end of year donations are also made to help disadvantaged groups in society, such as to the

Genesis Social Welfare Foundation, Shih Guang Educational & Nursing Foundation, Taiwan Fund for Children & Families, and the Children's Hearing Foundation, as well as to company employees requiring assistance.

In 2016, donations made amounted to a total of NT \$1,604,466. The donation figures for the past three years can be seen in the chart below. In the future, Nuvoton Technology will expand a program to help



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impoverished patients at Hsinchu District Hospital, to fully demonstrate the philosophy of "honoring old people as we do our own aged parents, and caring for other's children as one's own". In addition, Nuvoton Technology also donates money to help children in rural areas with lunch and nutrition supplements, as well as providing internships for students at universities such as

Kaohsiung First University of Science and Technology, not only to teach professional skills and knowledge, but also to subtly pass down good behavior and morals to the next generation, with an expectation only of encouraging a more harmonious and progressive society and stimulating more talent.

### Nuvoton Public Welfare Activities

Beach and Park Cleanups



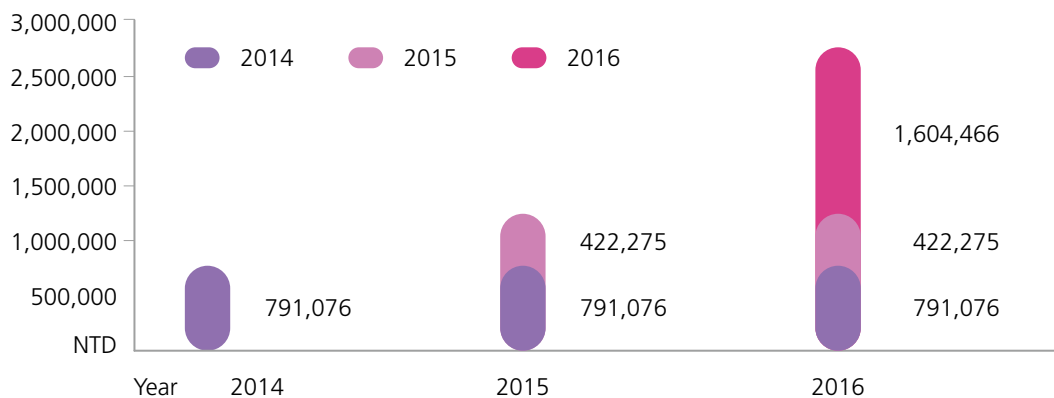
Public Welfare Activities



Beach and Park Cleanups



Donations to help disadvantaged groups from 2014 to 2016





# 9 / Appendix

GRI (Global Reporting Initiative) G4.0 GRI 4.0 Index  
Third Party Verification Statement





# Appendix

## GRI (Global Reporting Initiative) G4.0 Index

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	G4-6	Introduction		14	
	G4-7	Introduction		14	
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	G4-23		No effect of revision from previous report		
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### Specific Standard Disclosures

#### Economic Categories

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Aspect	Index	Section	Page Number	Omissions	External Assurance
Effluents and Waste	Management Policy	Waste Management	46		
	G4-EN22	Water Conservation	41		
	G4-EN23	Waste Management	46		
Products and Service	Management Policy	Green Products	48		
	G4-EN27	Green Products	48		
Compliance	Management Policy	Environmental Management	38		
	G4-EN29	Water Conservation	41	No financial penalties were imposed during the reporting period	
Supplier Environmental Assessment	Management Policy	Sustainable Supply Chain Management	32		
	G4-EN32	Sustainable Supply Chain Management	32		
Environmental Grievance Mechanisms	Management Policy	Environmental Law Compliance and Grievance Channels	44		
	G4-EN34	Environmental Law Compliance and Grievance Channels	44		

### Social Categories

Aspect	Index	Section	Page Number	Omissions	External Assurance
Employment	Management Policy	Talent Management	55		
	G4-LA1	Talent Management	55		
	G4-LA2	Salary and Benefits	56		
		Employee Welfare Committee	63		
G4-LA3	Salary and Benefits	56			

Aspect	Index	Section	Page Number	Omissions	External Assurance
Labor/ Mana	Management Policy	Human Resources Structure	54		
	G4-LA4			The notice period of any major changes in Company operations is in accordance with local laws and regulations	
Occupational Health & Safety	Management Policy	Occupational Health and Safety	65		
	G4-LA5	Occupational Health and Safety	65		
	G4-LA6	Occupational Accident Indicators	70		
Training & Education	Management Policy	Learning and Developing	57		
	G4-LA9	Learning and Developing	57		
Diversity & Equal Opportunity	Management Policy	Human Resources Structure	54		
	G4-LA12	Human Resources Structure	54		
Supplier Assessment for Labor Practices	Management Policy	Supply Chain Management Strategy	32		
	G4-LA14	Supply Chain Management Strategy	32		
Labor Practices Grievance Mechanisms	Management Policy	Adherence to Ethical Values	24		
	G4-LA16	Adherence to Ethical Values	24		
Child Labor	Management Policy	Talent Management	55		
	G4-HR5	Talent Management	55		
Forced & Compulsory Labor	Management Policy	Talent Management	55		
	G4-HR6	Talent Management	55		
Customer Health & Safety	Management Policy	Green Products	50		
	G4-PR1	Green Products	50		



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Aspect	Index	Section	Page Number	Omissions	External Assurance
Products & Service	Management Policy	Customer Service & Satisfaction	30		
	G4-PR5	Customer Service & Satisfaction	30		
	G4-PR9	Green Products	50	No large financial penalties were imposed as a result of the violation of laws and regulations in the provision and use of Company products and services during the reporting period	
Legal Compliance (Product Liability)	Management Policy	Green Products	50		
	G4-PR6	Green Products	50		
Marketing Communications	Management Policy	Green Products	50		
	G4-PR8	Green Products	50		
Anti-Corruption	Management Policy	Adherence to Ethical Values	24		
	G4-SO4	Adherence to Ethical Values	24		
Customer Health & Safety	Management Policy	Regulatory Compliance for Products	32		
	G4-SO8	Regulatory Compliance for Products	32	No large financial penalties were imposed as a result of violating laws and regulations during the reporting period	
Supplier Assessment for Impacts on Society	Management Policy	Supply Chain Management Strategy	32		
	G4-SO9	Supply Chain Management Strategy	32		
Customer Privacy	Management Policy	Protecting Customer Privacy	32		
	G4-PR8	Protecting Customer Privacy	32		

## Third Party Assurance Statement



### ASSURANCE STATEMENT

#### **SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE NUVOTON TECHNOLOGY CORPORATION'S CORPORATE SOCIAL RESPONSIBILITY REPORT FOR 2016**

##### **NATURE AND SCOPE OF THE ASSURANCE/VERIFICATION**

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by Nuvoton Technology Corporation (hereinafter referred to as Nuvoton) to conduct an independent assurance of the Corporate Social Responsibility Report for 2016 (hereinafter referred to as CSR Report). The scope of the assurance, based on the SGS Sustainability Report Assurance methodology, included the text, and data in accompanying tables, contained in this report.

The information in the Nuvoton's CSR Report of 2016 and its presentation are the responsibility of the directors and the management of Nuvoton. SGS has not been involved in the preparation of any of the material included in Nuvoton's CSR Report of 2016.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all Nuvoton's stakeholders.

The SGS protocols are based upon internationally recognized guidance, including the Principles contained within the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines (2013) for accuracy and reliability and the guidance on levels of assurance contained within the AA1000 series of standards and guidance for Assurance Providers.

This report has been assured using our protocols for:

- evaluation of content veracity at a moderate level of scrutiny for Nuvoton and moderate level of scrutiny for subsidiaries, and applicable aspect boundaries outside of the organization covered by this report;
- AA1000 Assurance Standard (2008) Type 1 evaluation of the report content and supporting management systems against the AA1000 Accountability Principles (2008); and
- evaluation of the report against the Global Reporting Initiative Sustainability Reporting Guidelines (G4 2013).

The assurance comprised a combination of pre-assurance research, interviews with relevant employees, superintendents, CSR committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and/or stakeholders where relevant. Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

##### **STATEMENT OF INDEPENDENCE AND COMPETENCE**

The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from Nuvoton, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.





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The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with ISO 26000, ISO 20121, ISO 50001, SA8000, EICC, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

**VERIFICATION/ ASSURANCE OPINION**

On the basis of the methodology described and the verification work performed, we are satisfied that the information and data contained within Nuvoton's CSR Report of 2016 verified is accurate, reliable and provides a fair and balanced representation of Nuvoton sustainability activities in 01/01/2016 to 12/31/2016. The assurance team is of the opinion that the Report can be used by the Reporting Organisation's Stakeholders. We believe that the organisation has chosen an appropriate level of assurance for this stage in their reporting. In our opinion, the contents of the report meet the requirements of GRI G4 Core Option and AA1000 Assurance Standard (2008) Type 1, Moderate level assurance.

**AA1000 ACCOUNTABILITY PRINCIPLES (2008) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS**

**Inclusivity**

Nuvoton has demonstrated a good commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, CSR experts, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. For future reporting, Nuvoton may proactively consider having more direct two-ways involvement of stakeholders during future engagement.

**Materiality**

Nuvoton has established effective processes for determining issues that are material to the business. Formal review has identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

**Responsiveness**

The report includes coverage given to stakeholder engagement and channels for stakeholder feedback.

**GLOBAL REPORTING INITIATIVE REPORTING GUIDELINES (G4 2013) CONCLUSIONS, FINDINGS AND RECOMMENDATIONS**

**Principles**

The report, Nuvoton's CSR Report of 2016, is adequately in line with the GRI G4 Core Option. The material aspects and their boundaries within and outside of the organization are properly defined in accordance with GRI's Reporting Principles for Defining Report Content. Disclosures of identified material aspects and boundaries, and stakeholder engagement, G4-17 to G4-27, are correctly located in content index and report.

**General Standard Disclosures**

More governance related GSDs may be further enhanced in future reports.

**Specific Standard Disclosures**

Disclosures on Management Approach components for other material aspects, such as goals and targets, may be further enhanced in next report. More disclosures on social and corporate governance related indicators are encouraged in future reports.

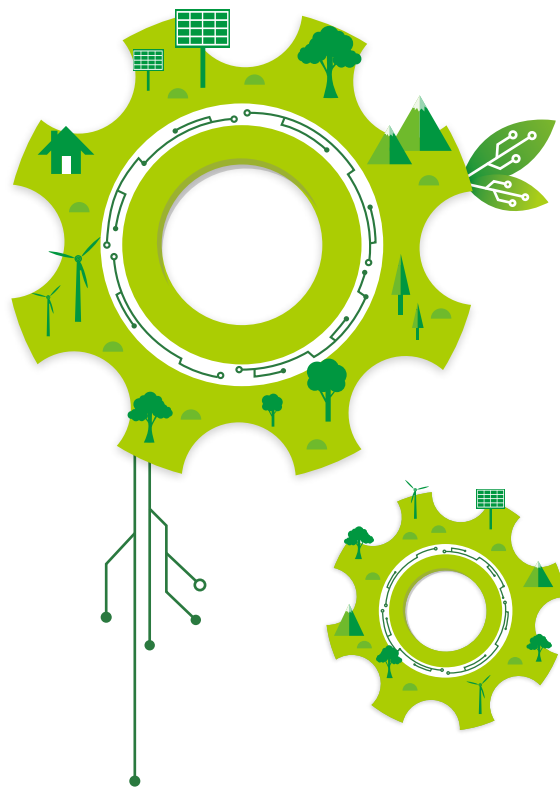
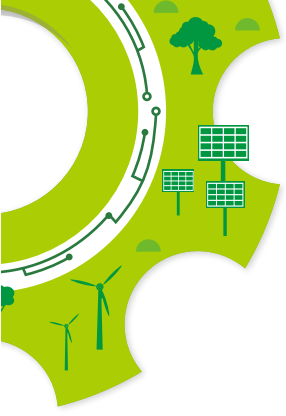
Signed:

For and on behalf of SGS Taiwan Ltd.

David Huang, Director  
Taipei, Taiwan  
24 July, 2017  
WWW.SGS.COM



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2016 Corporate Social Responsibility Report

