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[Link](http://www.umc.com/English/CSR/index.asp)
A word from the Chief Executive Officer

To friends who have accompanied UMC all this while:

In 2015, major economies have continued to face structural issues characterized by high debt, low inflation, and poor employment rates as well as sluggish growth of the global economy. However, UMC operations continued to make steady progress with constant breakthroughs in technologies, production capacity, and customer development. We have also continued to make improvements to our corporate social responsibility (CSR) efforts, and I would like to share with you our vision and strategies of key sustainability topics in UMC as well as the outcomes of our activities.

For corporate governance, UMC has stipulated the UMC Corporate Governance Practice Principles, UMC Ethical Corporate Management Best Practice Principles, and UMC Corporate Social Responsibility Principles to provide a referential basis for establishing an effective corporate governance framework aimed at securing our shareholders’ equities, enhancing the functions of our Board of Directors, enforcing the functions of our Audit Committee, respecting the rights of our stakeholders, and improving the transparency of our information. In 2015, we not only achieved the highest possible rating of A++ in information disclosure assessment for publicly traded companies, but also attained the prestigious top 5% in the 1st corporate governance assessment conducted by TWSE.

For environmental sustainability and social participation, UMC has continued to uphold the visions of harmonious co-existence and co-prosperity with our surrounding environment and society by working closely with every staff and employee. In 2015, UMC successfully met various objectives prescribed by the 369+ Energy Conservation Project. Meanwhile, we also declared our Green 2020 Project during carbon neutrality and environmental protection activities held on UMC Earth Day. The goal of this project was to achieve another 10% reduction in water, power consumption and waste generation by 2020. In addition to attaining the ROC Enterprises Environmental Protection Award for 13 consecutive years, UMC also attained the highest score in the Taiwanese semiconductor industry for the Climate Disclosure Leadership Index (CDLI) of the international Carbon Disclosure Project. Our Carbon Performance Band attained the highest rating amongst all participating Taiwanese enterprises as well. For social participation, we have continued to operate UMC talent training programs, encourage volunteer culture, and implement social club assessments to actively promote the Eco-echo Ecological Conservation Hope Project. We worked with the Society of Wildeness (SOW) to preserve the habitats of Sauter’s Brown Frog (Rana sauteri) in the mountainous regions of Hsinchu. We also established the Energy Conservation Service Team in 2015 to provide energy saving and safety improvement services to the underprivileged. These efforts have expanded our influence and contributed towards a positive feedback cycle for both our enterprise as well as surrounding communities.

For our overall performance, we have been given the highest rating of Gold Class Enterprise for the Dow Jones Sustainability Index (DJSI) and attained the 1st Rank in Taiwan and 2nd Rank in Asia in the Channel NewsAsia Sustainability Top 100 Ranking. Our other accolades include the Taiwan Top 10 Sustainable Company Award, CommonWealth Magazine’s Corporate Citizenship Award, and Global Vees Magazine’s CSR Award. These achievements testify the deeply rooted culture of sustainability and continuous improvements in UMC and the fact that our efforts have been acknowledged and praised in Taiwan as well as internationally.

As UMC continues to face countless risks, growing competition, and challenges in the future, we remain committed to pursuing continuing improvements for our existing advantages and foundations. We hope to work with various sectors, gather outstanding and innovative plans, and generate sustainable and positive energies to maximize the benefits provided to our employees, customers, and shareholders. Such efforts will provide long-term growth and ensure sustainable futures for both our ecology and society.

Principles for Report Compilation

This report is the 11th Corporate Social Responsibility Report issued by UMC and the 16 consecutive public non-financial annual report. UMC consistently upholds the principles of sincerity, pragmatism, transparency and joint sustainable development, and discloses its corporate sustainability philosophy and approaches to the general public. This report makes public the implementation of the 2015 UMC corporate sustainable development and social responsibility.

Scope

Information disclosed in this CSR Report includes various performance and data of environmental protection, corporate governance, and community participation work carried out by UMC from January 1 to December 31, 2015. For the disclosure of major activities, the period was further extended to March 31, 2016. In addition to information about UMC headquarters and wafer fabs in Taiwan and Singapore, this CSR Report also included information on local and external organizations such as information of the subsidiary He Jian Technology Company (HJTC), other foundries in China, and affiliated joint ventures and subsidiaries that are relevant to the key material topics. For details, please refer to Page 107 in this Report.

Reporting Guidelines and Principles

The content framework in this report is based mainly on major UMC corporate sustainability issues in 2015 and stakeholder concerns. In addition, this report is compiled according to the GRI G4.0 guidelines of the Global Reporting Initiative (GRI) for global sustainability reports, and complies with the AA1000 standards and principles for identifying, implementing and disclosing information pertaining to the implementation of corporate social responsibility. Data from the annual financial report prepared by certified accountants (Ernst & Young Accounting) are used in this report, and data on greenhouse gas emission and reduction are based on ISO 14064-1 standards and verified by DNV Business Assurance. For further details, please refer to Chapter 3.

Report Assurance

This report was verified by SGS Taiwan Ltd. in April 2016 according to high assurance standards such as the principles of GRI / G4.0 Comprehensive Standards and the Accountability 1000 Assurance Standard TYPE II. The GSS verification report is attached to the appendix of this report.

Major UMC Milestones and Sustainability Performance

Major Milestones

- UMC First Foundry in Taiwan to Receive ISO 15408-EAL6 Certification
- Cypress Licenses 40-Nanometer Embedded Flash IP to UMC, Enabling Next-Generation MCUs, IoT and Wearables Applications
- ARM and UMC Target New 55nm ULP Physical IP Solution for Energy-Efficient Applications
- UMC Enters High Volume Touch IC Production using Foundry Industry’s First 0.11um eFlash Process
- Synopsys and UMC Expand 14-nm FinFET Collaboration to Include DesignWare Embedded Memory and Test Solutions
- UMC’s Automotive Semiconductor Revenue Doubles YoY on Strong Customer Adoption
- UMC Enters Volume Production for TSV Process Used to Enable AMD’s High-Performance Radeon R9 Fury X GPU
- UMC Unveils UMC AutoIP Platform to Enable Automotive IC Designs
- UMC Collaborates with ARM to Validate UMC 14nm FinFET Process
- UMC Enters Volume Production for Test Solutions
Sustainable Development Strategy and Organization

Communication with Stakeholders

Sustainable Development—Economic Growth

Sustainable Development—Environment

Sustainable Development—Society

About UMC

Major UMC Milestones and Sustainability Performance

Principles for Report Compilation

From the CEO

Appendix

Environmental Performance

- **Climate and Energy Management**
  - Power Reduction: In 2015, reduction reached the targeted goal of 5.42%. The newly added reduction for 2015 was 456,400 MWh, which is equivalent to a decrease of 28,900 tons in CO2 emissions and a savings of about NT$161 million in water cost.

- **Water Resource Management**
  - Water Usage: In 2015, reduction reached the targeted goal of 11.3%. The reduction of 111,369,319 m³ is equivalent to a decrease of 6,206 tons in CO2 emissions and a savings of about NT$18 million in water cost.

- **Waste Management**
  - Waste Reduction: Cumulative reduction reached the targeted goal of 9.0% in 2015. The newly added reduction was 950,000 tons, which is a savings of about NT$13 million in disposal cost for the year.

Social Performance

- **Education and Training**
  - 93.1% overall satisfaction with the courses.
  - In 2015, number of beneficiaries of UMC volunteer work reached 24,464, which was an increase of 14,079 individuals compared to 2014.

- **Public Service**
  - 100% corporate sustainability awards.
  - Employee benefits and performance

- **Positive Labor Relations**
  - 0 labor dispute
  - 100% communication meetings were completed

- **Safe Work Environment**
  - 0 major occupational hazard

- **Waste Recycling**
  - 16 less accidents compared to the reference basis (the year of 2011) and achieved savings of NT$3.8 million in potential asset loss

Economic Performance

- **Profitability**
  - ROE: 6.0% increase compared to 2014
  - Net Profit: 11.3% increase compared to 2014
  - Economic Performance: 89.8% capacity utilization rate

Social Responsibility

- **Innovative research and development of advanced technologies**
  - Patents: 11,279
  - Growth: 200% growth

- **Environmental Performance**
  - CO2 Emission Reduction: Cumulative reduction reached the targeted goal of 9% in 2015.

- **Energy Efficiency**
  - Cumulative energy efficiency reached the targeted goal of 11.2% Reduction in Water Usage.

- **Water Resource Management**
  - Water Usage: In 2015, reduction reached the targeted goal of 11.3%. The reduction of 111,369,319 m³ is equivalent to a decrease of 6,206 tons in CO2 emissions and a savings of about NT$18 million in water cost.

- **Waste Management**
  - Waste Reduction: Cumulative reduction reached the targeted goal of 9.0% in 2015. The newly added reduction was 950,000 tons, which is a savings of about NT$13 million in disposal cost for the year.

- **Waste Recycling**
  - 16 less accidents compared to the reference basis (the year of 2011) and achieved savings of NT$3.8 million in potential asset loss

- **Environmental Incidents or Fines**
  - In 2015, there were no environmental incidents or fines.

- **Environmental Management**
  - 100% Certification
  - UMC has received the ISO 14001 certification, the ISO 14064-1 greenhouse gas emissions certification, the ISO 14031 environmental management certification, and the GRI-G4 Reporting Framework Process Management Certification.

- **Corporate Governance Accreditation for Listed Companies**
  - Top 5% for the 2015 Corporate Governance Assessment Award of the TWSE.

- **Information Disclosure and Transparency Ranking System for Listed Companies**
  - Raked 4th on the Information Disclosure and Transparency Ranking System for listed companies.

- **CommonHealth Magazine Corporate Citizenship Award**
  - Won 4th place in the 2015 CommonHealth Magazine Corporate Sustainability Report Awards for 8 consecutive years and the Taiwan Top 10 Sustainable Company Award.

- **CSR Award from Global Views Monthly**
  - 2015 CSR Award - Model Award for Excellence in the technology and traditional manufacturing sector from Global Views Monthly.

- **Management Certification**
  - ISO 15408 Certification
  - ISO 22301 Business Continuity Management.

- **TCSA**
  - CSRs have established the ISO 22301 business continuity management system, and completed business continuity risk assessment for vendors who supply 95% of the company’s procurement.

- **Environmental Incidents or Fines**
  - In 2015, there were no environmental incidents or fines.

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  - 2015 CSR Award - Model Award for Excellence in the technology and traditional manufacturing sector from Global Views Monthly.

- **Management Certification**
  - ISO 15408 Certification
  - ISO 22301 Business Continuity Management.

- **TCSA**
  - CSRs have established the ISO 22301 business continuity management system, and completed business continuity risk assessment for vendors who supply 95% of the company’s procurement.

- **Environmental Incidents or Fines**
  - In 2015, there were no environmental incidents or fines.
About UMC

Company Profile

United Microelectronics (UMC) is a world leading semiconductor foundry. The company leverages its manufacturing excellence and comprehensive technology portfolios to produce IC wafers for every major electronics sector. UMC offers comprehensive solutions that give IC design companies a competitive edge through advanced processes and a wide range of specialty technologies, helping customers differentiate their products in the competitive IC market.

Firm Taiwan Roots, Global Presence

UMC plays an important role in Taiwan’s semiconductor industry. In addition to being Taiwan’s first wafer fabrication company, it is also Taiwan’s first listed semiconductor corporation. To meet the needs of customers worldwide, UMC has established service locations in Taiwan, Japan, China, Singapore, South Korea, Europe and the United States. UMC will continue to strive to provide its customers with world leading process technologies and a full range of professional foundry services so that they may continue to build a competitive advantage in today’s rapidly changing industry.

Participation in Outside Associations

Institution | Member | Participation in Project or Committee
--- | --- | ---
Chinese National Federation of Industries (CNFI) | | |
Business Council for Sustainable Development of Taiwan (BCSD-Taiwan) | | |
Taiwan Semiconductor Industry Association (TSSIA) | | |
Association of Industries in Science Parks (ASIP) | | |
Taiwan Electrical and Electronic Manufacturers’ Association (TEEMA) | | |
Chinese Professional Management Association (CPMA) | | |
Semiconductor Equipment and Materials International (SEMI Taiwan) | | |
Global Semiconductor Alliance, (GSA) | | |

Company History

- **1980**: UMC officially founded
- **1985**: UMC officially founded
- **1995**: Phase 4 of Tainan Science Park was completed
- **1999**: 12-inch Fab in Kaohsiung began production
- **2000**: Produced the world’s first copper process wafer
- **2004**: Listed on the New York Stock Exchange
- **2008**: Listed as a constituent stock in the Dow Jones Sustainability Index
- **2010**: UMC 30th anniversary celebration
- **2012**: Groundbreaking ceremony for Phase 5&6 of Fab 12A
- **2014**: Fujitsu listed as a new foundry JV company
- **2015**: Groundbreaking ceremony for United Semiconductor (Xiamen)Co.,Ltd in China
- **2017**: Transition into a foundry company
- **2019**: Formally acquired the Japanese subsidiary, UMCJ.
- **2020**: Established Fab 12i into the Specialty Development base in the Tainan Science Park
- **2021**: Formally acquired the Japanese subsidiary, UMCJ.

Sustainable Development Strategy and Organization

Commitment to Sustainability

UMC is committed to the philosophy of "employee care, environmental focus and public service", and furthering sustainable development, corporate social responsibility and guiding society towards a positive cycle. UMC sustainable development is built on the vision of "creating a friendly global ecology where the new value is people orientation, co-existence with the environment and shared social prosperity." "Customers, shareholders, employees, the environment and society" are the primary focus of joint pursuit of sustainable growth.

Corporate Social Responsibility Principles

UMC has stipulated its Corporate Social Responsibility Principles as a reference basis and guiding rule for fulfilling corporate social responsibility (CSR), improving the economy, environment, and society; and achieving the goals of sustainable development. The Corporate Sustainability Committee of UMC shall constantly review the development of relevant CSR guidelines and codes in Taiwan and other countries as well as changes to business environment in order to review and improve upon the CSR system established in UMC and improve the performance of CSR activities.
Equal Emphasis on Core Competitiveness and Social Responsibility

Based on the four competitive advantages of "independent R&D capability", "excellent manufacturing capability", "capable employees and "sound financial structure", as well as the five business cultures of "customer orientation", "integrity", "innovation", "accountability" and "efficiency" that have been deeply rooted in the company's operations, UMC is able to maintain its position as an industry leader. Combining its competitive advantages, UMC also defines its corporate social responsibility and the three major directions based on its business culture:

1. Economic: Continue to improve corporate competitiveness. Based on the four competitive advantages of "customer orientation", "integrity", "manufacturing capability", "capable employees" and "sound financial structure", UMC maintains its position as an industry leader.
2. Environment: Dedicate itself to manufacturing green products. The company's operations, UMC is able to complete and implement the company's internal control system to ensure the function of the Board and shareholder equity, integrate the UMC Cultural and Educational Foundation, and focus on education, arts, sports, public service and environmental protection, strive to promote the development of green technology and long-term educational assistance, arts and sports activities and other social welfare events.
3. Social: Fulfill corporate social responsibilities. Overall, UMC's performance and target achievement of member of the Committee shall review the direction and goals of CSR and sustainable business management.

Corporate Operations Organization vs. Corporate Sustainability Committee

The CEO is a member of the Board of Directors, and simultaneously serves as the Chair of the Corporate Sustainability Committee.

Corporate Sustainability Committee Organization and Operation

Organisation and Function

The Corporate Sustainability Committee (originally named Corporate Social Responsibility Committee) of UMC was established in 2008 and serves as the highest ranking CSR organization in the company. The Committee is responsible for stimulating the direction and goals of CSR and sustainable development. Every 6 months, the Director and member of the Committee shall review the performance and target achievement of secondary committees. The Committee shall also provide annual reports to the Board of Directors on the performance and plans of CSR activities. In 2016, the Committee also enacted management review of material topics related to the environment, economy, and society during the Board Meeting.

The Corporate Sustainability Committee has six functional committees: Corporate Governance Committee, Customer Relationship Management Committee, Human Rights and Social Participation Committee, Environmental Committee, Green Manufacturing Committee, and Green Technology Committee.

Descriptions of Committee Functions

Corporate Governance Committee

- Help strengthen the function of the Board and shareholder equity. The plans shall then be submitted to the Corporate Sustainability Committee for ratification. (1 KPI was not completed due to suspension of the project)

Customer Relationship Management Committee

- Refine customer service and quality control, improve service quality and customer satisfaction, and protect customer interests and relevant trade secrets.

Environment Committee

- Promote company-wide environmental, safety and health, energy, water and greenhouse gas emission management. Establish sustainable supply chains and long-term partnerships with suppliers to enhance sustainable competitiveness.

Green Manufacturing Committee

- Promote company-wide green processes, such as hazardous materials management and increases in resource productivity.

Green Technology Committee

- Promote green product research and development and innovations, and lead in cutting-edge green technology.

Human Rights and Social Participation Committee

- Responsible for protecting the basic rights of employees and promoting communication with outside communities and society. Integrates the UMC Cultural and Educational Foundation, and focuses on education, arts, sports, public service and environmental protection, strives to promote technological research and development cooperation, long-term educational assistance, arts and sports activities and other social welfare events.

Board of Directors Chair of Board

Audit Committee Remuneration Committee Capital Budget Committee

Corporate Operation Committee

Sustainability Office

Corporate Sustainability Committee


Corporate Sustainability Committee Management Mechanisms

Corporate Sustainability Committee Management Mechanisms

Review Once every 6 months

Participant Committee chair Committee members

Chief administrator Functional committees administrators

Management Content Committee reviews Operational progress of various functional committees

Review and approve goals and plans, review executive performance

Review Quarterly

Participant Functional committees administrators

Management Content Members

Discuss and plan implementation programs, follow up implementation progress

Key Corporate Sustainability Projects

Review Monthly

Participant Functional committees for promotions

Management Content Develops key performance indicators (KPI) to quantify the execution of management performance

Follow up and review company project management system

Follow up progress, and present audit results of the Corporate Sustainability Committee

01 Various functional committees shall propose annual promotion plans formulated according to the outcomes of stakeholder communication and major considerations. The plans shall then be submitted to the Corporate Sustainability Committee for ratification.

02 Functional committees follow up and assess the progress of their respective annual plans at quarterly meetings.

03 The Corporate Sustainability Committee follows up and reviews implementation performance every six months.

2015

In 2015, the Corporate Sustainability Committee stipulated a total of 60 KPIs which were carried out by relevant departments in UMC. A total of 60 KPIs were successfully attained for a completion rate of 98.4%. (1 KPI was not completed due to suspension of the project)

98.4%

2016

A total of 60 KPIs were stipulated for 2016.

(General CSR aspect: 3 KPIs / Environment aspect: 34 KPIs / Economic aspect: 13 KPIs / Social aspect: 10 KPIs)

60 KPIs
## 1 Communication with Stakeholders

### 1-1 Mechanisms for Stakeholder Communication

1. Following materiality analysis, the company discusses and decides on the disclosure ranking of sustainability issues.

### 1-2 Procedure for Defining Report Content

2. The Sustainability Committee shall conduct management review for material issues related to the economy, environment, and society.

### 1-3 Key Points and Outcomes of Stakeholder Communication

3. Conduct questionnaire surveys to determine the degree of stakeholder concern over the various types of sustainability issues so that stakeholders can express their needs in terms of sustainable IT.

### 1-4 Key Report Considerations and Boundaries

4. Multiply the score for degree of stakeholder concern over each issue and the score for its respective impact on company operation. Rank issues for disclosure.

<table>
<thead>
<tr>
<th>Sustainability Issues</th>
<th>Categories of Sustainability Issues</th>
<th>Copies of Questionnaires</th>
</tr>
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<tbody>
<tr>
<td>74</td>
<td>42</td>
<td>533</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>UMC Report Task Group Members</th>
<th>Material Issues</th>
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<tbody>
<tr>
<td>21</td>
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</table>

- Adopt the GRI G 4.0 guidelines, ISO 26000 social responsibility standard guidelines, UN Global Compact and domestic and international sustainability assessments as basis for issues.
- Members of the Corporate Sustainability Committee Report Group compile and analyze issues.
1-1 Mechanisms for Stakeholder Communication

**Objectives**

To maintain effective stakeholder communication, UMC formulated a management system for the identification of and communication with various stakeholders. This report and the UMC official website were used as a means of disclosing important information.

**Communication with Stakeholders**

- Active and timely disclosure
- Providing adequate amounts of information
- Providing suitable and a diverse selection of communication channels
- Evaluate and understand the reasonable expectations and requirements of the stakeholders and providing appropriate responses to key corporate social responsibility (CSR) issues that the said stakeholders are concerned with.
- Consider all related CSR issues and analyze the potential impact that each issue may exert upon the environment, society, economy, and business operations.
- Employ a system-based mechanism to continuously review and enhance corporate sustainability.

**Mechanisms for Stakeholder Communication**

1. **Communication with Stakeholders**

   - **Principles**
     - Communication channels
     - Providing suitable and a diverse selection of communication channels
     - Active and timely disclosure
     - Evaluating and understanding the reasonable expectations and requirements of the stakeholders and providing appropriate responses to key corporate social responsibility (CSR) issues that the said stakeholders are concerned with.
     - Consider all related CSR issues and analyze the potential impact that each issue may exert upon the environment, society, economy, and business operations.
     - Employ a system-based mechanism to continuously review and enhance corporate sustainability.

2. **Mechanisms for Stakeholder Communication**

   - **Frequency**
     - Annual
     - Bi-annually
     - According to plan

3. **Survey Stakeholders Concerns**

   - Conduct questionnaire surveys to determine the degree of stakeholder concern over each issue and the score for its materiality.

4. **Public Disclosure**

   - Annual financial reports, corporate social responsibility report, etc.

5. **Rank Materiality Issues**

   - Multiply the score for degree of stakeholder concern over each issue and the score for its respective impact on company operation. Rank issues for disclosure.

6. **Discussion and Review**

   - Following materiality analysis, the company discusses and decides on the disclosure ranking of sustainability issues.

7. **Corporate Sustainability Plan**

   - The Sustainability Committee shall conduct management review for material issues relating to the economy, environment, and society.

8. **Report**

   - UMC official website (the Stakeholder Area was established in 2015 for stakeholder inquiry)
   - http://www.umc.com/English/CSR/2.awp

9. **32 material issues**

   - Customer Privacy (6, 19.8)
   - Social (30, 27.9)
   - Corporate Governance (8, 32.8)
   - Market Image (21, 28.7)
   - Product Management (29, 23.6)
   - Management (16, 29.5)
   - Innovation Management (5, 35.5)
   - Environmental Emissions (29, 19.1)
   - Social (30, 23.4)
   - Employee Privacy (6, 19.8)
   - Employment Equality (11, 31.2)
   - Training and Education (22, 27.9)
   - Economic (18, 29.4)
   - Environment (18, 29.4)
   - Transportation (20, 19.1)
   - Environmental Conservation (28, 19.8)
   - Social (30, 23.4)

10. **Ranking the Materiality Analysis Result of Sustainability Issues**

   - Stakeholders scored differently in their degree of concern for each issue (10 points = very concerned, 0 points = not concerned, 6 points = somewhat concerned, 4 points = concerned, 2 points = not concerned)

11. **3 major material issues**

   - Social (30, 23.4)
   - Economic (18, 29.4)
   - Environmental (18, 29.4)
Based on the results of the materiality analysis for each sustainability issue, the respective management policies, goals, and approach are disclosed in the relevant sections of this report. Other secondary issues are summarized in this report.

**Management of Review Material Issues**

In disclosing the outcomes to the Phases 1 material issue identification process, UMC also implements a management review (Phase 2) conducted by the CEO, CFO, CHO, and other senior managerial staff to review material economic, environmental, and social issues and to discuss and verify the value of the listed issues in UMC or their potential impact on the company’s financial performance.

**Energy Utilization**

- Decrease in the total amount of energy consumption and increase in energy efficiency.
- UMC currently uses only natural gas and low-sulfur diesel as fuel. High fuel efficiency of the new equipment and technologies that fulfill market trends and employee professionalism of every UMC employee were of great importance.
- The percentages of workers that are satisfied with their working conditions are the following: 91%.
- In 2015, the comprehensive health care program was initiated to focus on 3 areas:
  - Creating accessibility to employee benefits and discounts including health, accident, and shares.
  - Implementing anti-corruption measures and promoting the signing of Agreement on Supply of Goods and Services.
  - Completed crime financial surveys for 2015.
- UMC’s “Manufacturer of the Year” by the Taiwan Semiconductor Industry Association (TWSIA) in 2015.
- 85% of employees participated in the continuous communication and feedback through the newly established e-suggestion opinion feedback platform.
- UMC was successfully certified with ISO 15408 Common Criteria for Information Technology Products in 2015.

**Sustainable Development Strategies and Legal Compliance**

- In 2015, Sustainable Development Strategies and Legal Compliance remain as issues that need to be addressed.
- Established the “SEC” MCO to coordinate and plan the program of future business development.
- As of 2015, total energy consumption was 1,021,035 MW.
- KPI: 75% reduction in the number of accidents, 30% reduction in the number of days lost for accident, and the value of the said issues in UMC or their potential impact on the company’s financial performance.
- The company’s health care program is designed to focus on 3 areas: creating accessibility to employee benefits and discounts including health, accident, and shares.
- Continuous customer services - provide a total of 67 BCM / BCP risk management data.
- Key Stakeholder Communication Outcome in 2015:
  - General Shareholders: 100% satisfaction.
  - Corporate shareholders: 100% satisfaction.
  - Domestic and overseas customers: 68%.
  - Employees: 91%.

**Social Responsibility**

- The company-wide Safety Committee was charged with providing PM2.5 issue reports. Employees in various departments were also given reminders and instructions on how to protect their personal health.
- Conducted a plan for conducting PM2.5 measurements in areas around the site.

Outcomes of communications conducted in this year showed that stakeholders regarded air pollution (PM2.5) as an issue that UMC should further investigate.
Environmental Dimension

- Acquire the ability to improve and maximize the efficiency of water resources.
- Widely adopt clean energy (green power), recycle or treat water (conservation measures), and proper environmental conservation efforts.
- Next generation product development associated with environmental friendliness (i.e., less resource usage, zero waste in industrial networks).

Social Dimension

- Focus on serving the disabled.
- Committed focus upon social services and alleviating long-term problems and execute the strategies that help stabilize the society.Restructure and cooperate to promote the right things.

Economic Dimension

- Pay attention to short-, medium, and long-term impacts to global economy that may be caused by China's continuing economic downturn.
- Promoted PFOA / PFOA-related Free programs, 369+ energy reduction plans, and Green Served as the leader of the Joint Prevention Organization for Toxic Chemical Substances obtained the National OSH Awards. of the Occupational Safety and Health Administration (OSHA) and shared experiences in associations to establish a Professional Platform for Science Park Workplace Safety. Offered industrial operating experiences and recommended additional contents for drafts processes led to these newly-launched IPs with 0.18um to 0.11um, and now on 55nm eFlash. Our to build robust platform solutions for ICs on 55nm eFlash. Our joint ventures, we will support this trend by extending our IC platform capability to 55nm and beyond. over our competitors, including devices that help provide secure lighting for our customers. This lighting helps to illuminate the way for employees, teachers, children, and parents leaving home late at night.

Communication Method

- Press conferences
- Press releases
- Company Website

Media

- Resident Water Discharge
- Sustainable Development Strategies
- Economic Performance
- Water Use

Key Stakeholder Communication Outcome in 2015

- Released 32 press articles on corporate governance and sustainability management
- Released the environmental protection objectives of UMC Green 2030 project

Other Opinions and Expectations of Communications with Various Stakeholders

- communications with NGOs / conservation groups / governmental authorities to tackle issues that the general public concerned with and improve CSRImage of the company.

Corporate Sustainability Planning

- Having the ability to improve social services, commitment, and development programs after attaining business growth.
- Becoming a company where sustainable management is an integral part of CSR and performance indexes.
- Develop a subsidiary as a social enterprise.
- Consider the use of partnerships and work with NGOs / conservation groups / governmental agencies to tackle issues that the general public concerned with and improve CSRImage of the company.
1-4 Key Report Considerations and Boundaries

With due consideration to internal and external influence and impact on UMC, the disclosures in this report are shown below in accordance with the materiality analysis outcome of sustainability issues and recommendations of the GRI G4 guidelines:

## Economic Dimension

<table>
<thead>
<tr>
<th>Economic Dimension</th>
<th>GRI G4 guidelines</th>
<th>Within the organization</th>
<th>Outside the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic performance</td>
<td>UMC / HUTC / Unitruth Investment Corp. / Unitruth NexPower</td>
<td>Supplier</td>
<td>Contractor</td>
</tr>
<tr>
<td>Supplier assessment</td>
<td>HUTC / Unitruth NexPower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procurement assessment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market image</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other issues (Non-GRI G4 guidelines)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Product Dimension

<table>
<thead>
<tr>
<th>Product Dimension</th>
<th>GRI G4 guidelines</th>
<th>Within the organization</th>
<th>Outside the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer service</td>
<td>UMC / HUTC / Unitruth NexPower</td>
<td>Supplier</td>
<td>Contractor</td>
</tr>
<tr>
<td>Customer privacy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compliance with regulations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Environmental Dimension

<table>
<thead>
<tr>
<th>Environmental Dimension</th>
<th>GRI G4 guidelines</th>
<th>Within the organization</th>
<th>Outside the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy use</td>
<td>UMC / HUTC / Unitruth NexPower</td>
<td>Supplier</td>
<td>Contractor</td>
</tr>
<tr>
<td>Water use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenhouse gas emissions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste gas emissions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wastewater discharge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste substance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier assessment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compliance with regulations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other issues (Non-GRI G4 guidelines)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical use</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2 Sustainable Development - Economic Growth

2-1 Corporate Governance
2-2 Innovation Management
2-3 Customer Service
2-4 Risk and Crisis Management
2-5 Sustainable Supply Chain Management

- 89.8% capacity utilization rate
- 11,279 patents
- 200% growth

- ISO15408: The first wafer foundry in Taiwan to be ISO15408-EAL6 certified, effectively enhancing safety of company and customer asset management.
- 3000: More than 3000 suppliers joined UMC in committing to sustainable development.
- UMC has established the ISO 22301 business continuity management system, and completed business continuity risk assessment for vendors who supply 95% of the company’s procurement.

- In 2015, UMC was awarded 439 domestic and foreign patents, totaling 11,279 patents to date.

- Doubled revenue compared to 2014 with immense popularity of automotive semiconductor products amongst customers.

- 0 High-risk Suppliers
2-1 Company Management

UMC has an effective corporate governance framework that is consistent with Taiwan’s Company Act, Securities and Exchange Act, and other related laws and regulations. UMC also established the “UMC Corporate Governance Practice Principles”, “UMC Ethical Corporate Management Best Practice Principles” and “UMC Corporate Social Responsibility Principles” as practical company considerations to protect shareholders’ equity, respect stakeholders, enhance information transparency, strengthen shareholders’ equity, respect stakeholders, ensure the efficient function of the Oversight Board, and uphold corporate integrity and code of conduct. It is hoped that through effective corporate governance, the company can fulfill its corporate responsibility in sustainable development and enhance corporate performance.

Executive Summary

<table>
<thead>
<tr>
<th>Board of Directors</th>
<th>Capital Budget Committee</th>
<th>Remuneration Committee</th>
<th>Audit Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair of Board</td>
<td>Chung-Yen Chang</td>
<td>Chang-Chen Chien</td>
<td>Chun-Yen Chang</td>
</tr>
<tr>
<td>Director</td>
<td>Po-Wen Yen</td>
<td>Jason S. Wang</td>
<td>Chung-Lung Liu</td>
</tr>
<tr>
<td>Independent Director</td>
<td>Chew-Hung Lin</td>
<td>Shih-Chieh Chien</td>
<td>Cheng-Li Huang</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wei-Yi Chu</td>
</tr>
<tr>
<td>Attendance Rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chair of Board</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Director</td>
<td></td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Independent Director</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Policy for Nomination and Election of Directors

To ensure the fair, just, and open election of directors, the nomination and election procedures of the Company’s directors shall comply with the Company Act and all related laws and regulations. The organizational culture, business model and long-term development of the Company shall be taken into consideration when determining the composition of the Board members. The criteria established to ensure the diversity of the Board members shall include, but are not limited to the following three dimensions:

- Basic criteria: shared vision, gender, independence and culture etc.
- Professionalism: educational background, professional skills and industry experience, etc.
- Corporate sustainability: educational background, professional skills and industry experience, etc.

The board was reconstituted on June 9, 2016. The Board has 9 seats, of which 4 are occupied by independent directors. The various committees are composed of independent directors and outside directors, and members do not include members who also serve as administrative directors.

The Board has 9 seats, of which 4 are occupied by members who also serve as administrative directors, namely the Chief Executive Officer, Chief Strategy Officer and Senior Vice President.

Board members are elected by shareholders according to regulations for Director Election during shareholder meetings, and in compliance with the Board of Directors Regulations and company constitution. Jurisdiction for each committee is based on organizational constitution, and committee members are nominated and approved by the Board. Each year, UMC arranges for its directors and managers to participate in economic, social and environmental courses in corporate sustainability. Continuing education for directors in 2015 is disclosed on Page 36 of the company’s annual report.

To implement corporate governance, enhance capability and review performance of the Board, UMC instituted Board of Directors’ Self-Assessment of Performance in 2015 to annually assess the performance of the Board in order to enhance operation efficiency of the Board.

Principles for Avoiding Conflict of Interest in Management

Provisions for avoiding conflict of interest are stated in the company’s Convention Rules for Meetings of Board of Directors and Audit Committee Charter. Directors with vested interest in an agenda, whether it is personal or representing organizations, should explain the key content of their interest at the meeting. Should that interest undermine company interest, the said directors are not permitted to participate in discussions or votes, must be excused from discussions and decisions, and must not vote on behalf of another director. The name, key content and excuse from participation are recorded in the meeting minutes.

The company has formulated Ethical Corporate Management Best Practice Principles, the Procedure of Transaction with Related Parties, the Code of Ethics for Directors and Officers and the Employee Code of Conduct to avoid conflict of interests. In addition, employee code of conduct implementation is reported to the Audit Committee. Detailed regulations, stakeholder communication contacts and information regarding disclosure are available in the Stakeholder Engagement section of the company website. The company has spokespersons and a dedicated email address for handling enquiries and input from various stakeholders.
2-1-2 UMC Functional Committee

**UMC Functional Committee**

**Capital Budget Committee**

**Function**

The Capital Budget Committee comprises of independent directors and outside directors to assist in the company’s long-term development strategy, financial planning and business performance. The Committee discusses plan implementations, and modifies and follows up on the company’s capital expenditure budget by auditing its cost-effectiveness and tracking its performance.

**Effectiveness in 2015**

In 2015, the Committee convened 6 times, and audited and approved capital budget expenses of NT $91,084 million.

**Disclosure Oversight Committee**

**Function**

In response to the US Securities and Exchange Commission (SEC) demand for disclosure as a result of the Sarbanes-Oxley Act, UMC has established a Disclosure Oversight Committee comprising of the company’s Level 1 executives. Information is rigorously gathered and managed to ensure that information reported to securities authorities are accurate and timely, thereby fulfilling the company's disclosure responsibility and obligation.

**Effectiveness in 2015**

In April 2015, UMC’s information disclosure for 2014 was rated A** by the Securities and Futures Institute.

**The Audit Committee**

**Function**

Assists the Board in its oversight responsibilities, and is responsible for tasks dictated by the Company Act, Securities Exchange Act and other relevant laws. Since UMC is listed on the New York Stock Exchange (NYSE), it is also subjected to the US laws for foreign issuers.

**Effectiveness in 2015**

In 2015, the Committee convened 6 times, and maintained positive communication channels with the company’s internal auditors, certified accountants and employees.

**Remuneration Committee**

**Function**

According to Regulations Governing the Appointment and Exercise of Powers by the Remuneration Committee of a Company Whose Stock is Listed on the Stock Exchange or Traded Over the Counter Act, UMC established the Remuneration Committee to strengthen corporate and risk management. In addition, to motivate and retain talents the Committee reviews and supervises the remuneration system of the company’s directors and managers. The committee meets at least twice a year.

**Effectiveness in 2015**

Meeting convened in March, July and December of 2015, respectively. Please refer to Page 41 of the company’s annual report for attendance record of committee members.

**Remuneration for High Level Managers**

In addition to leading the company towards its operational direction and goals, UMC’s high level managers also maintain focus on sustainable development indicators, and work diligently in economic, environmental and social development and innovation to create common harmony and prosperity for the corporation and society.

Remunerations for UMC general managers and deputy general managers include salary, pension, employee compensation, special disbursement, and disposition of earnings and employee stock options. Performance evaluation and salary remuneration policies, system, standards and structure for directors and managers are determined and reviewed by the Remuneration Committee. In addition, regular review and comparison within the industry and talent pool ensure competitive salaries to attract, motivate and retain talent. The effectiveness of high level managers are reflected in the company’s overall performance, including indicators such as customer satisfaction, product innovation and technology development, capacity utilization, environment and sustainable development, and personnel training and development. Remuneration is primarily divided into fixed and variable remuneration to fully reflect individual and team performance as well as ensuring steady operating growth and breakthrough innovative power for the company.

**2-1-3 Shareholders’ Participation in Corporate Decisions**

In the 2015 UMC shareholder meeting, electronic voting accounted for 47.2% of total shares outstanding, and 57.9% of those attending the meeting. Investors may exercise their voting rights via direct electronic voting, thereby significantly reducing the difficulty of transportation and schedule conflict to attend shareholder meetings. Direct participation of shareholders in decision-making can reduce agency costs and risk, and increase the motivation of shareholders to exercise their voting right.

All admitted bills and motions during UMC shareholder meetings are discussed and voted by meeting attendees, and resulting shareholder support and vetoes for each bill are recorded so that shareholder opinions are fully reflected in the resolutions.

Under the global trends of Shareholder Activism, UMC requests for a motion during the general shareholders’ meeting from any shareholders that hold more than 1% of the company. Given that activist shareholders pay more attention to financial performance, compensation schemes and corporate governance of the company, the sub-committee of the Board shall assist the management with such issues.
2.1-5 Code of Ethics and Anti-Corruption

UMC has developed the UMC Code of Conduct for all directors, managers and employees to enhance company and employee knowledge of conduct and professional ethics from the top down. UMC expects all employees to comply with the company’s Code of Conduct in their daily work and business execution to gain public confidence and ensure sustainable growth and development for the company. By promoting the Code of Conduct (targets include company subsidiaries, joint ventures, suppliers, customers and others entities pertaining to UMC operation and development), it is hoped that joint efforts can be put into fulfilling corporate social responsibility and promoting balanced and sustainable economic, social and environmental development. UMC encourages open communication with employees and third parties. Questions pertaining to ethical and legal conduct or unequal treatment in the workplace may be referred to the Human Resource Office or Employee Care Office for assistance, and reports may be filed to uncover, stop and prevent major misconduct or violation of government regulations.

For relevant information, please refer to the company Website at http://www.umc.com/chinese/CSR/c_4.asp

UMC provides online self-testing and training courses to help employees clearly understand the concept of appropriate employee conduct. In addition, the employee code of conduct is posted on the company’s intranet for employee reference. Employees may refer relevant questions to the Human Resource Office for inquiry and assistance in implementing the code of conduct in their daily work and tasks. In 2015, 100% of employees completed and passed the online employee code of conduct training and self-testing course.

Through annual internal control and self-assessment, UMC has also conducted a self-review of all tasks, departments and subsidiary operations, including compliance with laws and regulations, awareness of professional code of conduct and risk assessment. The design and implementation of internal control systems are also adjusted to achieve self-monitoring. In addition, based on the risk assessment outcome, the Audit Division has formulated audit plans for relevant reviews, and regularly reports results and follow-up improvements to the Audit Committee and the Board of Directors.

2.1-6 Legal Compliance

UMC’s customers are located around the world, and its operations are distributed over several countries. To ensure that operations are in compliance with the laws and regulations of each country, thereby avoiding losses due to legal violations or avoiding profit loss due to fines, UMC has consistently paid close attention to all changes in policies or laws that might impact the company’s business or finances. All UMC subsidiaries must comply with relevant laws and regulations. The company has a dedicated legal department serving as a legal platform to offer legal advice and assistance to each department. UMC and its employees are required to comply with relevant business laws and regulations. The company arranges training programs and courses on legal compliance to familiarize employees with updated regulations. Prompt updates allow employees to implement job regulations into their daily management, thereby ensuring that the company complies with the law.

UMC Training Courses for Legal Compliance

Examples of UMC Legal Compliance:

- **Conflict Metals/Minerals**
  - In compliance with the US Securities and Exchange Commission, UMC confirmed in its August 22, 2012 Conflict Metals/Minerals Regulations Disclosure that its suppliers did not supply conflict metals/minerals to the company. At the same time, in accordance with US Securities and Exchange Commission regulations, the company also submits an annual Special Report to the Commission.

- **Fair Trade Law**
  - In 2011, UMC formulated and announced its fair trade policy, and required employee compliance. The company also conducted education and training for its directors and employees to prevent legal violation. In 2015, 10,635 employees completed the training and education.

- **Intellectual Property Rights**
  - Courses on intellectual property protection laws and regulations are provided to new employees, and in 2015, a total of 1,805 employees were trained.

- **Classified Information Protection**
  - UMC signed non-disclosure agreements with both its vendors and customers to require mutual protection of classified information. UMC also has an internal system for classified information/data management so that customer information is handled by a designated unit to avoid inappropriate disclosure.

- **High Technology Export Control**
  - To ensure that UMC export controls meet international requirements, the company has long since implemented internal control for review and feedback, and has simultaneously introduced the Internal Control Program (ICP) in Taiwan and Singapore. For overall control of the export process, the company requires customers to provide necessary information for a series of self-examination and screening from beginning Customer Inquiry to Order Processing to Shipping, and outlines clear control procedures to its various departments. With government certification, UMC customers can now enjoy preferential export licensing and reduce operation time.
## 2-2 Innovation Management

### Current Status and Development in the Semiconductor Industry

The development trends for end electronic products are oriented towards functional improvement and lighter weight, but the introduction of energy conservation and carbon reduction have also impacted chip design. Therefore, in view of factors such as high integration, increased performance and low power consumption, chip design has become increasingly complex. Moreover, for production efficiency, semiconductor manufacturing technology must continue to miniaturize, and wafer surface area must increase in diameter. Hence, given these two major trends, the threshold for semiconductor manufacturing is increasing, and investment cost is rising rapidly.

**Future Business Opportunities in the Semiconductor Market**

The four types of traditional IC products are computers, communication, consumer and car electronics. Electronic products are already more compact, save more power and are interconnected. For example, notebooks and tablets have a longer operating time, and cell phones can be connected to laptops and tablets via wireless networks. In addition, significant improvement in the bandwidth of broadband networks has facilitated the combination of the Internet and smart TV. Through information reading, transmission and processing, objects are linked into a large network, and the many derivative breakthrough applications will result in huge business opportunities.

In the future, key technologies for smart phones, wearable electronics, virtual reality / augmented reality, autopilot/electric vehicles and Internet of Things (IoT) market will continue to be adopted and commercialized, and professional wafer fabrication services must quickly achieve corresponding process development to meet customer needs for 4C and IoT products.

- **The Internet of Things (IoT)**

### 2-2-1 Innovative products and technologies

#### Innovative Products and Technologies

The UMC R&D team is committed to developing advanced manufacturing technology, and upholds the philosophy of offering foundry solutions that are consistent with market trends and customer needs, such as world class advanced manufacturing technology, customer support and production.

**Innovative Development of Advanced Technologies**

Increasing its key technology capabilities, UMC is also focused on patent distribution to protect its intellectual property rights, and has seen steady growth in its number of patents. In 2015, numerous domestic and foreign patents were awarded. To date, UMC has a total of 11,274 patents that provide UMC’s manufacturing process with comprehensive and powerful barriers to protect its intellectual property. To remain competitive, UMC has also significantly increased the patent quality of its key technologies, and continues to strengthen its customer service and competitive advantage, while generating profits for the corporation.

<table>
<thead>
<tr>
<th>Total Number of Patents</th>
<th>10,145</th>
<th>10,205</th>
<th>10,460</th>
<th>10,797</th>
<th>11,274</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>2011</td>
<td>2012</td>
<td>2013</td>
<td>2014</td>
<td>2015</td>
</tr>
</tbody>
</table>

- **2015 Environmental and Social Benefit R&D Progress**

In addition to continuing to develop technologies that reduce power consumption, UMC also develops processes for energy management, body sensor and medical, mobile communications, imaging sensors and displays to reduce the environmental impact of end product use, promote social communication and enable health care safety.

### 2015 Environmental and Social Benefit R&D Progress

- Successfully developed 14nm Fin Field-Effect Transistor (FinFET) components with performance that is consistent with the standards of leading semiconductor technology companies.
- Successfully developed 28nm HPC+ High-Performance Compact Plus process technology that produces less leakage current and power consumption, and verified the process through pilot production on customer products.
- Successfully developed 55nm embedded flash memory technology, which passed product verification and entered mass production.
- Successful development of TSV (Through-Silicon Via) technology and began mass production to increase the performance of customer graphics processing unit (GPU) products.

**2015 Corporate Social Responsibility Report**

- **From the CEO**
- **Principles for Report Compilation**
- **Major UMC Milestones and Sustainability Performance**
- **About UMC**
- **Communication with Stakeholders**
- **Sustainable Development Strategy and Organization**
- **Sustainable Development-Economic Growth**
- **Sustainable Development-Environment**
- **Sustainable Development-Society**
- **Appendix**

### Appendix

(UMC Auto Solutions Platform)

UMC announced the UMC Auto™ technology platform to target companies designing chips used for automotive applications. In 2015, revenue from automobile semiconductor manufacturing was double that of the previous year.

- Implemented the comprehensive Automobile Service Plan which incorporates zero-defect processing methods that meet the stringent ISO TS-16949 automobile quality standards.
- UMC is also the first specialized wafer fabrication company in Taiwan that complies with ISO 15408 EL6 common criteria, and has successfully ranked as one of the elite companies (currently, only 1% of companies and products in the world have achieved ISO 15408 EL6 certification or above).

This security certification indicates that UMC is capable of achieving rigorous security measures in the manufacturing process, thereby satisfying the high security needs required by most wafer products for sensitive applications (such as door lock sensors for cars and navigation systems).
Marketing and Sales Overview

Being highly recognized by customers, UMC's customer base includes major vendors in different regions. North America and Asia Pacific account for most of the product sales, while respective total sales in 2015 were 48% and 40%, while Europe and Japan accounted for 14% of the company’s total revenue. UMC will continue to strengthen cooperation with world class customers, and is committed to developing high level customer products to ensure long-term growth.

In recent years, IC design companies in China have been booming. In addition to geographical or cultural similarities to target this market, UMC’s Hejian and partnership role for a 12-inch wafer fab in Xiamen has helped UMC gain a favorable position in the global market and expand market share. Furthermore, products, orders and process technology have become better integrated to meet customer demand and the expansion of UMC’s China market and operational scale has increased the company’s competitive advantage.

Profitability

<table>
<thead>
<tr>
<th>Metric</th>
<th>2015 (in NT$10 millions)</th>
<th>2014 (in NT$10 millions)</th>
<th>YoY Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on assets</td>
<td>4.37%</td>
<td>4.41%</td>
<td>-0.9%</td>
</tr>
<tr>
<td>Return on equity</td>
<td>5.66%</td>
<td>6.00%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>Pre-tax profit to paid-in capital ratio</td>
<td>10.97%</td>
<td>10.93%</td>
<td>+0.6%</td>
</tr>
<tr>
<td>Net profit rate</td>
<td>10.07%</td>
<td>10.29%</td>
<td>-2.2%</td>
</tr>
<tr>
<td>Earnings per share</td>
<td>0.97%</td>
<td>1.08%</td>
<td>+11.3%</td>
</tr>
</tbody>
</table>

Notes:

- The above financial information is based on the Executive Yuan Financial Supervisory Commission approved international financial reporting guidelines. Please refer to the Company’s 2015 Annual Report on Page 143.
- Operating Income / Total Assets / Operating Profit and Loss / Total Shareholder’s Equity / Income Tax

Factors Favoring UMC’s Sustainable Economic Development

The foundry market is forecasted to grow according to the data of the vertical IC design and manufacturing model, and global demand for foundry is expected to grow rapidly. Integrated device manufacturing (IDM) giants have adopted an outsourcing strategy for foundry, which contributes to the growth of the foundry market. Strategic alliances with international companies have resulted in long-term stable orders.

UMC’s advanced 28nm manufacturing process is already in mass production. UMC is one of the very few specialized wafer companies that can provide such technology for helping customers increase product profitability and reduce production costs. In addition to the breakthrough advance in 28nm process technology, UMC has also entered mass production of those wafers for a highly diversified customer base, thereby further strengthening the long-term competitiveness of UMC.

UMC has established the industry’s most powerful dedicated IoT platform. In addition, UMC’s ultra-low power (ULP) processes offers an extremely low leakage design that is suitable for a variety of applications. IoT wafer design companies can make full use of UMC’s low-power consumption technology as a base for combining different processes into a customized platform to satisfy specific customer needs and advance into the IoT and wearable markets. -

Unfavorable Factors in Future Development

Given the prospect of long-term demand and growth in the semiconductor industry, the world’s leading foundries have increased their capital expenditures to expand advanced manufacturing capacity, which may cause imbalances in future market supply and demand.

Development funds for advanced manufacturing technology

Key Content:
- 28nm manufacturing technology
- 14nm manufacturing technology
- 10nm manufacturing technology
- Through Silicon Via (TSV) manufacturing technology
- Other advanced and specialty technology

Build advanced manufacturing capacity

Key Content:
- Construct new fabs and incorporate advanced manufacturing technology and production facilities.

Countermeasures

- Continue to control spending and improve efficiency to reduce costs, and strategically and efficiently expand 28nm manufacturing capability. Strengthen company competitiveness by increasing advanced manufacturing and product portfolio.
- Build equity and strategic alliances to expand the 12-inch foundry base, and reduce construction time, risk and cost for new foundry fabs, thereby reducing risk for the local market.
- No indiscriminate expansion of production capacity; careful assessment of investment plans, comprehensive consideration of UMC’s high level process maturity and customer requirements at different stages.
- Strategies for new competitors: Continue to strengthen advanced manufacturing development, and maintain the existing advantages of stable high yield and comprehensive service. Expand the gap with new competitors while at the same time distinguishing so that UMC remains the best choice for customers.
- Provide the most advanced and optimal manufacturing services for featured IC products in various applications, and help customers achieve lowest cost, high efficiency and low power consumption.
- Strengthen market effectiveness and customer service mechanism, and continue to increase customer satisfaction.
- Strengthen the building of long-term partnerships with customers, provide competitive advanced manufacturing process and production capacity, help customers capture market share and grow together with customers to seize the next wave of growth opportunities.
- In the face of the global recession, be ready to respond to market changes with contingency measures. Through customer expansion, improved product mix and flexible capacity deployment, UMC reduces the impact of cyclical fluctuations.

2-2-4 2016 Operational Goals

2016 Operational Goals

- Continue to strengthen manufacturing capabilities shorten lead-time and improve overall quality and productivity.

Invested R&D Funds

<table>
<thead>
<tr>
<th>Year</th>
<th>Invested R&amp;D Funds (in NT$10 millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>921</td>
</tr>
<tr>
<td>2013</td>
<td>1178</td>
</tr>
<tr>
<td>2014</td>
<td>1,304</td>
</tr>
<tr>
<td>2015</td>
<td>1,164</td>
</tr>
</tbody>
</table>

Note:

- R&D expenses (in NT$10 million)
- R&D expenses as a percentage of operating income (%)
- The above information is in accordance with the Executive Yuan Financial Supervisory Commission approved international financial reporting guidelines.
- The above information is in accordance with the Executive Yuan Financial Supervisory Commission approved international financial reporting guidelines.

2015 Investment Item

- Development funds for advanced manufacturing technology
  - About NT$11.64 billion
  - About NT$60.36 billion

Invested R&D Funds

<table>
<thead>
<tr>
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</table>

Note:

- The above information is in accordance with the Executive Yuan Financial Supervisory Commission approved international financial reporting guidelines.
- The above information is in accordance with the Executive Yuan Financial Supervisory Commission approved international financial reporting guidelines.
2-3 Customer Service

In the spirit of UMC’s philosophy of towards sustainable development, we believe sustainable economic development requires stability and growth in business performance, respect for customer feedback, customer demand, customer recognition and customer long-term support. While striving to strengthen operational performance, the company’s economic growth and business sustainability is facilitated by a virtuous cycle that can only be truly created by investing and giving back to society, so that mutual benefits can be realized.

UMC is a leader in the semiconductor foundry industry. It provides advanced process technology and foundry services, and is a major wafer manufacturer for various application products in the IC industry. UMC is committed to meeting customer product demand, and emphasizes customer orientation and professional support. The company thinks from the customers’ perspective, and based on their needs, provides a full range of services to achieve customer satisfaction and business sustainability.

2-3-1 Improving Service Quality and Customer Satisfaction

Since the beginning of its operations, UMC has been committed to customer satisfaction as its duty and long-term objective. This customer-centric mentality became the core value of the company. Customer-oriented products and services are our priorities, and overall solutions for fulfilling demands are based from a customer perspective. UMC has introduced the My UMC and My HJTC (reserved for HJTC customers) online service platforms to provide customers with complete and immediate online supply chain information, including production status of orders, shipping date inquiry, and product quality data and status. At the same time, the website also offers an Engineering Data Analysis feature which provides an easy engineering analysis function for customers. Moreover, the Voice of Customer (VOC) instant online complaint system allows customers to request UMC products or services, or offer comments or suggestions. Designated employees are responsible for distributing the feedback and managing and responding to customers, who may make online enquires about the progress at any time. For UMC, understanding customer needs through the VOC, and transforming these requests into practical action enhance the company’s service quality and competitiveness, and ultimately achieves customer satisfaction.

2-3-2 Improving Customer Satisfaction

UMC (including its subsidiary HJTC) regularly receives satisfaction ratings from those customers that generate more than 60% of its revenue. Customer scorecards are distributed on an annual, semi-annual or quarterly basis. Rating results are analyzed to identify opportunities for improvement, and UMC upholds its responsibility to make timely and effective improvements to increase customer satisfaction.

UMC’s (and its subsidiary HJTC’s) use of scorecards to determine customer needs and satisfaction allows for more immediate knowledge of customer needs. In addition, UMC also responds to customer needs through meetings, and ensures that their needs receive proper attention. At the same time, the company lists product quality and timeliness as key indicators of the company’s internal performance to further enhance customer satisfaction and create a win-win business. Customer scorecard ratings show that customer satisfaction towards UMC (and its subsidiary HJTC) has been growing steadily. At the same time, UMC’s overall performance over the three years has also received customer approval and awards, thereby indicating customer endorsement of UMC’s product and service quality, and demonstrating the positive interaction and cooperation between UMC and its customers.

2-3-3 Protecting Customer Assets

UMC satisfies customer needs by helping manufacturers systematically develop, design and manufacture reliable and safe products that comply with international standards. In 2014, UMC began pursuing for International Organization for Standardization (ISO 15408) certification. In addition, its Fab 15A was awarded ISO 15408 Level EAL6 safety certification by the Germany Federal Office for Information Security (BSI), becoming the first wafer foundry in Taiwan to win such a certification and possessing manufacturing conditions that comply with the ISO 15408 Common Criteria. In addition to the comprehensive increase in the security of company and customer assets, customers are not required to verify water fabrication safety in their future applications for product safety certification, thereby reducing their costs in time and resources, and accelerating their product entry into the market. For further information, please refer to the company website:

**2-4 Risk and Crisis Management**

The ultimate direction of UMC’s business operations is sustainable development, sound risk management and appropriate crisis management to ensure sustainable operations. To reduce accidents and their subsequent negative impact and losses, UMC is diligent in its crisis response, crisis prevention and drills to maintain its company image and protect the interests of stakeholders.

### 2-4-1 Financial and Operational Risks

#### Analysis of the impact of financial performance indicates the following financial risks for UMC:

<table>
<thead>
<tr>
<th>Risk</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity Risk</td>
<td>The semiconductor industry requires intense capital. If adequate cash cannot be maintained, the company may face liquidity risk in the short-term financial needs.</td>
</tr>
<tr>
<td>Currency Rate Risk</td>
<td>Revenue and capital expenditures in the semiconductor industry are mainly calculated in currencies other than NT, and hence fluctuates with exchange rates. However, to evade exposure of deposits and loans in the semiconductor industry, changes in interest rates could result in deviations from expected financial performance.</td>
</tr>
<tr>
<td>Credit Risk</td>
<td>Due to financial deterioration or other factors, clients may be unable to fulfill their contractual obligations, resulting in risk of loss from default.</td>
</tr>
<tr>
<td>Property and Operational Disruption Risk</td>
<td>Natural disasters or accidents may result in risk of property or operational loss.</td>
</tr>
</tbody>
</table>

#### Risk Strategy
- **Liquidity Risk**
  - To maintain an adequate level of cash in the company's core operations.
  - To establish an operational plan for project cash flow and ensure the operation of the company's core business.

- **Currency Rate Risk**
  - To establish a currency hedging strategy.
  - To reduce the exposure of deposits and loans in the semiconductor industry.

- **Credit Risk**
  - To adopt a strict credit policy and give due credit consideration for the key customers in the industry.
  - To establish a systematic and standardized credit management system.

- **Property and Operational Disruption Risk**
  - To establish a comprehensive insurance management system and provide insurance protection with the ISO 22301 Business Continuity Management System Certificate.
  - To establish a comprehensive disaster management system and take precautionary measures to prevent natural disaster risks.

#### Early Countermeasures for Reducing Risks
- **Global Risk List**
  - Water crises
  - Cyberattacks

**UMC Countermeasure**
- **Global Risk List**
  - Establish UMC's water management tools for early warning and develop coping strategies.
  - Strengthen flood control capacity, and complete the installation of flood gates and drills.

- **Global Risk List**
  - Cyberattacks
  - Install online defensive systems such as NGIPS, Anti-APT and WAF, and the SIEM information security management system to strengthen defense capability against attacks.

#### UMC Assessment of Possible Emerging Risks and Countermeasures in the Semiconductor Industry

<table>
<thead>
<tr>
<th>Risk</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk 1</td>
<td>Over the past four decades, Moore’s Law has driven revenue growth, power, performance and cost improvement in the semiconductor industry. However, with shrinking processes, Moore’s Law will reach a physical limit that will challenge the semiconductor industry.</td>
</tr>
<tr>
<td>Risk 2</td>
<td>With the cessation of Moore’s Law, customer groups may contract, causing revenue to become concentrated to a few customers, which undermines profit and sustainable development.</td>
</tr>
</tbody>
</table>

**Impact on Operations**
- With the cessation of Moore's Law, customer groups may contract, causing revenue to become concentrated to a few customers, which undermines profit and sustainable development.

**Countermeasures**
- IoT is the next breakthrough application of science and technology that will become prevalent in daily life. Applications such as smart city, smart car (car networking), smart home, smart medicine (telemedicine), smart individual (health and fitness), smart factory and smart process will become the most important opportunities for the semiconductor industry.

**Characteristics constructed by innovative companies**
- More competitive and compatible features and more cutting-edge technologies.

### 2-4-2 Emerging Semiconductor Risks and Global Risk Trends

Taiwan’s semiconductor industry growth outpaces the world. Driven by factors such as advanced process technology R&D, peripheral equipment and material cluster effect and the layout of the emerging markets, the competitive advantage and growth potential of Taiwan’s semiconductor industry is optimistic. Although the semiconductor market is expanding, the trend is expected to slow compared to the highly complex growth of past demand cycles. Moreover, the impact of Mainland China’s national strategy for its semiconductor industry in recent years cannot be ignored.

- **UMC Mission and Strategy**
  - To continue operations in emergency situations.
  - To establish a comprehensive insurance management system.
  - To implement a comprehensive disaster management system.

#### Early Countermeasures for Reducing Risks
- **Global Risk List**
  - Water crises
  - Cyberattacks

**UMC Countermeasure**
- **Global Risk List**
  - Establish UMC's water management tools for early warning and develop coping strategies.
  - Strengthen flood control capacity, and complete the installation of flood gates and drills.

- **Global Risk List**
  - Cyberattacks
  - Install online defensive systems such as NGIPS, Anti-APT and WAF, and the SIEM information security management system to strengthen defense capability against attacks.

### 2-4-3 Business Continuity Management

**UMC Business Continuity Management Organization**

The UMC business continuity management system comprises the Business Continuity Management executive representative who is responsible for managing management matters. The executive director periodically reviews management plans and makes decisions on business continuity management policies.

**Note**: Please refer to the Risk Management section of the company website for information on policies and organization.

#### System Operation Goals

<table>
<thead>
<tr>
<th>Goal</th>
<th>Achieved in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% on-site audit of high-risk suppliers.</td>
<td>2015</td>
</tr>
<tr>
<td>12-inch fab passed ISO 22301 pre-audit</td>
<td>ISO 22301</td>
</tr>
</tbody>
</table>

**2016 System Operation Goals**

<table>
<thead>
<tr>
<th>Goal</th>
<th>Achieved in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% participation in the critical 48-hour equipment rescue training</td>
<td>2016</td>
</tr>
<tr>
<td>Establish qualified personnel inspection procedure for customer BCM responses</td>
<td>2016</td>
</tr>
</tbody>
</table>

**Customer Satisfaction**

- 100% satisfied customer satisfaction.
- Complete review of Fab 12A seismic protection risk.
2-4 Hazard Risk Control

UMC well recognizes the impact and influence of natural and man-made disasters on production and operation. Hence the company has consistently adopted an active attitude toward preventive disaster risk management, and seeks to achieve the highest standard of semiconductor industrial safety through rigorous risk control and implementation of safety regulations and norms.

Risk Management Achievements and Goals

<table>
<thead>
<tr>
<th>Year</th>
<th>Management Performance</th>
<th>Short-Term Risk Management Goals</th>
<th>Long-Term Risk Management Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Fab fire and smoke diffusion control design improvement; use numerical simulation to certify effectiveness of smoke control design in fab.</td>
<td>Improve technology of loss prevention and control within 48 hours for disaster.</td>
<td>Establish standard risk control for new processes/new chemicals.</td>
</tr>
<tr>
<td>2016-2017</td>
<td>Incorporate new earthquake protection/investment technology.</td>
<td>Expand business continuity management systems to the entire company.</td>
<td>Expand business continuity management systems to the entire company.</td>
</tr>
</tbody>
</table>

- Evaluate plant fire and explosion risks.

2-5 Sustainable Supply Chain Management

We realize that the global wave of social responsibility and environmental responsibility has spread beyond the company itself into the entire supply chain. Regardless of where in the supply chain, corporate social responsibility must be confronted. For UMC, such a challenge also presents opportunities. The Environmental Committee has formed a special task force to promote sustainable supply chain management. UMC’s worldwide suppliers are not merely business partners, but in addition to quality and delivery. UMC also expects them to fulfill their social responsibility in related issues such as environment-related substances control in products, climate change, labor safety, health and human rights, conflict metals/ minerals, and water footprint. Since 2008, UMC has been inviting suppliers to promote the UMC Corporate Social Responsibility Joint Declaration for Supply Chains.

UMC Corporate Social Responsibility Joint Declaration for Supply Chains.

1. Reach out to customers, emphasize environmental protection, offer public service.
2. Be people-oriented, emphasize human rights, create a high-quality work environment.
3. Develop green manufacturing, offer green products, build a green supply chain.
4. Assist upstream and downstream manufacturers, enhance green competitiveness, and jointly create sustainable business opportunities.

Equipment Safety

The Environmental Health and Safety Standards (SEMS) for semiconductor manufacturing equipment is the primary international standard adopted by UMC for reviewing newly procured machinery and company standards. UMC’s Taiwanese and Singapore fabs led the region in introducing the UMC Equipment ESH Purchasing Specifications into its procurements. Equipment must conform to review before being brought into the fab, and conform to inspection after installation for effective equipment safety control.

Fire Safety

UMC incorporated the international standards of the US Factory Mutual Insurance Company (FM), Underwriters Laboratories Inc. (UL), the US National Fire Protection Association (NFPA), the Semiconductor Equipment and Materials International (SEMI) and other international standards into its building construction, equipment, engineering controls and risk assessment, and formulated relevant company regulations for additional requirements.

Earthquake Protection

UMC actively planned and established sound disaster risk management and response procedures, and collaborated with internationally renowned structural consultants specializing in earthquake response, which is Vibration Engineering Consultants (VEC) to assess the earthquake safety of its building, factory facilities, pipelines and production machines.

Equipment Safety

The Environmental Health and Safety Standards (SEMS) for semiconductor manufacturing equipment is the primary international standard adopted by UMC for reviewing newly procured machinery and company standards. UMC’s Taiwanese and Singapore fabs led the region in introducing the UMC Equipment ESH Purchasing Specifications into its procurements. Equipment must conform to review before being brought into the fab, and conform to inspection after installation for effective equipment safety control.

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Sustainable Supply Chain Management

Policy

1. To protect the environment and emphasize society’s obligation, labor rights, security, health and the goal of a continually developing supply chain.
2. To respect vendors as partners and guide them towards long-term cooperation. To build up an external supply chain to continually develop the semiconductor industry.
3. To ensure products and the supply chain do not contain conflict minerals.
4. To cooperate with upstream & downstream vendors and collaboratively create business opportunities.
5. To manage vendor's quality, cost, leadership, delivery, service/response, and sustainability. To fulfill demand in accordance with UMC and promote the spirit of competition.

For relevant information, please refer to the company Website at: http://www.umc.com/English/CSR/c_3.asp

UMC Supplier Management Capability Assessment

UMC has planned a comprehensive supplier management approach, and expects to establish a sustainable supply chain management mechanism for controlling and guiding the following 4 major dimensions:

- New Supplier Selection
- Supplier Review/management
- Supplier Education and Training
- Grade Suppliers and Counsel Accordingly

For major suppliers, quarterly assessment includes dimensions such as Q (Quality), C (Cost Financial), D (Delivery), S (Service) and S (Sustainability). In terms of sustainability, the focus is on supplier compliance with environmental, social, and economic requirements.

Supplier management performance was included as an indicator item in supplier assessments conducted by UMC. Suppliers which have a certification related to environmental protection or hazardous substance management (ISO 14001, TS 16949, or QC080000) or can demonstrate capabilities in fulfilling the requirements of the EICC Code of Conduct may be provided with additional points. This incentive was provided to help guide and encourage suppliers to comply with these standards. For suppliers whose assessment scores are too low, UMC may suspend procurement or remove them from the list of qualified suppliers.

Selecting New Suppliers

Currently, criteria for selecting new suppliers include:

1. Status on the Dow Jones Sustainability Index
2. Compliance with UMC Supplier and Employee Professional Ethics code of conduct
3. Compliance with principles of open and fair competition.
To achieve anti-corruption and sustainable supplier management, the Chairperson's Directive was issued in 2013, requiring all suppliers to sign an Agreement on Supplier Code of Ethics and Conduct. This allowed UMC to stand firmly by its adherence to anti-corruption and social responsibility regulations. Currently, over 3000 of UMC's suppliers agreed to sign the Agreement to jointly commit themselves to UMC's anti-corruption practices and sustainable development initiatives. Any supplier with substantiated violations shall be penalized and may be removed from the list of qualified suppliers for major misdemeanors. This item was also included as a basic selection criteria for new supplier assessments.

UMC conducts annual questionnaire surveys for qualified suppliers that manufacture various raw materials to investigate their economic/ environment/ social practices. Survey results in 2014 showed that up to 50 suppliers attained rating levels above Satisfactory. However, there were 17 suppliers whose state of system implementation failed to achieve the required standards. UMC therefore provided these 17 suppliers with training, consultation for improvement actions, and follow-up verifications.

Consultation, Improvements, and Re-assessments of 17 Suppliers that Failed to Meet Standard Requirements and Outcomes of Subsequent Re-assessments:

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Raw Material Vendor A</th>
<th>Raw Material Vendor B</th>
<th>Raw Material Vendor C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success</td>
<td>Economic</td>
<td>Environmental</td>
<td>Economic</td>
</tr>
<tr>
<td>Failure</td>
<td>Failure to meet UMC standards in BCP risk management</td>
<td>Failure to meet UMC standards in greenhouse gas emission data and carbon management, water usage data and water risk management</td>
<td>Failure to meet UMC standards in employee-employee communication</td>
</tr>
<tr>
<td>3 Suppliers</td>
<td>3 Suppliers</td>
<td>3 Suppliers</td>
<td>3 Suppliers</td>
</tr>
</tbody>
</table>

For the 1st quarter of 2016, UMC shall target key suppliers whose transaction volume with UMC exceeds NT$ 40 million (for a total of 74 suppliers and 96% of all transactions) to conduct annual ESG surveys. ESG requirements shall also be promoted amongst class 1 suppliers whose transactions were below NT$ 40 million (for a total of 127 suppliers and 5% of all transactions).

**Sustainable Supplier Risk**

After the 2011 flood in Thailand, tsunami and nuclear disaster in Japan, and global financial crisis, the operating conditions, raw material distribution and geographical location of supplier production lines were assessed and controlled to reduce future risk of supply shortage due to extreme weather or major natural disasters. UMC has established a supply chain risk assessment system and developed a set of scoring methods for supplier sustainability. Delivery time, quality, financial, operational and other variables are included in the supply chain risk assessment for formulating the UMC procurement strategy. Each year, UMC primarily conducts an annual sustainability risk survey, audits and scores major suppliers of raw materials such as silicon wafer, gases, chemicals, quartz components, photo masks, and component cleaning, who represent more than 90% of procurement dollar value. This fully demonstrates the close cooperation between the company and its partner suppliers to facilitate the commitment to increase overall value of the supply chain.

**UMC Supplier Risk Management**

<table>
<thead>
<tr>
<th>Climate Change Risk</th>
<th>UMC requires suppliers to prepare a response plan, such as production backup plan and increased inventory to reduce the impact of an incident.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Risk</td>
<td>UMC shares its experiences to help suppliers with the prevention.</td>
</tr>
<tr>
<td>Earthquake Risk</td>
<td>UMC offers vendors instructions on strengthening earthquake resilience and establishing emergency notification systems so that in the event of a disaster, the suppliers can immediately report the situation and update recovery progress to UMC.</td>
</tr>
<tr>
<td>Business Sustainability Plan</td>
<td>UMC requires suppliers to develop contingency plans and procedures for potential natural or man-made threats that may result in their production loss to ensure operational continuity and impact reduction for UMC.</td>
</tr>
</tbody>
</table>

Outcomes of the annual supplier risk assessment conducted in 2014 showed that 6 suppliers had failed to reach a score of 80 points in one or more areas. In 2015, improvements were carried out according to consultation and requirements. On-site audits and consultation for business continuity management (BCM) were also implemented so that 3 of the said suppliers achieved an overall score of over 80 points to become middle-to low-risk suppliers. Although 3 suppliers still failed to meet standard requirements, improvements were underway and alternative suppliers were secured in order to achieve zero risk.

**UMC Supplier Risk Indicators are Divided into 5 Levels**

- High Supply Risk
- Moderate Supply Risk
- Moderate Low Supply Risk
- Low Supply Risk
- No Supply Risk

**Earthquake Disaster Risk Control**

An emergency notification system is established so that in the event of a disaster, suppliers can immediately report the situation and update recovery progress to UMC.

**Supplier Chain Disaster Loss Reporting System**

**Supplier Education and Training**

UMC believes that suppliers have a very important position in the green supply chain management system. Therefore the company periodically organizes supplier education and training programs to promote and communicate the company’s green supply chain management system policies and practices, and necessary collaboration with suppliers. The company hopes to reach a green product consensus with suppliers, and work together toward a win-win situation.

**2015 UMC Seminar and Conference for Sustainable Corporate Development**
In November 2013, the Ministry of Finance and Customs Administration signed a Mutual Recognition Agreement (MRA) with the United States, and in 2014, extended the MRA to Singapore, Israel, and other countries. The Authorized Economic Operator system for quality corporations has clearly become an international trend, and will become a prerequisite for international trade. As an international semiconductor foundry company, UMC is fully cognizant of issues such as global terrorism and cargo security. In February 2013, the company initiated a meeting to officially declare implementing the AEO, and in July, completed tasks such as document review under the advice of customs, and conducted on-site assessments. Subsequently, the company was awarded three AEO quality certifications for manufacturing, import and export, becoming the first company in the nation’s water industry to be successfully certified. To ensure that activities related to Authorized Economic Operator (AEO) topics could be implemented effectively while fulfilling AEO requirements, the UMC AEO Project Management Enterprise of China Customs, satisfying the requirements of customs administration, business management and trade security.

The Company has adopted a series of self-assessment and screening from the beginning of Customer Inquiry to Order Processing and Shipping as a means of managing the company’s overall export process. In addition, the well-defined steps in each department in the company must comply with the SOP process.

2-5-3 Sustainable Supply and Quality Enterprise Certification

In its conflict minerals management, UMC has been conducting supplier assessment and obtaining supplier signatures since 2009 to guarantee non-conflict minerals and ensure that products from suppliers are not in violation of conflict minerals manufacturing. To date, all suppliers have returned assurances of non-conflict minerals in all their products.


UMC Conflict Minerals Management Measures

- Establish internal investigation for the company (including subsidiaries) and investigation mechanism for suppliers.
- Establish annual periods for investigating operations and controlling operations.
- Establish and consolidate investigation data, and store in data bank.

Vendor transparency and availability of information for evaluation is one of the company’s conditions for transacting with the vendor.

Retention of survey data to demonstrate legal compliance and due diligence

Results of Recent Surveys

<table>
<thead>
<tr>
<th>Year</th>
<th>Suppliers</th>
<th>Affiliated companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>22</td>
<td>42</td>
</tr>
<tr>
<td>2015</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>2016</td>
<td>23</td>
<td>14</td>
</tr>
</tbody>
</table>

In addition to UMC suppliers, surveys were further expanded to affiliated companies of UMC.

2-5-4 Conflict Mineral Management

In its conflict minerals management, UMC has been conducting supplier assessment and obtaining supplier signatures since 2009 to guarantee non-conflict minerals and ensure that products from suppliers are not in violation of conflict minerals manufacturing. To date, all suppliers have returned assurances of non-conflict minerals in all their products.


UMC expects every business in the supply chain to uphold these principles. Clear objectives have been established with relevant guidelines and tools to help suppliers enhance the effectiveness of their efforts in improving the society and the environment.

UMC also made plans to incorporate Conflict-Free Sourcing Initiative (CFSI) in 2015 with applications submitted during the 1st quarter of 2016. Suppliers were also requested to actively monitor foundries and mines lacking relevant certification to undergo Conflict-Free Smelter Program (CFSF) or other equivalent and independent third party’s audit program inspections.

Additionally, UMC also responded the content related to EICC survey forms to our clients based on the latest EICC Code of Conduct. A total of 138, 254, and 244 responses were provided in 2013, 2014, and 2015 respectively.

2-5-5 Control of Strategic High-tech Commodities

In 2012, UMC completed its certifications, indicating that the company’s export control standards are consistent with international and government export control standards, and therefore qualified to simply the complicated licensing process for exporting high-tech commodities. As a result, shipping has become smoother and quicker, and the rigorous system management has reduced product misuse or illegal export to the minimum level of risk. Both the company and its customers have benefited from the convenience and time efficiency.

For two consecutive years in 2014 and 2015, the subsidiary HJTC was awarded the AA Class Management Enterprise of China Customs, satisfying the requirements of customs administration, business management and trade security.
Sustainable Development - Environment

3 - 1 Green Factory
3 - 2 Energy and Greenhouse Gas Management
3 - 3 Water Risk Management
3 - 4 Green Product
3 - 5 Green Concepts

5.42%
Power Reduction
In 2015, reduction reached the targeted goal of 3%. The newly added reduction for 2015 was 55,483Mwh, which is equivalent to a decrease of 28,906 tons in CO2 emissions and a savings of about NT$11 million in cost.

5.33%
Natural Gas Reductions
In 2015, reduction reached the targeted goal of 3.38%. The reduction of 11,652Mwh is equivalent to a decrease of 2,292 tons in CO2 emissions and a savings of about NT$18 million in cost.

11.59%
Waste Reduction
Cumulative reduction reached the targeted goal of 9% in 2015. The newly added reduction was 993 tons, which is a savings of about NT$5.5 million in disposal cost for the year.

11.2%
Reduction in Water Usage
In 2015, cumulative reduction reached the targeted goal of 6%. The newly added reduction for 2015 was 454,000 tons, which is a savings of about NT$11 million in water cost.

126 kg
Daily Reduction of 126 kg of Ammonia Emissions.
Source reduction of nitrogenous wastewater reached the targeted goal in 2015 (98 Kg-NH3-N / day). Compared to the base year reduction of 38% and 20% in Hsinchu and Tainan, respectively, the reduction saved NT$40 million in raw material costs for the year, and a saving of NT$18 million in wastewater charges.

90%
Waste Recycling
The amount of reused waste was 30,361 metric tons, which is a gain of more than NT$161 million from recycled resources.
### Environmental Information

#### Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>Scope</th>
<th>Direct Greenhouse Gas Emissions</th>
<th>Indirect Greenhouse Gas Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope 1</td>
<td>621.4 1000 ton CO₂e</td>
<td>1,167.2 1000 ton CO₂e</td>
</tr>
<tr>
<td>Scope 2</td>
<td>2,514.2 1000 ton CO₂e</td>
<td>36.9 1000 ton CO₂e</td>
</tr>
<tr>
<td>Scope 3</td>
<td>46.5 1000 ton CO₂e</td>
<td>260.7 1000 ton CO₂e</td>
</tr>
</tbody>
</table>

#### Other Air Pollutant Emissions

<table>
<thead>
<tr>
<th>Emissions</th>
<th>2015 ton CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO₂</td>
<td>0.4</td>
</tr>
<tr>
<td>SO₂</td>
<td>9.795</td>
</tr>
<tr>
<td>CO</td>
<td>27,140</td>
</tr>
<tr>
<td>CO₂</td>
<td>73.80</td>
</tr>
</tbody>
</table>

#### Waste Generation

<table>
<thead>
<tr>
<th>Waste type</th>
<th>2013-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Waste</td>
<td>33.56 1000 ton</td>
</tr>
<tr>
<td>Hazardous Waste</td>
<td>20.61 1000 ton</td>
</tr>
<tr>
<td>Recyclable Waste</td>
<td>30.36 1000 ton</td>
</tr>
<tr>
<td>Landfill Waste</td>
<td>1.02 1000 ton</td>
</tr>
</tbody>
</table>

#### Recycling Waste Paper

| Recycling Waste Paper | 0.34 1000 ton |

### Water Risk

<table>
<thead>
<tr>
<th>Water</th>
<th>2013-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Water Usage</td>
<td>41,596 1000 m³</td>
</tr>
<tr>
<td>Total Water Intake</td>
<td>14,456 1000 m³</td>
</tr>
<tr>
<td>Surface Freshwater</td>
<td>0.00 1000 m³</td>
</tr>
<tr>
<td>Underground Water</td>
<td>0.00 1000 m³</td>
</tr>
<tr>
<td>Salt Water</td>
<td>0.00 1000 m³</td>
</tr>
<tr>
<td>Tap water</td>
<td>13,831 1000 m³</td>
</tr>
<tr>
<td>Rain/Condensate Water</td>
<td>625 1000 m³</td>
</tr>
<tr>
<td>Purified Water</td>
<td>14,816 1000 m³</td>
</tr>
<tr>
<td>Water consumed per unit of production</td>
<td>8.5 1000 m³/ton</td>
</tr>
</tbody>
</table>

### Energy

<table>
<thead>
<tr>
<th>Energy</th>
<th>2013-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Energy Consumption</td>
<td>2,538.4 1000 MWh</td>
</tr>
<tr>
<td>Electricity</td>
<td>2,305.7 1000 MWh</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td>1.85 1000 MWh</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>33.36 1000 MWh</td>
</tr>
</tbody>
</table>

### Raw Materials

<table>
<thead>
<tr>
<th>Raw Materials</th>
<th>2013-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Raw Materials</td>
<td>77.9 1000 ton</td>
</tr>
<tr>
<td>Si</td>
<td>4.4 1000 ton</td>
</tr>
<tr>
<td>SiO₂</td>
<td>16.3 1000 ton</td>
</tr>
<tr>
<td>HF</td>
<td>1.4 1000 ton</td>
</tr>
<tr>
<td>NaOH</td>
<td>12.4 1000 ton</td>
</tr>
</tbody>
</table>

### Paper

<table>
<thead>
<tr>
<th>Paper</th>
<th>2013-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Consumption</td>
<td>0.03 1000 ton</td>
</tr>
</tbody>
</table>

### Major Material Environmental Issues

There were three major categories of material environmental issues in 2015: (1) Operational Eco-efficiency (2) Environmental Management (3) Water Risk

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2015 Goal</th>
<th>Compliance for 2015</th>
<th>2016 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Eco-efficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity consumption.</td>
<td>Reduce 3-year cumulative electricity consumption by 3%</td>
<td>No cases of environmental regulation violation</td>
<td>Additional reduction of 55,443MWh of electricity for the year. 5.42% reduction in cumulative electricity consumption for 2013-2015.</td>
</tr>
<tr>
<td>Natural gas consumption</td>
<td>Reduce natural gas consumption by 3.3%</td>
<td>100% passing rate for various annual environmental management system certifications.</td>
<td>Additional reduction of 11,633Mm of natural gas for the year. 5.33% reduction in natural gas consumption.</td>
</tr>
<tr>
<td>Intensity of fluorinated greenhouse gas emissions</td>
<td>Reduce intensity of fluorinated greenhouse gas emissions by 35%</td>
<td>The entire company (9 fab areas ) passed ISO 14001, ISO 14064 and QC 080000 certifications.</td>
<td>Reduced intensity of fluorinated greenhouse gas emissions by 37.6%.</td>
</tr>
<tr>
<td>Waste generation.</td>
<td>Reduce 3-year cumulative waste generation by 6%</td>
<td>No cases of environmental regulation violation</td>
<td>Additional reduction of 993 metric tons of waste for the year. 11.99% reduction in cumulative waste generated.</td>
</tr>
<tr>
<td>Environmental Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compliance with regulations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification for management system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplier assessment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous material management.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water consumption</td>
<td>Reduce 3-year cumulative water consumption by 6%</td>
<td></td>
<td>Additional reduction of 454,000 tons for the year. 11.2% reduction in cumulative water consumption for 2013-2015.</td>
</tr>
<tr>
<td>Water quality improvement (reduction of ammonia concentration in the wastewater)</td>
<td>Reduce ammonia by 17,536 L/month</td>
<td></td>
<td>Reduced ammonia by 22,359 L/month</td>
</tr>
</tbody>
</table>

Note: The various annual indicators are included in the company’s and Corporate Sustainability Committee’s KPI (Key Performance Indicator) and policy development, integrated with major company policies, and continually reviewed and improved.
3-1 Green Factory

To alleviate ecological deterioration, reduce the greenhouse effect and slow global warming, UMC’s environmental protection policies aim to minimize the consumption of resources and create minimum waste. The company continues to enhance its technology, self-regulate and introduce high-performance pollution control technology and equipment to achieve environmental symbiosis, shared prosperity and sustainable development.

- Environmental Protection Policy
  - UMC’s goal is pollution-free production. We not only comply with, but also strive to exceed international standards and all applicable environmental and safety regulations. We want to be an environmentally friendly enterprise characterized by continuous improvement.

- We incorporate our environmental management system into the overall organizational management system.

- We take the initiative to reduce waste production and prevent pollution by introducing and developing environmentally friendly technology into design, production, and operation.

- We conserve energy and recycle natural resources as a model of environmental protection for the international community.

- We meet our Corporate Social Responsibilities; we play an active role in government and community to improve and protect our natural habitat.

- We educate employees about environmentally sound ethics and practices.

3-1-1 Green Factories and Buildings

Using past promotional experience and success of its departments in source reduction, recycling and reuse, UMC employs outside green building and ecology experts and collaborates with relevant academic programs to plan and construct green buildings that are consistent with the US LEED and domestic EEWH standards. In 2010, the company participated in the Green Factory Promotion Alliance, which integrates industrial, governmental and academic forces, to help the government formulate a green building and clean production evaluation system for developing Green Factory standards for Taiwan.

In 2012, the company’s new fab in Tainan Science Park and over 17-year old Fab 8A in Hsinchu Science Park were awarded the 1st Green Factory logo by the Industrial Development Bureau. Moreover, Fab 8A was the first 8-inch factory in the nation to receive the award. In 2013, UMC redoubled its efforts to have all its Taiwan factories achieve the Industrial Development Bureau certification for clean production. In 2014, UMC constructed Fab 12A F9 and P6, which are expected to receive the LEED Gold certification, EEWH Diamond Certification and Smart Building Diamond certification upon completion in 2016.

- Certificate

UDM Future Plans for Green Building and Green Fab

- Designs for new fabs will adhere to green building, green factory and smart building principles.

- Existing fabs will undergo green building and green factory assessments, and green design and construction will be gradually incorporated.

UMC Green Building Features

In addition to incorporating various energy-saving designs, UMC increased bio-diversity and green indexing for its buildings that far exceed legal requirements, thereby highlighting UMC’s commitment to conservation strategies and action.

- Renewable Energy In-situ Design
  - Solar power systems are installed to generate renewable energy for fabs.

- Energy Saving Lighting Design
  - Fab 12A P9 and P6 leads the industry by using all LED lighting fixtures in offices and outdoor areas to significantly reduce lighting electricity consumption without compromising illumination. LED lighting for office spaces is being assessed for reducing Fab electricity consumption without compromising production conditions.

- Energy Saving Air-conditioner Design
  - VAV and variable “Free cooling” enthalpy control systems are used in all offices. Heat pumps are innovatively applied by using hot Df for heating during manufacture, which partly replaces gas boiler usage and significantly reduces the annual gas consumption of the boiler system.

- Eco-

- Greening Index
  - The circular Green Belt design is adopted to avoid barriers to biological migration. Ecological detention ponds are installed in two sections within the base to serve as biological habitats, flood control and renewable recovery and regulation. Artificial gardens, soil interception design and grasses are used in unexcavated areas to provide natural permeability. Open-celled permeable AC asphalt.

- Bio-diversity
  - Plant Diversity
    - Create multi-tier ecology. Trees, shrubs and mixed stratified planting methods are used, and a diverse mix of species is selected.
    - Increase planting distance. Large trees are planted on both sides of service roads, with adequate growth room.
    - Use for 3-D growing. Soil thickness above the basement of Building OB is increased to create an environment that is conducive to plant growth.

- Energy Saving Air-conditioner Design
  - VAV and variable “Free cooling” enthalpy control systems are used in all offices. Heat pumps are innovatively applied by using hot Df for heating during manufacture, which partly replaces gas boiler usage and significantly reduces the annual gas consumption of the boiler system.

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- Ecological Green Network
  - The idea is to create a continuity of green areas to increase opportunity for biological migration, foraging and habitat.

- Creators Habitat
  - Green detention ponds, prpora banks, mixed forests, grasslands and soil interception provide for the needs of different creatures.

- Plant Diversity
  - Adhering to the principle of native and diverse plants that also attract butterflies and birds, conditions for developing a diverse habitat are created.
Currently, environmental issues are a major issue of business sustainability among stakeholders. To improve energy resource productivity and reduce greenhouse gas emissions, UMC recently promoted various reduction measures and set targets for each stage.

### UMC Energy Resource Improvement Status

#### 3-33 Reduction Plan (Completed) 2010~2012

- **Electricity Usage** 3%
- **Water Usage** 6%
- **Fluorinated Greenhouse Gas Emissions Intensity** 33%

#### 3-369+ Reduction Plan 2013~2015 (Base Year—2015)

- **Electricity Usage** 10%
- **Water Usage** 10%
- **Fluorinated Greenhouse Gas Emissions Intensity** 36%

#### Green2020 Reduction Plan 2016~2020 (Base Year—2015)

- **Electricity Usage** 10%
- **Water Usage** 10%
- **Fluorinated Greenhouse Gas Emissions Intensity** 36%

**Note1**
- Additional reduction of 463,800 tons for the year

**Note2**
- Additional reduction of 463,800 tons of electricity for the year

**Principles for Compilation**

- **Milestones and Sustainability Performance**
- **Major UMC Milestones and Sustainability Performance**

**Implementation of the 2015 UMC 369+ Energy Resource Productivity Improvement Plan**

- **3.1-2 Energy Resource Productivity Improvement Plan**

**Management System and Certification**

- **About UMC**
- **Principles for Report Compilation**
- **Major UMC Milestones and Sustainability Performance**
- **Sustainable Development Strategy and Organization**
- **Communication with Stakeholders**
- **Sustainable Development-Economic Growth**
- **Sustainable Development-Society**

**Management System and Certification**

- **Management Approach**

**UMC Clean Production Promotion**

- **3.1-3 Clean Production**

**Raw Material Management**

- By improving manufacturing process design and technology, UMC not only reduces raw material consumption, but also reduces pollution emissions at its source, thereby reducing operating costs, resource consumption and environmental impact. Consistent with environmental protection and international environmental / governmental chemical concerns, UMC prioritizes the reduction of raw materials that contribute to major waste, and coupled with the company’s cost reduction policy and benchmarking, each department assesses the feasibility of reducing benchmarked materials and conducts small-scale tests. Once feasibility is verified, reduction is implemented among all the fabs.

**About UMC**

- **Organization**
- **Strategy and Sustainable Management System and Certification**

**By improving manufacturing process design and technology, UMC not only reduces raw material consumption, but also reduces pollution emissions at its source, thereby reducing operating costs, resource consumption and environmental impact. Consistent with environmental protection and international environmental / governmental chemical concerns, UMC prioritizes the reduction of raw materials that contribute to major waste, and coupled with the company’s cost reduction policy and benchmarking, each department assesses the feasibility of reducing benchmarked materials and conducts small-scale tests. Once feasibility is verified, reduction is implemented among all the fabs.**
Effectiveness of Raw Material Management in 2015

- Continue Promoting Process and Source Reduction and Reduce Use of Organic Cleaning Agents

ST-250: Amount of ST-250 Used

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount of ST-250 used (Unit: Ton)</th>
<th>Amount of ST-250 used per unit product (Unit: kg/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1,664</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>1,285</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>1,162</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>958</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>881</td>
<td></td>
</tr>
</tbody>
</table>

8% decrease compared to 2014.

Waste Management

Waste Reduction

UMC’s ultimate waste management goal is zero waste using the strategy of total waste reduction and waste-to-resource. By improving process technology, raw material source reduction and other source management measures, waste output is reduced to achieve waste reduction.

UMC’s total waste output is 33,563 metric tons (not including routine office waste), and waste output per unit production capacity is 119 kg/m², which is an increase of 16.1% compared to 2014. The increase in waste output is due to the increase output of sulfuric acid in high-order processes.

In 2015, UMC’s reduction plans and measures resulted in a total waste reduction of 983 metric tons, as shown in the figure below. The cumulative reduction from 2013 to 2015 is 2,788 tons, and the reduction ratio is 11.59%, which is 9% of the 2015 reduction target.

Waste Reduction Measures Proposed for 2016

- Promote sulfuric source reduction and waste ammonium sulfates reduction.
- Promote hydrofluoric source reduction and waste sludge sludge reduction.
- Continue to promote chemical lifetime extension and liquid waste chemical reduction.
- Promote ammonium reduction and waste ammonium sulfates reduction.
- Implement independent recycling of diluted sulfuric acid after removal of hydrogen peroxide.
- Implement reduction of residual chemicals in empty containers.
- Reduction of ammonium sulfates (ammonium source reduction)
- Reduction of calcium fluoride in sludge (hydrofluoric acid source reduction)
- Reduction of sulfuric acid (source reduction)
- Reduction of dumpy (residual fluid reduction)
- Reduction of cleaning solvents (starch emulsion reduction)
- Reduction of parts (residual fluid reduction)
- Reduction of photoresist (source reduction)

ST-250 Liquid photoresist

Waste-to-Resource

In addition to reducing waste from the manufacturing sources, UMC continues to promote recycling and reuse in place of existing end-of-pipe control to turn waste into resources, subsequently creating three advantages: waste reduction, waste disposal energy and cost reduction, creating a positive waste-to-resource ratio.

In 2015, UMC recycled 30,361mt of waste, which accounts for 90% of waste being recycled. For 4 consecutive years, the recycling rate has exceeded 90%. The amount of recycled hazardous waste is 19,268mt, which accounts for 94% of hazardous waste being recycled. In 2015, revenue from resource recycling (sales in Taiwan) was about NT$16 million.

Basel Convention hazardous wastes definition: Exempt for 2,835mt of nickel-cadmium batteries transported to Korea for reuse in July and December 2015, respectively, all UMC waste is treated domestically.

By improving process technology, raw material source reduction and other source management measures, waste output is reduced to achieve waste reduction.

UMC Waste Reduction Goal and Status

<table>
<thead>
<tr>
<th>Goal</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>-11.59</td>
</tr>
<tr>
<td>2014</td>
<td>-7.5</td>
</tr>
<tr>
<td>2013</td>
<td>-5.4</td>
</tr>
</tbody>
</table>

Note: In 2015, the overall waste generation per wafer area of UMC and its subsidiary HJTC foundry (8N) was 115 kg / Wafer⁻².
UMC Waste Recycling Trend

- Photo Mask: Collected by recyclers, cleaned, and then turned into poly acrylic sheets or used as photo masks or made into optical materials.
- Resinplate: Collected by recyclers for re-use.
- Fluorescent Lamp: Collected by recyclers for recycling, turned into industrial grade or biological nutrients.
- Lead Acetate: Collected by recyclers for re-use.
- Wood: Recycled as raw material for industrial products.
- Mind Hardware: Collected by recyclers to extract heavy metal or recover raw materials.
- Scraps, papers, scrap aluminum, plastic bottles, and plastic products are collected by recyclers for re-use.

2011-2015 Recycling Status

- 2015: 80% Material recycling, 9% Energy recovery, 5% Incineration, 2% Landfill, 2% Others
- 2014: 79% Material recycling, 9% Energy recovery, 6% Incineration, 2% Landfill, 2% Others
- 2013: 79% Material recycling, 10% Energy recovery, 5% Incineration, 2% Landfill, 2% Others
- 2012: 76% Material recycling, 14% Energy recovery, 14% Incineration, 2% Landfill, 2% Others
- 2011: 76% Material recycling, 14% Energy recovery, 11% Incineration, 2% Landfill, 2% Others

2011-2014 Hazardous Material Recycling

- 2015: 90% UMC Amount recycled (ton), 90% Material recycling rate (Kg/Wafer-m2)
- 2014: 79% UMC Amount recycled (ton), 90% Material recycling rate (Kg/Wafer-m2)
- 2013: 76% UMC Amount recycled (ton), 89% Material recycling rate (Kg/Wafer-m2)
- 2012: 76% UMC Amount recycled (ton), 89% Material recycling rate (Kg/Wafer-m2)
- 2011: 76% UMC Amount recycled (ton), 92% Material recycling rate (Kg/Wafer-m2)

Packaging Material Management - Collection and Recycling

All shipping materials used by UMC fully comply with EU PPW (Packaging and Packaging Waste) stipulations for materials containing heavy metals. All materials are supplied with inspection reports prepared by qualified, impartial laboratories, and low environmental impact materials such as recyclable materials and non-blown cardboard cartons are used when possible. In addition, since UMC is not an end product manufacturer, with customer consent, raw material and certain product packages are re-used for shipping purposes to assembly or testing factories to reduce the amount of packaging materials and waste production.

The company will continue to cooperate with other organizations. From influencing customers to learning from suppliers and downstream supply chains, the company is increasingly able to use packaging that is recyclable or contains recyclable materials. In particular, since 2015, the amount of recyclable packaging in the well-established Hsinchu 8-inch production line has increased to 129,719 kg, of which 81,196 kg contains recyclable materials, representing a recovery rate of 63%.

UMC air pollution control strategies involve using high-performance equipment to treat exhaust gas from national contaminants to reduce the emission of air pollutants to a level that complies with (or less than) the government’s environmental stipulations. Test results over the years showed that UMC air pollutant emission is less than the emission standard set by the EPA. UMC categorizes waste gas from manufacturing processes into acrid exhaust, alkaline exhaust, volatile organic exhaust and general exhaust.

- Acrid and Alkaline Exhaust
  - Stage 1: Installed tail gas treatment device in machine chamber (L-S) to treat toxic, flammable, Perfluorinated compounds (PFCs), and other process gases.
  - Stage 2: After end treatment by a central exhaust treatment system, gas is released into the atmosphere via a stack.

- Volatile Organic Compounds
  - Volatile organic compounds exhaust (VOC Exhaust) is treated using VOC cartridge wheels, which treat and release gases using low temperature adsorption and high temperature desorption.

Total Hydrocarbon Reduction

In 2015, the efficiency of UMC’s volatile organic compounds (VOC) treatment was maintained at an average of 95.14%, which exceeded the 90% legal standard. Total emission of hydrocarbon pollutants was 36.76 tons / year, which was a reduction of 719.63 tons / year.

Chemical Hazard Assessment Management

The electronic management system was used to analyze the hazardous properties of new chemical substances and the prevention and response capability of the factories. In 2015, a total of 159 chemicals were evaluated, and the response preparedness of all the factories were found to be capable of appropriate management.

Self-imported Chemicals Management

Established chemical list and usage procedure for self-imported chemicals management.

Stakeholders

From influencing customers to learning from suppliers and downstream supply chains, the company is increasingly able to use packaging that is recyclable or contains recyclable materials. In particular, since 2015, the amount of recyclable packaging in the well-established Hsinchu 8-inch production line has increased to 129,719 kg, of which 81,196 kg contains recyclable materials, representing a recovery rate of 63%.

Other Air Pollutant Emissions

UMC uses natural gas and only a small amount of low sulfur diesel fuel. Based on regular stack inspection and air pollution expense calculation, estimated nitrogen oxide (NOx) and sulfur oxide (SOx) emissions in 2015 are listed in the table below.

- N0x: 64, NOx: 13, N0x: 14, NOx: 20

Acidic and Alkaline Exhaust

- Stage 1: Installed tail gas treatment device in machine chamber (L-S) to treat toxic, flammable, Perfluorinated compounds (PFCs) and other process gases.
- Stage 2: After end treatment by a central exhaust treatment system, gas is released into the atmosphere via a stack.

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Volatile Organic Compounds

- Volatile organic compounds exhaust (VOC Exhaust) is treated using VOC cartridge wheels, which treat and release gases using low temperature adsorption and high temperature desorption.
3-2 Energy and Greenhouse Gas Management

3-2-1 Climate Change Policy and Low-Carbon Commitment

In the face of global climate and ecological changes, UMC is committed to its environmental protection duty as a member of the global community. In 2010, UMC led the industry by implementing the UMC Climate Change Policy as its highest guiding principle. In addition, the company formulated the UMC Low-Carbon Commitment guidelines for carbon reduction plans.

- **UMC Climate Change Policy**
  - **Expected to reach carbon neutral**
  - **To be the low carbon solutions provider**
  - **To promote the development of a low carbon economy**

### UMC Low-Carbon Commitment

- **Low-carbon design process**
- **Energy efficiency optimization**
- **Installing high efficiency FCs**
- **Abatement in new tools**
- **Adapting green building standard for new buildings**
- **Carbon partnerships with customers and suppliers**
- **Complete the carbon footprint inventory for all fabs.**
- **Invest in green technology industry**

For energy and greenhouse gas management, UMC has recently formulated various environmental protection objectives for various phases and dimensions along with actual implementation plans. These objectives and plans were then jointly discussed with the Corporate Sustainability Committee. Discussion outcomes and resolutions would then be ratified by the Committee Chairperson before implementation.

### Climate Management Organization

UMC has a dedicated First-level Department (GRM&ESH) responsible for collecting and identifying greenhouse gas related issues. Through the Corporate Sustainability Committee, the ESH Commission reports annual implementation results and issues to the Executive Director and Management Committee every 6 months.

### Climate Management Risks and Opportunities

Temperature rise in the earth’s surface has caused the melting of polar ice, rising sea level and decreasing land. The frequency and intensity of abnormal climate changes such as changing ocean current patterns, changing rainfall patterns, floods, droughts and storms have increased. These climate changes caused by global warming have directly or indirectly impacted natural ecosystems, and international governments are attaching great importance to greenhouse gas control. Hence it can be expected that increasingly stringent international or governmental carbon emission control regulations will indirectly create a higher threshold for corporate business, and only low energy consumption, low greenhouse gas emissions, green products and green industry will receive community support.

UMC Climate Risks Challenges and Opportunities

- **Greenhouse gas emissions permit and reporting, cap and trade schemes.**
  - **Carbon tax, energy tax**
  - **Product labeling and disclosure.**

### Climate Related Disaster

- **Natural disasters resulting in job interruption.**
- **Building and facility damage.**
- **Raw material shortage and shipping delays.**
- **Water shortage during the dry season.**

#### Climate Management Organizational Chart

[Diagram of Climate Management Organizational Chart]

#### Other Climate-related Issues

- **Products that are less eco-friendly will be eliminated because of changing consumer demands.**
  - **Promoting the product life-cycle analysis and certification.**
    - (UMC has passed carbon footprint and water footprint certification, and participated in the Life Cycle Assessment (LCA) to help customers acquire information on their products' carbon footprint and water usage.)
  - **Invest in green technology industry.**
    - (UMC's E&I Investment is calculated at NT$ 6 billion.)

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**Environmental Accounting**

In early January 2001, UMC has already begun implementing the Environmental Accounting system each month, and became the first corporation in the nation to adopt this electronic system in the industry. To ensure data accuracy, UMC referenced the six classification principles used by the Japanese Ministry of Environment. In addition to the environmental protection financial system, UMC also instituted a financial information system for Occupational Safety and Health, which combines with the existing accounting system and uses a matrix and internal control coding to calculate the cost and expense disbursement for environment safety and health related investments to facilitate effective assessment and decision analysis of overall environmental protection and EHS management.

**Environment Safety and Health Investment**

UMC is committed to environmental protection, safety and health, as evident from its considerable annual EHS funding. Through its Environmental Accounting System and calculations, records of ESH-related expenses are analyzed each month, and based on each year-end aggregate and analysis of Environmental Accounting data, UMC’s ESH Investment for the following year is planned.
3.2.4 Measures for Mitigating Climate Change

**Measures for Mitigating Climate Change**

- **Introducing ISO 14064-1 greenhouse gas (GHG) inventory program, planning reduction projects, and evaluating the effectiveness of reductions.**
- **Participating in the EU FP7 (Seventh Framework Programme) to promote product carbon footprint inventory. First in the industry to complete GHG scope 3 emission inventory and verification, and identified more opportunities for reduction from the product life cycle.**
- **Supporting government’s reduction policies and formulating FCs gas reduction methodology in Semiconductors.**
- **Income from carbon trading has been used to establish an environmental conservation foundation to promote environmental conservation outside the company.**

**Greenhouse Gas Inventory**

In accordance to inventory guidelines defined by domestic and international organizations such as the ISO14064-1 and GHG Protocol, UMC established its greenhouse gas inventory standard mechanism. The company regularly inventories the greenhouse gas emissions of all its fabs each year to fully determine the status of its greenhouse gases and verify the effectiveness of its reductions. At present, although there is no legally required reduction, UMC has voluntarily instituted greenhouse gas reduction for different stages, conducted annual review and strived for further improvement.

Since establishing an internal management system in 2006, UMC commissions a 3rd party to conduct inspections every year. The following lists the inventory status for every facility:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Historical Data</th>
<th>Greenhouse Gas Inventory Check</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UMC Singapore Fab 12i</strong></td>
<td>Implemented annually since 2003</td>
<td>2014, 2015</td>
</tr>
<tr>
<td><strong>UMC China subsidiary He Jian Technology Company (HJTC) (Fab8N)</strong></td>
<td>Implemented annually since 2014</td>
<td>2015, 2016</td>
</tr>
</tbody>
</table>

**Outcomes of GHG Emission Inventory Program for each facility:**

**UMC Taiwan**

- Historical data were also verified for 2000 to 2005
- Implemented annually since 2006

**UMC Singapore Fab 12i**

- Historical data were also verified for 2000 to 2005
- Implemented annually since 2003

**UMC China subsidiary He Jian Technology Company (HJTC) (Fab8N)**

- Historical data were also verified for 2000 to 2005
- Implemented annually since 2014

**Scope 1 Direct GHG Emissions**

- Direct GHG emissions occurring from sources that are owned or controlled by the company (i.e., sources within the organizational boundary). For example, emissions from combustion of fuel in owned or controlled vehicles.

**Scope 2 Indirect GHG Emissions**

- Indirect GHG emissions occurring from the generation of purchased electricity (heat/cool, steam and fossil fuel derived energy products) consumed by the company.

**Scope 3 Other Indirect GHG Emissions**

- Other indirect GHG emissions occurring as a consequence of the activities of the company, but generated from sources not owned or controlled by the company.

**Greenhouse Gas Inventory Scope**

**Direct (Scope 1) GHG Emission and Emissions Per Production Capacity**

- Table showing emissions for UMC's facilities from 2011 to 2015.

**Energy indirect GHG emissions**

- Table showing energy indirect GHG emissions from 2011 to 2015.

**Other indirect GHG emissions**

- Table showing other indirect GHG emissions from 2011 to 2015.

**Greenhouse Gas Emissions**

- Table showing greenhouse gas emissions from 2011 to 2015.

**Fluorinated Greenhouse Gas Reduction**

In addition to carbon reduction each year, UMC established the Fluorinated Greenhouse Gas Reduction Taskforce in 1999 to promote greenhouse gas reduction. Moreover, the company set greenhouse gas reduction goals for the various phases of the program, and currently, the reduction program is in Stage 3. UMC shall continue to implement FCs and Fluorinated GHG reduction projects. FCs reduction in 2015 reached 977,000 tons which was a 37.6% reduction compared to 2010. Such results showed that UMC managed to achieve Phase 3 objectives ahead of schedule. UMC has already attained the reduction goal for 2020, which is 30% lower than 2010 levels, as stipulated by the World Semiconductor Council.

**Reduction Plans and Objectives for Each Phase for Fluorinated GHG (FCs)**

- Phase 1: Comply with TSIA commitments
- Phase 2: Decrease total annual FCs emissions in Taiwan fabs by 210,600 MT
- Phase 3: Reduce FCs emissions per wafer surface area by 35% in 2020

**Greenhouse Gas Emission Inventory Scope**

- Table listing the scope of UMC's greenhouse gas emissions from 2011 to 2015.

**Fluorinated Greenhouse Gas Emission Reduction**

- Table showing fluorinated greenhouse gas emission reduction from 2011 to 2015.

**Fluorinated Greenhouse Gas Emission Reduction Goals**

- Table showing fluorinated greenhouse gas emission reduction goals from 2011 to 2020.

**Fluorinated Greenhouse Gas Reduction**

- Table showing fluorinated greenhouse gas reduction from 2011 to 2020.

**Fluorinated Greenhouse Gas Emission Reduction**

- Table showing fluorinated greenhouse gas emission reduction from 2011 to 2020.

**Fluorinated Greenhouse Gas Inventory**

- Table showing fluorinated greenhouse gas inventory from 2011 to 2015.

**Fluorinated Greenhouse Gas Emission Reduction**

- Table showing fluorinated greenhouse gas emission reduction from 2011 to 2020.

**Fluorinated Greenhouse Gas Reduction**

- Table showing fluorinated greenhouse gas reduction from 2011 to 2020.

**Fluorinated Greenhouse Gas Emission Reduction**

- Table showing fluorinated greenhouse gas emission reduction from 2011 to 2020.

**Fluorinated Greenhouse Gas Reduction**

- Table showing fluorinated greenhouse gas emission reduction from 2011 to 2020.

**Fluorinated Greenhouse Gas Reduction**

- Table showing fluorinated greenhouse gas emission reduction from 2011 to 2020.

**Fluorinated Greenhouse Gas Reduction**

- Table showing fluorinated greenhouse gas emission reduction from 2011 to 2020.
3-2-6 Carbon Assets and Carbon Trading

UMC, a long-time participant in the Taiwan Semiconductor Industry Association (TSIA) discussion on greenhouse gas emissions reduction, and also participates in reduction policies promoted by the government. When the EPA announced "greenhouse gases early reduction project and trade-in allowance principles" and "semiconductor industry greenhouse gas emission intensity announcement" in 2010 and 2011 respectively, UMC commissioned a third-party inspection agency to verify its past greenhouse gas reduction outcomes. At the same time, the company also collaborated with other members of the TSIA on FC gas reduction methodology for the semiconductor industry.

From 2013 to 2014, UMC supported the EPA early reduction project and acquired a carbon reduction allowance of 3.02 million tons. In 2014, a 2 million ton carbon trading deal was signed with Dragon Steel. This was the first carbon trading transaction recognized by the EPA and marked an important milestone for the carbon trading market in Taiwan. Revenue obtained from this carbon trading transaction was wholly used by UMC to establish the UMC Eco-Echo Ecological Conservation Hope Project that was exclusively dedicated to environmental protection, promote environmental protection measures, and contribute towards environmental sustainability.

3-2-7 Energy Management

Energy use not only consumes the earth’s resources, but also produces carbon dioxide that causes greenhouse gas emissions. To effectively reduce the environmental impact of the greenhouse effect, reducing energy consumption is the key issue for UMC’s sustainable development. Currently, to conserve energy, UMC is targeting electricity and natural gas, and promotes the implementation of energy management in its offices and public areas with promotional activities, education and training to cultivate a mindset and habit of energy conservation and greenhouse gas emission among its employees.

3-2-5 Carbon Disclosure and Communication

In response to international Carbon Disclosure issues, carbon emissions management and carbon emissions disclosure & communication have become important issues for UMC. In 2006, UMC was invited to participate in the international Carbon Disclosure Project (CDP), and to date, has participated for 10 consecutive years with progressive results. In 2015, UMC was named in the Climate Disclosure Leadership Index (CDLI), earning the highest Carbon Disclosure Score among Taiwan semiconductor companies for the third consecutive year and the highest ranking for Carbon Performance Band among all Taiwanese enterprises.
### Natural Gas Reduction

**Natural Gas Conservation Measures in 2015**

- **Add high and moderate temperature heat pumps**
  - Implementing Fab: 8A, 8C, 8D, 12i
  - Estimated Outcome: 9,532 MWh

- **LUS-rrf & RFB upgrade to LUS**
  - Implementing Fab: 12A
  - Estimated Outcome: 422 MWh

- **Converting VOC system from RTO to RCO**
  - Implementing Fab: 12i
  - Estimated Outcome: 94 MWh

**Natural gas saving during Fab annual maintenance**

- Implementing Fab: 8F, 12A
- Estimated Outcome: 1,581 MWh

**Total gas conservation in 2015**

- Estimated Outcome: 11,652 MWh

**Natural gas reduction objectives**

- **Reduction of HDI usage**
  - Implementing Fab: 12A
  - Estimated Outcome: 1,581 MWh

- **Natural gas saving during Fab annual maintenance**
  - Estimated Outcome: 23 MWh

**CO2 emission reduction equivalent**

- 2,292 MWh

**Past UMC Natural Gas Usage**

<table>
<thead>
<tr>
<th>Year</th>
<th>Natural Gas Usage (MWh)</th>
<th>Natural Gas Usage (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>218,804</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>220,183</td>
<td></td>
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<tr>
<td>2013</td>
<td>19,242</td>
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<tr>
<td>2014</td>
<td>235,993</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>232,677</td>
<td></td>
</tr>
</tbody>
</table>

**Past UMC Natural Gas Usage**

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual Value</th>
<th>Estimated Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>220,183</td>
<td>218,804</td>
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<tr>
<td>2012</td>
<td>227,033</td>
<td>220,183</td>
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<tr>
<td>2013</td>
<td>220,183</td>
<td>19,242</td>
</tr>
<tr>
<td>2014</td>
<td>235,993</td>
<td>235,993</td>
</tr>
<tr>
<td>2015</td>
<td>232,677</td>
<td>232,677</td>
</tr>
</tbody>
</table>

**Energy Conservation for 2016**

Energy conservation plans shall cover about 141 energy saving measures such as the complete introduction of equipment energy saving features, provision of inverters, replacing online uninterruptible power supplies (UPS) with offline UPS systems, and ice water system energy saving measures. Reduction goals for 2016 would be 48,729 MWh, which would be equivalent to carbon dioxide emission reductions of about 25,300 tons.

**Past Energy Conservation Outcome**

<table>
<thead>
<tr>
<th>Year</th>
<th>Natural Gas Usage (MWh)</th>
<th>Natural Gas Usage (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>55.4</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>55.4</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>55.4</td>
<td></td>
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<tr>
<td>2014</td>
<td>55.4</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>55.4</td>
<td></td>
</tr>
</tbody>
</table>

**Past Solar Generated Electricity**

<table>
<thead>
<tr>
<th>Year</th>
<th>Solar Generated Electricity (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>295</td>
</tr>
<tr>
<td>2012</td>
<td>983</td>
</tr>
<tr>
<td>2013</td>
<td>1241</td>
</tr>
<tr>
<td>2014</td>
<td>1883</td>
</tr>
<tr>
<td>2015</td>
<td>1851</td>
</tr>
</tbody>
</table>

**Past UMC Electricity Usage**

<table>
<thead>
<tr>
<th>Year</th>
<th>UMC Electricity Usage (MWh)</th>
<th>UMC Electricity Usage per production capacity (MWh/Wafer-m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>14.2</td>
<td>14.2</td>
</tr>
<tr>
<td>2012</td>
<td>14.4</td>
<td>14.4</td>
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<tr>
<td>2013</td>
<td>13.87</td>
<td>13.87</td>
</tr>
<tr>
<td>2014</td>
<td>13.32</td>
<td>13.32</td>
</tr>
</tbody>
</table>

**Energy Saving Plans for 2016**

- **Energy Saving for Reverse Osmosis Pump**
  - Implementing Fab: 8A, 8C, 8D, 8F, 12A
  - Estimated Outcome: 2,337,513 MWh

- **Use Energy Saving Production Machine**
  - Implementing Fab: 8A, 8C, 8D, 8F, 8S, 12A, 12i (UCF18N)
  - Estimated Outcome: 14,400 MWh

- **Use Energy Saving Cold Water System**
  - Implementing Fab: 8F, 8S, 12A
  - Estimated Outcome: 5,374 MWh

- **Use Energy Saving Air Compressor**
  - Implementing Fab: 8C, 8D, 8J, 12J
  - Estimated Outcome: 14,000 MWh

- **Install High Temperature Heat Pump**
  - Implementing Fab: 8A, 8S, 12A
  - Estimated Outcome: 2,560 MWh

- **Adding Inverters**
  - Implementing Fab: 8E, 12A
  - Estimated Outcome: 1,140 MWh

**Energy Conservation for 2016**

Energy saving plans shall cover about 141 energy saving measures such as the complete introduction of equipment energy saving features, provision of inverters, replacing online uninterruptible power supplies (UPS) with offline UPS systems, and ice water system energy saving measures. Reduction goals for 2016 would be 48,729 MWh, which would be equivalent to carbon dioxide emission reductions of about 25,300 tons.
3-3 Water Risk Management

Recent climate changes have led to severe fluctuations in precipitation with more frequent floods and droughts. External stakeholders are also increasingly concerned about issues related to water resources. To respond to complex water resource issues on a timely basis and effectively integrate preventive, consumption reduction, contingency response, and other management concepts, UMC has successfully completed water risk factor identification and response measures. The UMC Water Resource Management Policy and Commitment was announced in 2015 to serve as our highest guiding principles for water resource management.

- Water Management Policy and Commitment
- Policy
  - Maximizes water efficiency, increases availability of valuable downstream water, and reduces water risk.
- Commitment
  - Introduce water risk management system
  - Develop and utilize diverse water sources
  - Use active water management to improve water conservation
  - Cooperate with supply chains to reduce water footprint
  - Provide open and transparent water information
  - Widely promote water education

3-3-1 Factory Water Source

UMC uses water risk assessment tools developed by the World Resources Institute (WRI), and cooperates with Taiwan’s water resource distribution to identify current proportion of factories located on water scarce regions and further water risk management strategies.

- UMC's Main Source of Water for Each Plant
- Water Scarcity
  - Low
  - Moderate
  - Moderate-High
  - High

3-3-2 Water Quality Risk Control

Before entering the fabs, water is first tested with pH devices and continuously monitored with a conductivity meter to ensure stable quality. Each stage of the water purification is tested with relevant devices to ensure reliable water quality.

3-3-3 Water Conservation During Manufacturing

UMC’s first principle of water consumption is designing a water conservation process, followed by recovering water for reuse and implementing highly efficient water management. To effectively reduce water resource consumption, all three principles must be integrated. In addition to conserving water, the company also actively participates in the Science Park Management’s water consumption and water management indicator formulation and annual manufacturer water consumption counseling and technology exchanges. To ensure a secure water supply, the company also participates in the Water Resources Agency’s water shortage contingency measures for water source stabilization and eutrophication. Impacted by global climate change, UMC strives to promote energy conservation and carbon reduction activities, and include them in its management policy. Hence water conservation and improvement activities are ongoing to provide further opportunities for company growth.

- UMC 2013-2015 Water Conservation
  - Cumulative Amount (Ton)
  - Percentage of Cumulative Water Conserved (%)
Note: Only 12 months of performance are included for the new improvement items. Only outcomes in 2015 are included in the 2015 Corporate Social Responsibility Report.

### 3-3-4 Water Pollution Control

**Water Pollution Control**

Among process reduction, water diversion and categorization, the priority in UMC’s water pollution control strategies are process source reduction, waste liquid diversion, followed by categorization. In its fab areas, there are up to 27 categories of wastewater diversion, which are further divided into solvent-based and high or low flash point for resource recovery or incineration while inorganic acids are reused. For multiple re-use, wastewater is categorized according to characteristics to maximize water resource efficiency and simplify wastewater composition. Finally, wastewater is treated in the fab’s wastewater treatment facilities according to the control standards of the Science Park Administration before being discharged into the science park sewage systems. For real-time monitoring and response, equipment for continuous monitoring of water quality (pH, fluoride ion concentration) and water quantity are installed, and SPC management is adopted for self and early prevention to ensure that the quality of water discharged into park sewage complies with control regulations. In addition, the Science Park Administration conducts monthly unscheduled and random quality inspection of water discharged by the different companies to reaffirm the quality of discharged water.

**Water Conservation Measures**

- **Implementing Fab**: BA
- **Planned Amount of Conserved Water (ton)**: 100,900

**Low HF Waste Reclaim System**: 8A
- **46,560**

**Increase Acid Waste Reclaim System**: 12A2
- **36,600**

**Upgrade Pump’s Capacity of LSR System**: 8CD
- **34,240**

**Purify CMP Reclaim System**: 8CD
- **14,640**

**CMP Waste Water Reuse to Local Scrubber**: 8S
- **12,250**

**Alkaline Drain Reuse to Acid Scrubber**: 8E
- **11,796**

**Stop Washing of CS IPA Scrubber Washing**: 8CD
- **10,057**

**MMF & AC Backwash Recycle**: 12A3
- **9,200**

**Active Carbon Backwash Recycle**: 12I
- **29,050**
To fulfill our corporate social responsibilities, UMC has continued to invest in the R&D of wastewater treatment technologies. In recent years, we introduced advanced ammonia nitrogen wastewater treatment techniques to reduce pollution burdens of water bodies.

In 2014, STSP Plant 12A introduced thin film separation technologies and a processing system capable of converting ammonia nitrogen in wastewater into ammonium sulfate.

In 2015, UMC successfully developed the latest electrolytic technology capable of breaking down ammonia wastewater into nitrogen gas.

Wastewater Discharge

For real-time monitoring and response, equipment for continuous monitoring of water quality (pH, fluoride ion concentration) and water quantity are installed, and SPC management is adopted for self and early prevention to ensure that the quality of water discharged into park sewages complies with control regulations. In addition, the Science Park Administration conducts monthly unscheduled and random quality inspection of the water discharged by different companies to reaffirm the quality of discharged water.

In addition, each factory also regularly conducts wastewater tests for long-term monitoring of wastewater quality to ensure that the quality of wastewater from each plant complies with local effluent standards.

To facilitate the discharge of wastewater, UMC and its subsidiary HUTC Wastewater Discharge

Hsinchu Science Park Fab 6A, 6B, 8C, 8D, 8S

Tainan Science Park Fab 12A

Tajung Science Park Fab 12B

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Wastewater Amount and Discharge Per Unit Wafer Surface Area

<table>
<thead>
<tr>
<th>Year</th>
<th>UMC</th>
<th>Hsinchu Science Park Fab 6A, 6B, 8C, 8D, 8S</th>
<th>Tainan Science Park Fab 12A</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>51.5</td>
<td>58.8</td>
<td>60.2</td>
</tr>
<tr>
<td>2012</td>
<td>58.8</td>
<td>60.2</td>
<td>60.5</td>
</tr>
<tr>
<td>2013</td>
<td>60.5</td>
<td>60.0</td>
<td>60.0</td>
</tr>
<tr>
<td>2014</td>
<td>60.0</td>
<td>59.8</td>
<td>60.5</td>
</tr>
<tr>
<td>2015</td>
<td>59.8</td>
<td>60.0</td>
<td>60.0</td>
</tr>
</tbody>
</table>

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3-3-5 Ammonia Wastewater Improvement

Science park bureaus included ammonia and tetramethylammonium hydride (TMAH) in wastewater controls. In 2013, various UMC plants in HSP began implementing projects for reducing nitrogenuous wastes and achieved remarkable outcomes. To further reduce the concentration of nitrogen in discharged wastewater and reduce the hazards inflicted on the receiving water body, UMC continued to implement HSP / STSP Plant Ammonia Wastewater Source Reduction Project Phase 2 and built an ammonia wastewater treatment facility at the STSP Plant in 2014.

The HSP / STSP Plant Ammonia Wastewater Source Reduction Project Phase 2 was completed in 2015. Major measures undertaken in 2015 included:

- Continuing implementation of Ammonia Wastewater Source Reduction Project Phase 2

Second Phase of the Ammonia Source Reduction

This project was mainly conducted to reduce the concentration of aqueous nitrogen used during processing and to shorten rinsing time. Measures included meticulous changes to processing, long-term observation and verification, and validation to ensure that products are not affected by the revised process. The project took 18 months (from January 2014 to June 2015) to complete. The scope of reduction efforts was also expanded to include the 12-inch wafer fab at STSP (Fab 12A, Ammonia Wastewater Source Reduction Project Phase 2 was completed in 2015. HSP and STSP plants achieved reductions of 38% and 20% respectively when compared to levels used in 2012.

Assess and Construct Ammonia Wastewater Treatment Facilities.

Since discharged wastewater from Fab 12A has a higher ammonia concentration in addition to promoting ammonia source reduction in 2014, assessment and construction plans for an ammonia wastewater treatment facility were completed. When operation began in 2015, the fab met the Science Park Administration Sewage Management standards for discharged wastewater.

Project Benefits

Environmental Benefit

<table>
<thead>
<tr>
<th>Year</th>
<th>Cumulative Gain as of June</th>
<th>Raw Material</th>
<th>Wastewater Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>NTS 40 million/year</td>
<td>NTS 180 million/year</td>
<td></td>
</tr>
</tbody>
</table>

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Ammonia Concentration in Discharged Water

<table>
<thead>
<tr>
<th>Year</th>
<th>STSP</th>
<th>HSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>50.5</td>
<td>52.0</td>
</tr>
<tr>
<td>2012</td>
<td>51.0</td>
<td>52.0</td>
</tr>
<tr>
<td>2013</td>
<td>52.0</td>
<td>52.0</td>
</tr>
<tr>
<td>2014</td>
<td>54.0</td>
<td>54.0</td>
</tr>
<tr>
<td>2015</td>
<td>55.0</td>
<td>55.0</td>
</tr>
</tbody>
</table>

---

Sewage Treatment

Reducing process source is the first priority in UMC's water pollution prevention strategy, followed by waste liquid diversion, then categorization. The new fab areas have up to 27 categories of wastewater diversion. Wastewater is recovered or incinerated according to high or low flash points while inorganic acids are reused.

For multiple re-use, wastewater is categorized according to characteristics to maximize water resource efficiency and simplify wastewater composition. Finally, wastewater is treated in the fab’s wastewater treatment facilities according to the control standards of the Science Park Administration before being discharged into the science park sewage systems.

<table>
<thead>
<tr>
<th>Year</th>
<th>STSP</th>
<th>UMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>88.3</td>
<td>82.3</td>
</tr>
<tr>
<td>2012</td>
<td>87.9</td>
<td>82.3</td>
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<td>2013</td>
<td>92.1</td>
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<tr>
<td>2014</td>
<td>92.1</td>
<td>82.3</td>
</tr>
<tr>
<td>2015</td>
<td>92.1</td>
<td>82.3</td>
</tr>
</tbody>
</table>

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Note: In 2013, the fabs in Southern Taiwan Science Park did not execute the Stage 1 reduction.
3-4 Green Product

As a global citizen, UMC must assume its duty and join with suppliers and customers to pursue green products. With today’s rising environmental consciousness, the company is professionally committed to providing customers and consumers with more advanced, energy efficient and environmentally friendly products, and strives to reduce resource consumption and unnecessary pollution in its production. As an intermediate producer and trusted partner, and given customer demand for more advanced designs and widespread daily applications in changing products such as computers, communications and consumer electronics and industries, UMC fulfills its contribution and commitment to progress through its products. While pursuing profit and development, UMC also expects to become the nation’s green model for sustainable business and a blessing to the people.

To ensure compliance with international environmental regulations such as the EU Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directives (EU RoHS), and meet customer demand for hazardous substance control, UMC has led the industry in implementing third-party verification of hazardous substance management and regular impartial third-party product testing for harmful content to prove product safety and non-toxicity. In addition, to further fulfill its green product responsibility, UMC has also completed carbon footprint and water footprint verifications to reduce the environmental impact of manufacturing.

UMC Green Product Considerations / Implementation

- Developed water products with lower carbon emissions and energy consumption.
- Installed a variety of effective pollution control equipment in production bases.
- Implemented green procurement.
- Implemented in water raw materials and products.
- Promoted clean production.
- Promoted recycling.
- Promoted recycling.
- Promoted recycling.

Environmental impact of use and maintenance

- Environmental impact of products
- Environmental impact of raw materials
- Environmental impact of parts procurement
- Recyclable design for dismantling assembled products / components
- Reduction of hazardous substances
- Weight reduction
- Use of recycled components

Hazardous Substance Free Policy

By installing employee awareness and ensuring control and technological upgrades in design and production, the company produces Hazardous Substances Free Products that meet regulations and customer demands, thereby fulfilling its duty as a global citizen to protect the environment and human health and safety.

Hazardous Substance Free Goals

No products were disposed of as a result of regulation violation or customer demand.

| 1 | Zero VOC and zero violation. |

3-4-1 Hazardous Substance Management

Through the QC 080000 Hazardous Substance Management System, UMC ensures that its products not only comply with the list of controlled substances (such as the EU RoHS) and global chemical regulations and standards, but also meet customer needs. Several years ago, UMC established the inter-departmental Hazardous Substances Process Management committee (HSPM Committee) to enhance the effectiveness of green product management.

Hazardous Substance Free Goals

- Able to comply with the requirements
- Able to comply with the requirements
- Able to comply with the requirements
- Able to comply with the requirements
- Able to comply with the requirements

UMC Response to Global Standards and Trends on Hazardous Substance Management

- EU Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Directives (EU RoHS)
- US Regulations on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
- EU Waste of Electrical and Electronic Equipment (WEEE)
- Hazardous Substances Process Management Committee Organizational Chart

<table>
<thead>
<tr>
<th>Management Representative</th>
<th>Executive Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various Related Departments</td>
<td></td>
</tr>
</tbody>
</table>

3-4-2 Life Cycle Assessment (LCA)

Since 2005, UMC has fully implemented LCA in all its fabs. Comprehensive cradle-to-gate (UCAE) shipment inventoried items include energy, raw materials and environmental pollutant emissions. Using the Simapro software, results of the entire supply chain and manufacturing inventory are analyzed for environmental impact. Attention is kept on the environmental impact of the company’s products, and improvements in management of the environmental management system are made accordingly.

Diagram of Semiconductor Product Lifecycle Concept
3-4-3 Carbon Footprint

As an upstream industry, providing customers with quality environmentally friendly products that comply with environmental protection regulations has always been one of the most important UMC operational philosophies. UMC strives to implement a comprehensive carbon management plan. In addition to its internal greenhouse gas emissions inventory and verification, the company also promotes the carbon footprint inventory program.

History for Promoting Carbon Footprint Management

2009 - In 2009, delivered the world’s first certified carbon footprint water product; completed Type II Product Environmental Labels and Declarations verification.

2011-2014 - UMC participated in the EU Seventh Framework Programme (FP7) from 2011 to 2014 and worked with both private industries and academia to research and develop approaches and tools for a Simplified Life Cycle Assessment (SLCA) system, allowing our clients to quickly and conveniently predict product carbon footprints.

2015 - In 2015, the carbon footprint was promoted according to the UMC LCA-to-go Project implementation content.

3-4-4 Water Footprint

UMC recognized the importance of water as a natural resource very early on. Water resources are particularly important in Taiwan due to its mountainous topography, heavy rainfall along the mountain slopes, dense population, and extensive industrial and commercial developments. UMC complies with the Business Water Footprint Accounting standards developed by Water Footprint Network, an international NGO. In 2010, we completed business water footprint verification for our 8-inch and 12-inch water fabs and identified that water usage during direct processing was greater than that of the indirect supply chain. Blue water and gray water were the main sources of water used. In 2015, UMC began working with our suppliers to complete ISO 14046: Water Footprint Assessments of various products manufactured by UMC plants.

Assessment Outcomes of 2015

- Water usage / wastewater generation of UMC was 90% supplied by producers and 10% from suppliers.

Future Directives

01 - Continue to improve water usage efficiency (WUE) within the plant, and reduce both water usage / wastewater generation to directly reduce water footprint of our products.

02 - Work with suppliers to improve overall WUE of the entire supply chain to achieve joint water conservation and protect our planet.

3-5 Green Concepts

UMC Global Green Day was held on April 20, 2015. Every business location of UMC celebrated the event by initiating green activities as well as an Environmental Protection Month that was filled with educational activities.

UMC Fab 12A’s tree planting event was a key activity of this celebration. Concepts of greenhouse gas (GHG) reduction and carbon neutrality were promoted. Peripherial activities included preparations before the event, the event itself, and post-event processing. The trees provided a biological component for supporting various GHG emission controls implemented by UMC while allowing UMC to transfer its carbon credits and achieve carbon neutrality.

Strategies for Reducing Carbon Emissions in this Event

- Make maximum use of natural lighting in order to reduce energy consumption from artificial illumination.
- Promote carpooling or use of public transportation systems for guests wishing to attend this event.
- Prepare meals using seasonal and local produce to reduce carbon emissions from production, packaging, and transportation of food.
- Reduce the use of decor and other setup props. Use existing plants grown in the company to decorate event venues.
- Promotional materials and letters of invitation were delivered digitally.

Contents and Results of Various Activities

Primary Earth Day Event - Tree Planting and A nnouncement of Green 2020 goals.

Eco-tours

- The theme of the course is to encourage employees to Grow Your Own Wholesome Vegetables, teaching fellow employees to plant small potted plants to support ecological and environmental conservation.

- The Station was established in support of the resource recycling activity implemented by the Hsin Chu County Environmental Protection Bureau and encouraged fellow employees to recycle domestic trash, prevent environmental pollution, and achieve direct and substantial benefits to environment protection. A total of 275 kg of used batteries and used CDs were collected. Prizes obtained in the event were donated to the UMC Science and Culture Foundation.

Various Activities and Their Respective Outcomes in Overseas Affiliated Companies and Branches

- UMS Singapore 12i Plant - Earth Day Beach Cleaning Activity
- UMS Japan Office - Earth Day Global Protection Pledge Event
- UMS China Facility - Earth Day tree planting activity
- UMS US Office - Earth Day tree planting activity
4 Sustainable Development - Society

4-1 Labor Rights

4-2 Recruitment and Cultivation

4-3 Health and Safety Workplace

4-4 Community Service

93.1% overall satisfaction with the courses.

In 2015, a total of 9,725 courses were held that were attended by a total of 281,732 individuals. Overall satisfaction for these training courses was 93.1%, while satisfaction for the lecturer and teaching materials attained 93.2% and 93.0% respectively.

100% Holistic Health Management Program.

Created a safe working environment, and protected health and work-life balance of employees.

0 labor dispute

Actively promoted harmonious labor relations to reduce the likelihood of labor conflict. In 2015, there was no case of labor dispute.

100% communication meetings were completed

By the end of 2015, a total of 120 sessions of company-wide forums (4 sessions), fab communication meetings (71 sessions), secretary forums (8 sessions), labor-management conferences (33 sessions), and Benefits Committee Meetings (4 sessions) were conducted.

89.3% of the employees identified with cohesion.

In 2015, up to 89.3% identified with a sense of cohesion.

93% satisfaction with health promotion activities.

On the average, 93% satisfaction with health promotion activities such as health seminars, relaxation series and health check activities.

On the average, 93% satisfaction with health promotion activities such as health seminars, relaxation series and health check activities.
4-1 Labor Rights

4-1-1 Human Rights

UMC Supports and Respects International Labor and Human Rights Regulations

EICC Committee

To ensure a safe working environment and the basic labor rights of supply chain enterprises in the global electronics industry, UMC established the EICC Committee in 2013 to address issues pertaining to labor, health and safety, environment, ethics and management systems. The EICC Committee defines the tasks, authority and responsibilities of its members, develops relevant policies and performance goals, follows up on implementation, and conducts regular assessments and reviews.

UMC EICC Management System

EICC Committee Tasks

- Promote EICC labor, business ethics and management system.
- Develop and approve policies and performance goals for labor, business ethics and management system.
- Ensure that labor, business ethics and management systems comply with local EICC regulations.
- Discuss and approve priorities for EICC labor, business ethics and management system implementation plans.
- Track and assist in implementation of EICC labor, business ethics and management system plans.
- Regularly assess and review EICC labor, business ethics and management system committee reports.

Note: 1. EICC labor and ethics Threat Risk Index: The higher the index, the greater the risk.
UMC places great emphasis on promoting EICC labor and business ethics policies. Through the company employee handbook and regular employee compliance inspections, the core content of labor, ethics and integrity, child labor, labor relations, forced labor, working hours and non-discrimination principles are emphasized. To protect labor rights and ensure that each employee receives fair treatment and respect, the "Complaints and Disciplinary Measures for Workplace Sexual Harassment Prevention" is compiled to provide a complaint channel and safeguard the rights and interests of women employees. In 2015, 100% of employees received a total of 8,463 hours of training in human rights.

UMC processes major job changes according to relevant provisions in Taiwan's Labor Standards Act, Singapore's Employment Act and China's Labor Contract Act. According to Taiwan's Labor Standards Law, to terminate a labor contract, an employer must provide advance notice: (1) 10 days' notice for employees who had worked continuously for more than three months but less than one year; (2) 20 days' notice for employees who had worked continuously for 1-3 years; and (3) 30 days' notice for employees who had worked continuously for 3 or more years.

In 2015, there was no case of human rights issues with UMC's operations, which are subject to required review by the local government.

### Human Rights Promotion

**Human Rights**
- Prohibition of forced labor and child labor, guaranteed working hours, wages and benefits, protection of human rights, non-discrimination and freedom to form associations.

**Ethics and Integrity**
- Honest operation, no improper gains, open information, intellectual property rights, fair trade, advertising, competition, anonymity, no conflict minerals, confidentiality, and no retaliation.

**Child Labor**
- UMC policy explicitly declares that children under the age of 16 may not be hired, and any act that may involve child labor is prohibited.

**Labor Relations**
- Each UMC employee labor contract with the company is in accordance with local regulations.

**Forced Labor**
- The employer-employee contract is signed according to labor laws. The contract is based on the premise that the employer-employee relationship is mutually consensual, with no forced labor or illegal human trafficking, and opposition to slavery.

**Work Hours**
- All overtime is voluntary, and the company stipulates overtime. The attendance system is set up for initiating reminders, and regular reviews and monitoring are also conducted. In addition, the company attends labor committee meetings at various factories to educate supervisors and employees.

**Non-discrimination**
- UMC prohibits any overt or covert act of workplace sexual harassment and discrimination. Hiring, evaluation and promotion will not be based on race, gender, age, marital status, political affiliation or religious beliefs, and the same principles apply to cooperation with vendors.

### Important UMC Communication and Complaint Channel

#### Top-down Communication
- **Chief Executive**
- **Company-wide Forums**
- **iUMC Two-way Communication**
- **Human Resource Director Mailbox**
- **HR and PT Supervisor Meeting**
- **Secretarial Forum**

#### Parallel Communication
- **UMC Employee Website**
- **UMC Two-way Communication**
- **Chief Executive Feedback**
- **Notes BBS**
- **Telephone/Email Feedback**

### 4-1-2 Employer-employee Communication

**Channels of Communication**

Employee compensation and welfare have always been a top priority of UMC. UMC takes an active role in the training of skilled professionals, fulfilling labor laws, protecting the rights and interests of UMC employees, and building a transparent and enjoyable work environment. Communication channels such as employer-employee meetings, departmental meetings, conferences (management conferences and colleague conferences) as well as mail boxes were employed to achieve the goals of providing extensive communication channels to effectively solve any problem that may arise. The employees' rights to the freedom of association shall be based upon those prescribed by local laws. UMC respects the right of employees to choose whether or not to exercise rights without intervention or interference. He Jan Technology Company (HTC) also established a comprehensive and diverse selection of communication channels in order to respond immediately, properly and positively to employee requests.

### UMC Emphasis on Core Labor Rights

<table>
<thead>
<tr>
<th>Human Rights</th>
<th>Ethics and Integrity</th>
<th>Child Labor</th>
<th>Labor Relations</th>
<th>Forced Labor</th>
<th>Work Hours</th>
<th>Non-discrimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prohibition of forced labor and child labor, guaranteed working hours, wages and benefits, protection of human rights, non-discrimination and freedom to form associations.</td>
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</tr>
</tbody>
</table>

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In 2015, there was no case of human rights issues with UMC’s operations, which are subject to required review by the local government.
4.2 Recruitment and Cultivation

4.2-1 Human Resource

Human Resource Distribution

By the end of 2015, the total number of formal employees in UMC and the China subsidiary HUTC (BN) was 10,928, including 6,959 supervisors, 8,434 engineers, 485 managers, 6,305 technicians, and 7 administrators. The working population within UMC can be divided into 2 categories by type of employment, namely formal employees (98.30%) and non-formal employees (1.70%). Formal employee can be further subdivided according to the type of their contracts, namely non-regular contracts (98.12%) and periodic contracts (about 1.88%) (NOTE: periodic contracts refer to labor contracts for foreign technicians). Non-formal employees include contract personnel and dispatched personnel delegated by external vendors to provide services in UMC. Non-formal positions were offered to temporarily stand in for employees taking maternity/paternity leave. These positions will be kept open for the said employees when they return to UMC. For work area distribution, almost 80% of employees work in the primary business location in Taiwan. For age distribution, 79.20% of total employee population in UMC were between 21 and 40 years of age.

By the end of 2015, UMC's headquarters in Taiwan had a total of 64 aboriginal employees. In terms of gender, 21.87% are males and 78.13% are females. In terms of age, 48.43% are between 20-30 years old, 40.63% are 31-40 years old, and 10.94% are 41-50 years old.

4.2-2 Communication and Appeals

Employee Satisfaction Survey

Satisfaction surveys employed by UMC can be largely divided into regular surveys, project-focused surveys, or targeted surveys designed for specific issues. The current satisfaction survey system employed by UMC is relatively diverse and targets different goals and objectives. Specialized satisfaction survey systems were employed to ensure that authentic responses from the employees could be collected to initiate effective improvements.

Category of Satisfaction Surveys

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>2014 Overall Average Score</th>
<th>2015 Overall Average Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>HR satisfaction surveys (once every year), health check-up satisfaction survey</td>
<td>84.68</td>
<td>85.59</td>
</tr>
<tr>
<td>Project-Focused</td>
<td>Team cohesion project satisfaction survey, communication (and communication platform) satisfaction survey, and organizational climate surveys designed and implemented for targeted organizational goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Events</td>
<td>Event / topic-based surveys: Family Day, Parent-Child Day, and Art Season satisfaction surveys, training and development satisfaction surveys, and plant site affairs satisfaction surveys designed for various administrative and supporting services.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Collection and response to various survey feedback will help management identify areas that require improvements in order to effectively resolve employee problems. HR satisfaction surveys were also used in project investigations that covers the aspect of employee hiring, remuneration and welfare, employee relations, plant site services and safety, HR services, training and development, logistics and commercial services. Semi-open questionnaires were used to collect survey responses from the entire employee population. Questionnaire items included quantified assessments as well as open-ended Q&A where employees can provide their own responses. Establishing a diverse selection of communication channels will help UMC to ensure the rights of employees to express their own opinions while ensuring the successful communication of internal feedback and opinions. Employees may also select their preferred mode of communication to express their views and ideas, thereby achieving the ultimate object of communication.

Comprehensive Appeal and Employee Support Systems and Channels

To achieve effective communication and resolution of issues between UMC and its fellow employees, UMC established the aforementioned communication platforms as well as the following channels and systems for employee appeals. Employees are allowed to independently decide whether or not to exercise employee rights prescribed by statutory regulations. UMC does not intervene or interfere with the employees' freedom of association.

In addition to establishing a comprehensive set of communication channels and platforms, UMC shall continue to improve upon the effectiveness of communication channels and carry out projects to enhance communication of key topics and information throughout the company, ensure the comprehensiveness and depth of communications, and strengthen global communication capacities for every employee. A total of 146 formal and large scale conferences were held in 2015 to effectively communicate key topics on UMC businesses. The diverse and comprehensive selection of UMC's communication systems were used to effectively assess the employee's voice and handle employee issues. Although Taiwan's laws stipulated the rights of employees to freely organize themselves into unions, no requests to organize unions have been received by UMC as a result of the aforementioned measures. However, unions have been established in HUTC. Conferences, departmental meetings, and opinion mail boxes were also used as a means to communicate with fellow employees. UMC did not receive any formal charges related to labor affairs in 2015.

Appeal Systems and Channels Provided by UMC Include

<table>
<thead>
<tr>
<th>Appeal channels for employees of every rank and case</th>
<th>Report of sexual harassment and unfair treatment</th>
<th>CHQ@e-mail (link to HR department)</th>
<th>Employee Relations (ER) Service (Hotline 1288)</th>
<th>Employee Relations (ER) Service (Hotline 1288)</th>
<th>Whistleblower Hot Line</th>
<th>E-mail</th>
<th>UMC's website</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31995</td>
<td>34.08%</td>
<td>65.92%</td>
<td>98.30%</td>
<td>0.03%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Appeal Cases Received by UMC in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of appeal cases received</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>84.68</td>
</tr>
<tr>
<td>51.60 years old</td>
</tr>
<tr>
<td>48.43%</td>
</tr>
<tr>
<td>35.60 years old</td>
</tr>
<tr>
<td>41.60%</td>
</tr>
<tr>
<td>48.43%</td>
</tr>
</tbody>
</table>

Principles for Report Compilation

To optimize and expand the advantages of real-time communication, UMC integrated and established the Communication Area—a platform dedicated to employee communication. The site contains the Human Resource Director's mailbox, fraud and sexual harassment complaint, e-Suggestion for feedback, company-wide information forum, BBS message boards, IT information service mailbox, industrial safety mailbox, all kinds of forums, and UMC's website so that the various communication channels in the various operational bases can be integrated into a single platform for effective communication and promoting harmonious employer-employee relations. To protect the human rights of fellow employees, UMC also takes measures to protect the identity of employees who raised complaints or were affected by various issues to ensure the freedom and confidentiality of employees who submitted petitions. Among the various communication channels, the e-Suggestion feedback platform is most frequently used, and in 2015, 388 employee comments were received with 100% of the feedback responded to and closed.

Formal Employee - Age and Gender

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30 years old</td>
<td>85.71%</td>
</tr>
<tr>
<td>31-40 years old</td>
<td>14.29%</td>
</tr>
</tbody>
</table>

Formal Employee - Employment Category

<table>
<thead>
<tr>
<th>Employment Category</th>
<th>Formal</th>
<th>Non-formal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Employees</td>
<td>98.30%</td>
<td>1.70%</td>
</tr>
</tbody>
</table>

Formal Employee - Work Area and Gender

<table>
<thead>
<tr>
<th>Work Area</th>
<th>Formal</th>
<th>Non-formal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>57.14%</td>
<td>42.86%</td>
</tr>
<tr>
<td>Administration</td>
<td>10.94%</td>
<td>89.06%</td>
</tr>
</tbody>
</table>

Formal Employee - Job Category and Gender

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Formal</th>
<th>Non-formal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineer</td>
<td>69.83%</td>
<td>30.17%</td>
</tr>
<tr>
<td>Supervisor</td>
<td>10.01%</td>
<td>89.99%</td>
</tr>
<tr>
<td>Technician</td>
<td>37.25%</td>
<td>62.75%</td>
</tr>
<tr>
<td>Administrator</td>
<td>0.04%</td>
<td>99.96%</td>
</tr>
</tbody>
</table>

Formal Employee - Aborigines and Gender

<table>
<thead>
<tr>
<th>Aborigines/Non-Aborigines</th>
<th>Formal</th>
<th>Non-formal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Aborigines</td>
<td>60.63%</td>
<td>39.37%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Formal</th>
<th>Non-formal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>77.74%</td>
<td>22.26%</td>
</tr>
<tr>
<td>Female</td>
<td>10.44%</td>
<td>89.56%</td>
</tr>
</tbody>
</table>

Formal Employee - Age and Gender

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-20 years old</td>
<td>0.03%</td>
</tr>
<tr>
<td>21-30 years old</td>
<td>98.78%</td>
</tr>
<tr>
<td>31-40 years old</td>
<td>0.78%</td>
</tr>
<tr>
<td>41-50 years old</td>
<td>0.50%</td>
</tr>
<tr>
<td>Above 50 years old</td>
<td>0.77%</td>
</tr>
</tbody>
</table>

Formal Employee - Employment Category

<table>
<thead>
<tr>
<th>Employment Category</th>
<th>Formal</th>
<th>Non-formal</th>
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Formal Employee - Job Category and Gender

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<td>37.25%</td>
<td>62.75%</td>
</tr>
<tr>
<td>Administrator</td>
<td>0.04%</td>
<td>99.96%</td>
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Formal Employee - Aborigines and Gender

<table>
<thead>
<tr>
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<th>Non-formal</th>
</tr>
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<tbody>
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<td>Non-Aborigines</td>
<td>60.63%</td>
<td>39.37%</td>
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<td>41-50 years old</td>
<td>0.50%</td>
</tr>
<tr>
<td>Above 50 years old</td>
<td>0.77%</td>
</tr>
</tbody>
</table>
In 2015, the company hired a total of 3,815 new employees. The gender, region, and age distributions are as shown below:

**New Employees**
- **New Full-time Employees—Gender**
  - 2015: Male 53.26%, Female 46.74%
  - 2014: Male 51.57%, Female 48.43%
  - 2013: Male 58.46%, Female 41.54%
  - 2012: Male 66.59%, Female 33.41%

**Employment of People with Disabilities**
- The UMC headquarters in Taiwan supports the employment of people with disabilities, and has established channels for hiring people with disabilities. Through the Student Ambassador Project, people with disabilities such as physical handicap, visual impairment, hearing impairment, functional loss in vital organs and chromosomal abnormalities are hired. By the end of 2015, UMC headquarters in Taiwan employed a total of 129 employees with disabilities. In terms of Taiwan’s hiring laws, the company continues to actively evaluate its internal job expansion and strives toward hiring people with disabilities.

**Employee Turnover Rate**
- In 2013, the HJTC semiconductor wafer fab in China was added as a subsidiary of UMC. In 2012-2015, the UMC employee turnover rate was 12.7% due to the higher turnover rate of direct labor in China (including the 16.3% turnover rate in the semiconductor wafer fab in China). When UMC applies for resignation, they are individually interviewed by their director and Human Resource Department to understand their reason(s) for resignation. In addition, through assessment of their individual expertise and offers of adjustment in work content, workplace location or internal transfer, attempted are made to retain employees. The UMC Human Resource Department also keeps regular contact with resigned employees, and opportunities are provided for those who wish to return to their employment.

**Local Employment**
To fulfill social responsibility and create sufficient jobs for local residents, the staff at the UMC headquarters in Taiwan comprised of 97.3% local employees as of 2015, and among these, 98.6% of the high level management is locally hired. Since Singapore is ethnically diverse, 21.53% of the employees are hired locally, and 33.3% of the high level management are locally hired, while in the semiconductor wafer fab in China, 98.6% of the staff are local.

**Full-time Employees—Country**
- 2015: Male 97.0%, Female 3.0%

**Full-time Employees—Age**
- 2015: 20-29 years old 43.58%, 30-39 years old 47.40%, 40-49 years old 61.10%

**Proportion of Locally Hired High Level Managers in 2012-2015**
- 2015: 99.3%

**Employee Turnover Rate**
- 2012: 11.8%, 2013: 12.9%, 2014: 15.0%, 2015: 11.1%

**Full-time Employee Resignation—Gender**
- 2015: Male 61.10%, Female 38.90%

**Full-time Employees—Region**
- 2015: Male 57.94%, Female 42.06%

**Local Full-time Employees—Country**
- 2015: Taiwan 98.60%

**Local Full-time Employees—Gender**
- 2015: Male 73.71%

**Local Full-time Employees—Age**
- 2015: 20-29 years old 68.71%

**New Full-time Employees—Gender**
- 2015: Male 53.26%

**New Full-time Employees—Age**
- 2015: Male 4.82%

**New Full-time Employees—Region**
- 2015: Taiwan 12.16%

**New Full-time Employees—Country**
- 2015: Taiwan 3.04%

**New Full-time Employees—Gender**
- 2015: Male 53.26%

**Note:** High level directors are defined as Level 1 directors (including deputy directors) and above.
Full-time Employee Resignation—Region

<table>
<thead>
<tr>
<th>Year</th>
<th>Taiwan</th>
<th>Singapore</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>12.4%</td>
<td>20.3%</td>
<td>15.2%</td>
</tr>
<tr>
<td>2013</td>
<td>11.8%</td>
<td>17.6%</td>
<td>16.3%</td>
</tr>
<tr>
<td>2014</td>
<td>12.6%</td>
<td>19.2%</td>
<td>16.3%</td>
</tr>
<tr>
<td>2015</td>
<td>11.7%</td>
<td>21.5%</td>
<td>16.3%</td>
</tr>
</tbody>
</table>

Full-time Employee Resignation—Age

<table>
<thead>
<tr>
<th>Year</th>
<th>17-20 years old</th>
<th>21-30 years old</th>
<th>31-40 years old</th>
<th>41-50 years old</th>
<th>51-60 years old</th>
<th>60+ years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>5.3%</td>
<td>27.6%</td>
<td>26.6%</td>
<td>27.5%</td>
<td>18.4%</td>
<td>19.9%</td>
</tr>
<tr>
<td>2013</td>
<td>5.1%</td>
<td>25.8%</td>
<td>30.7%</td>
<td>26.8%</td>
<td>21.1%</td>
<td>19.5%</td>
</tr>
<tr>
<td>2014</td>
<td>4.7%</td>
<td>28.7%</td>
<td>24.3%</td>
<td>27.7%</td>
<td>21.5%</td>
<td>20.3%</td>
</tr>
<tr>
<td>2015</td>
<td>5.0%</td>
<td>27.3%</td>
<td>26.7%</td>
<td>27.5%</td>
<td>21.4%</td>
<td>19.8%</td>
</tr>
</tbody>
</table>

4-2-2 Wages and Benefits

UMC has always regarded its employees as an important asset, and hopes that by providing a competitive overall wage and benefit package, excellent talents will be attracted to join the UMC team and work together to achieve operational goals and contribute to UMC profits.

Performance-based Wage System

To fulfill company operational plans, department and individual goals, and determine employee work performance for promotion, employee training development and payroll, the company conducts an annual company-wide evaluation (regardless of gender). The focus of the evaluation includes past and future work review and goals, and work attitude and competency improvements. Based on evaluation of current job responsibility, capability and values required for future career plans, employees and their directors share the commitment to prioritize key developments and jointly formulate development plans. Employees who performed poorly are guided through key improvement plans to enhance their effectiveness.

Performance Management Cycle

- Evaluate individual annual performance at year’s end
- Plan individual performance and development goals for the new year
- Communicate with employees
- Plan company operational strategies and projects for the next year
- Provide feedback, guidance and evaluation
- Employees review personal goal achievements, and seek feedback and guidance
- Evaluate personal performance for first half of the year

UMC employee pay is based on educational level, performance and market prices, and not on gender, race, religion, political affiliation, marital status or differential treatment. In addition to paying higher than minimum wage stipulated by the Labor Standards Act, the company actively surveys the salary of well-known business management companies worldwide to ensure that it provides an overall remuneration that is competitive in the market. In addition, based on individual performance, responsibilities and development potential, salaries are adjusted, and differential reward employee compensation. MDC stocks are awarded (employee stock options and treasury shares) to attract, retain and encourage outstanding employees.

Basic Salary and Remuneration for Male and Female Employees

<table>
<thead>
<tr>
<th>Region</th>
<th>Basic Salary</th>
<th>Reimbursement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiwan</td>
<td>1.02</td>
<td>0.91</td>
</tr>
<tr>
<td>Singapore</td>
<td>1.01</td>
<td>0.91</td>
</tr>
</tbody>
</table>

Note: The average salary and remuneration for high-level directors and specialists are based on the standard for engineers.

Leave Policy is Superior to the Labor Standards Acts

UMC offers a comprehensive and superior leave policy.

1. UMC offers 2-day’s worth of special welfare leaves for newly hired employees in the same year when they report to the company. Statistics revealed that 100% special welfare leave utilization for engineers that were newly hired in the previous year. UMC employs flexible leave policies and regularly reminds employees to use their leave to achieve a better work-life balance. Special leave issued for contract employees is based upon the requirements of the Labor Standards Act. UMC encourages fellow employees to actively contribute towards public charity, and has established the UMC Science and Culture Foundation. Employees can make use of volunteer leave and participate in the company’s charity activities during working hours. In 2015, at least 279 employees participated in volunteer activities during working hours.

2. According to law, maternity leave will be provided at half-pay. If the employee’s period of service is less than 6 months. To provide better care to newly hired female employees, UMC instead gives full-pay for the said employees.

3. To provide support to fellow staff, UMC offers funeral leave leave that is superior to that prescribed by the Labor Standards Act. Colleagues whose great grandparents, great grandparents-in-law, or grandparents-in-law have passed away shall be given a funeral leave of 24 hours at full-pay.

4. Overseas semiconductor foundry plants, such as the China subsidiary UMC, are also provided with paid annual leave that are superior to those prescribed in the local Regulations of Paid Annual Leave of Employees. UMC Singapore provides newly hired employees with 14 days of leave in their first year which is better welfare compared to the minimum length of 7 days prescribed by the Singaporean government. Contract or temporary staff who have worked in UMC for 3 months shall also be entitled to these types of leave by the proportion of their length of services.

Comprehensive Insurance and Retirement Policy

UMC provides insurance coverage that is consistent with local laws and regulations to ensure the basic rights and interests of employees. In accordance with the law, the company headquarters in Taiwan also provides labor insurance (including Employment Insurance) and national health insurance. In addition, UMC provides employees with additional group insurance, including life insurance, major illness, major illness insurance, health insurance, accident insurance, long-term care insurance, and travel insurance for overseas business trips to ensure the work and life safety for its employees. The company also provides a selection of group insurance for employee families so that employees can work with peace of mind.

Over 50% of fellow employees chose to include their spouse and family members into UMC’s group insurance to provide their family with an additional layer of protection. UMC also provides an insurance company service office inside the company, allowing colleagues to make inquiries on insurance services and apply for claims. Furthermore, the company regularly posts e-newsletters on insurance benefits, and introduces information on insurance and compensation rights so that employees are clearly aware of their actual insurance content and benefits.

Retirement Benefits Plan

UMC complies with local statutory regulations and systems related to retirement to safeguard the retirement rights of our employees. For Taiwan, the Labor Standards Act was used as the basis to stipulate regulations for the calculations and payment rules of retirement pensions. The Labor Pension Act entered into force on July 1, 2005, and the Act is used as the standard for the provision of the Retirement Benefits Plan. Employees may select pension regulations prescribed by the Labor Standards Act or pension systems applicable to the said Act and retain their work tenures before the said regulations apply to them. For the provision of post-retirement welfare and expenses, please refer to previous annual reports released by UMC. When employees apply for retirement, the company not only provides pension application service, but also awards a medal to show appreciation for their long term effort and contribution. In addition, they are also awarded “UMC Lifetime Membership” which offers a selection of healthful and interesting activities for retirement living.
Parenting Leave

In 2015, a total of 463 female employees applied for maternity leave. Of these, 96.11% returned to their original positions after their leave while those who did not return voluntarily resigned to take care of family needs. In addition, 560 male employees applied for paternity leave in accordance to the Act of Gender Equality in Employment, and of these, 99.82% returned to their original positions after their leave.

According to the Act of Gender Equality in Employment, employees may apply for parenting leave without pay. When their contract expired in 2015, a total of 129 female employees returned to their positions, indicating a return rate of 75.44% after parental leave. Thirteen male employees returned to their positions, indicating a return rate of 65.00% after parental leave. The work situation of those who returned after parenting leave was observed, while those who did not return after their unpaid parenting leave expired had continuing family needs that required them to voluntarily resign. From 2014-2015, 89.28% of female employees and 100% of male employees that took unpaid parental leave returned to work.

<table>
<thead>
<tr>
<th>Category</th>
<th>2015 Return Rate after Maternity/Paternity Leave</th>
<th>2015 Application Rate for Parenting Leave</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore C &amp; P</td>
<td>99.82%</td>
<td>96.11%</td>
</tr>
<tr>
<td>China</td>
<td>94.11%</td>
<td>98.14%</td>
</tr>
<tr>
<td>Total</td>
<td>90.00%</td>
<td>7.35%</td>
</tr>
<tr>
<td>proportion of employee contribution to parent leave</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

4-2-3 Education and Training

UMC Comprehensive Learning Environment

In UMC, education and training is not limited to classroom instruction or promotion of training courses. Through the integration and use of company resources, employees are provided with a full learning environment.

In terms of professional training, complete technical training curriculum is offered. For managerial training, different training programs are designed for different levels of directors. For language, language proficiency tests and courses are offered according to job descriptions and positions. In terms of departmental and inter-departmental On-the-Job Training (OJT), the Education and Training Committee's downward education and training orientation allows department directors and their employees to fully participate in the planning, implementation and learning assessment. Moreover, the diversity of self-learning and development channels, such as e-Learning, creates an atmosphere of mutual peer learning, development and team cooperation, thereby forming a comprehensive environment for learning, sharing and innovation.

In 2015, UMC organized up to 9,725 training courses, with a total number of 540,148 training (person) hours and 281,732 participants. The total cost of training was NT$46,274,587, and satisfaction level with the various courses was more than 90%, gradually increasing with each year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Number of Participants</th>
<th>Total Training Cost (NT$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>281,732</td>
<td>46,274,587</td>
</tr>
<tr>
<td>2014</td>
<td>279,326</td>
<td>42,774,587</td>
</tr>
<tr>
<td>2013</td>
<td>277,925</td>
<td>42,500,576</td>
</tr>
</tbody>
</table>

In terms of average education and training hours for the various job levels, comprehensive education and training and are provided for different categories of job responsibilities and levels of employees.

<table>
<thead>
<tr>
<th>Category</th>
<th>Average Training Hours for Various Job Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive</td>
<td>42.48</td>
</tr>
<tr>
<td>Manager</td>
<td>37.0</td>
</tr>
<tr>
<td>Specialist</td>
<td>34.8</td>
</tr>
<tr>
<td>Staff</td>
<td>31.9</td>
</tr>
<tr>
<td>Professional</td>
<td>31.1</td>
</tr>
<tr>
<td>Academic</td>
<td>28.1</td>
</tr>
<tr>
<td>General</td>
<td>25.1</td>
</tr>
<tr>
<td>Administrative</td>
<td>22.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Training Time (Hours)</th>
<th>Number of Participants (Persons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>2847</td>
<td>7,669</td>
</tr>
<tr>
<td>2014</td>
<td>2734</td>
<td>7,469</td>
</tr>
<tr>
<td>2013</td>
<td>2734</td>
<td>7,469</td>
</tr>
</tbody>
</table>

For gender issues, UMC upholds the principles of gender equality and offers equal training opportunities with the purpose of providing professional training for each job grade and function. Most direct employees are women so their training would be largely focused upon technical courses such as machine operation. Hence, average training hours for female employees in UMC are slightly shorter than that of male employees.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Gender Equality Training Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>277,242.7</td>
</tr>
<tr>
<td>2014</td>
<td>268,885.6</td>
</tr>
<tr>
<td>2013</td>
<td>264,573.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Female Employees</th>
<th>Male Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>33,019</td>
<td>33,019</td>
</tr>
<tr>
<td>2014</td>
<td>27,755</td>
<td>27,755</td>
</tr>
<tr>
<td>2013</td>
<td>22,23</td>
<td>22,23</td>
</tr>
</tbody>
</table>

Other types of courses for continuing personnel cultivation and training are based on company guidelines and operational plans.
To help newly hired employees quickly settle into UMC's environment, gain familiarity in corporate policy and regulations, and shorten learning time, senior personnel or supervisors are appointed as employee mentors when newly hired staff report to their posts. Training is given directly at the job posting to achieve effective on-the-job training (OJT). These instructions also cover routine activities and various specialized fields. A Newly Hired Staff Instructor System was established throughout the entire company. This system includes a training schedule, discussion forms with various supervisors, and feedback surveys. Instructors must complete all instruction procedures within 3 months after newly hired employees report to their post.

Introduction for Newly Hired Staff

UMC is a world-class corporation, and in line with international trends, has established a basic and rigorous system for both qualitative and quantitative skills assessment. In terms of strengthening English ability, demand for quality manufacturing, and increasing the professional knowledge of engineers, both internal and external evaluations such as TOEIC English assessment, Technical Skill Inventory, and Statistical Process Control (SPC) are used to effectively evaluate the required core competencies of employees and increase production quality to meet and satisfy various customer needs worldwide. For example, in the 3-6-9 SPC Principle, those who fail assessments are not allowed to operate machinery, and are affected in other matters such as promotion. Due to the increase in number of new employees in 2015, the SPC passing rate in Taiwan is 96.1% while in Singapore, it is 92%.

Technical Training for Engineers

UMC fully realizes that outstanding technicians are the key to enhancing advanced technology and sustaining a company's growth. Therefore, based on the professional needs and competency inventory of the various engineering departments, technical training curriculum are planned, and through a solid system of technical training, the overall professional standard of our engineers and quality of engineering manufacturing are enhanced. In 2012, the company developed the learning passport system to formulate a learning blueprint that is consistent with the developmental needs of the organization, and create a learning platform that is humanized and functional. To effectively track personnel development, the use of this system has been promoted and taught since 2013.

Furthermore, based on the job needs of each employee, a learning map is charted, and through the training system’s monitoring and statistical analysis, the required training course and hours for each employee is determined to create specific and effective training.

Professional Competency Inventory and Learning Planning

UMC is an employee-oriented company, and in line with the company's philosophy, the UMC new employee training program is designed to help newly hired employees quickly develop professional skills, gain in-depth knowledge, and acquire a professional work attitude. In particular, the involvement and support of high level executives, and workplace stress and competiveness are personally taught by senior personnel or supervisors.

Since employees from different countries are employed, training courses have been provided using different languages to help employees quickly settle into the UMC culture and gain familiarity of corporate policy and systems. Additionally, cultural descriptions and festivities are also regularly provided when celebrating traditional Chinese holidays to help foreign employees enjoy local festivities. To improve linguistic skills of foreign employees, routine language courses are offered in UMC, along with regular language skill tests and bonus policies.

Corporate Culture Orientation Program for New Employees

In particular, the involvement and support of high level executives, and workplace stress and competiveness are personally taught by senior personnel or supervisors. To help newly hired employees quickly integrate and shorten learning time, the learning organization particularly emphasizes new employee training to highlight the goals of “Recruit Talent, Cultivate Talent, Retain Talent” in education and training. Each director is committed to enhancing the employment and development of new employees, and through the comprehensive UMC new employee training program supplemented by a mentor system, new employees quickly acquire professional skills and develop an appropriate work attitude. In addition to completing required courses, new employees also participate in the orientation program for new employees. The program integrates the organizational characteristic of team building, namely capability and agility. Classes pertaining to company vision, strategies and competitiveness are personally taught by high level executives, and workplace stress management and positive thinking courses are also provided to help new employees quickly integrate into the corporate culture. In 2015, 22 sessions of the new employee orientation program were conducted, and a total of 1,094 new employees completed training. (The above figures refer to indirect labor in Taiwan, and include full-time and outsourced employees.)

New Employee Orientation Program -- Team Building

Training for Diverse Cultures

Knowledge

Application

Convenient e-Learning Platform

In addition to the various professional skills and management courses, UMC has set up an e-Learning platform to provide employees with a convenient and easy environment for spontaneous learning. Information channels allows for convenient lesson preview and review, and together with effective and diverse in-class learning, the cultivation of knowledge and skills is steady and in-depth, thereby sustaining learning interest and exploration of new knowledge.

Learning Platform

Technical Skill Inventory

UMC is a world-class corporation, and in line with international trends, has established a basic and rigorous system for both qualitative and quantitative skills assessment. In terms of strengthening English ability, demand for quality manufacturing, and increasing the professional knowledge of engineers, both internal and external evaluations such as TOEIC English assessment, Technical Skill Inventory and Statistical Process Control (SPC) are used to effectively evaluate the required core competencies of employees and increase production quality to meet and satisfy various customer needs worldwide. For example, in the 3-6-9 SPC Principle, those who fail assessments are not allowed to operate machinery, and are affected in other matters such as promotion. Due to the increase in number of new employees in 2015, the SPC passing rate in Taiwan is 96.1% while in Singapore, it is 92%.
4-2-4 Cultivating Prospective Talents

To fulfill the ideal of promoting semiconductor research and technical development, and strengthening UMC global competitiveness by providing the corporation with a source of outstanding and quality talents, UMC is committed to maintaining forward-looking collegiate relationships. In 2015, UMC focused on 2 major orientations in its collegiate relationships: (1) Positioning outstanding R&D talents, and (2) in-depth development of talents from technical colleges. In addition, university-industry collaboration and prospective talent programs are two major directions of development.

UMC continued to strengthen business-education partnerships in 2015. In addition to existing programs for semiconductor technologies in key institutions, the Industry-Academia Cooperation / Collaboration Project was also implemented to sponsor full-time instructors for the MS Degree Program and Credit Courses on Nano-Integrated Circuit Engineering offered by National Cheng Kung University (NCKU). Business-education partnerships were also restructured in 2015 to establish the UMC Industry-Academia Program. A series of brand image development activities such as paper discussions, career sharing, practical collaborations, and exhibits of semiconductor products were scheduled, with more than 1,000 individuals participating in paper discussions in 2015. These measures enhanced the academia’s support and recognition of UMC and gave a comprehensive demonstration of a successful business-education partnership.

To improve training of professional talents in universities, the Prospective Talent Program (PTP) was expanded to include more candidates and trainees, achieving a total of 894 members in 2015. Through a series of activities and courses, close interaction is maintained with prospective collegiate talents to promote their identification with UMC. By establishing a close relationship and pre-appointments, the program effectively connects UMC with target talents. At the same time, the PTP also effectively markets the corporate image of UMC and exerts considerable influence on campuses and communities, thereby reserving in advance future R & D personnel for UMC.

UMC Prospective Talent Program methods

**Domestic and Overseas Summer Internship Programs**

In 2015, UMC continued to select outstanding talents for domestic and overseas internships at key UMC fabs. During the internship, the interns are instructed by designated mentors so that through actual practice and participation in current UMC projects, prospective talents may experience workplace or job responsibilities. At the same time, this program effectively allows for closer interaction between prospective collegiate talents and UMC talents, thereby helping them to understand the mutual learning and growth through the close exchanges.

**Collegiate Talent Development Programs**

Exclusively designated for students, this program offers forums, internships and corporate mentoring to help students gain awareness and sensitivity toward the semiconductor industry. In addition, participation in UMC benefit events allows students to visit the fabs and opportunities to advance their understanding of UMC’s global operations, corporate culture and a healthy workplace.

**Collegiate Career Planning Faculty/Instructor Program**

UMC has conducted career planning seminars and career coaching programs in its recent collaboration with key schools. Based on professional insight of future trends and career instructor’s assessment of student characteristics and knowledge, career plans are recommended to help students find suitable career paths. In addition, practical, resume writing advice is offered to help new graduates highlight their highlight their market themselves, and capture the attention of companies and executives.

**Junior Internship Program**

This program offers 1-year internships for students going into their senior year in collaborating colleges. In addition to facilitating the absorption of theoretical knowledge, the program trains students in actual industrial settings, thereby increasing their competitiveness. From 2010 to 2015, 48 internships were accepted.

**Visit by Faculty and Student from Target Departments**

In 2015, about 1,204 faculty and students from target schools visited UMC so that students could gain an early understanding of the semiconductor industry work environment. Interaction and exchanges with employees also allow students to better understand the direction of future learning and employment.

**Equipment Internship Program**

Collaboration with Chung Hua University, Southern Taiwan University of Science and Technology (STUST), National Cheng Kung University (NCKU), National United University (NUU), National Kaohsiung University of Applied Sciences (NKUSA), National Formosa University (NFOU), and National Kaohsiung First University of Science and Technology (NKUST). A total of 15 interns were recruited in 2015.

**NCKU Career Instructor Program**

The NCKU Career Instructor Program was conducted in 2015. A total of 10 career instructors were supported to provide career guidance and support. The program also helped to build positive relationships between NCKU and UMC while supporting external sales as well as recruitment drives.

**Summer Internship Program**

A specific number of internship positions would be offered every summer. A total of 35 interns were recruited in 2015.

**Outstanding Tech Talent Development Program**

Training programs for outstanding technological talents were continued in 2015 with the aim of training first-rate R&D personnel. This program provided scholarships for Master’s degree and PhD degree students. As of 2015, more than NT$ 35 million in scholarships had been offered to various candidates.

**Prospective Talent Program (PTP)**

Early interaction and potential contacts with prospective talents in universities would build mutual connections with the targeted talents. The establishment of the UMC PTP also helped to build positive relationships between NCKU and UMC while supporting external sales as well as recruitment drives.

**Corporate Visits**

Corporate visit opportunities were offered to various institutions. In 2015, about 1,204 individuksam be visited by about 150 students in 2015.

**Government Collaboration**

Sponsored the Nano-Integrated Circuit Course offered by NCKU.

**Research and Development Substitute Service Program**

A total of 135 internship R&D Substitute Service talents were accepted in 2015. Recruitment efforts shall be further expanded in 2016 to recruit 150 Service talents to provide UMC with a stable source of talented and professional personnel.

**National Central University and Chung Yuan Christian University (CYCU)**

Started practical courses on semiconductor production processes which were taken by 146 students in 2015.

**Industry-Academia Cooperation / Collaboration Project**

- Industry-Academia Cooperation / Collaboration Project was conducted with NCKU.
- Government Collaboration: The NCKU Career Instructor Program was continued in 2016 to recruit 162 Servicemen to provide practical experience at key fabs.
- Recruiting efforts shall be further expanded in 2016 to recruit 150 Service talents to provide UMC with a stable source of talented and professional personnel.

**Ambassadors for Disabled Students**

Disabled students were employed as part-time student workers to strengthen talent recruitment and encourage other underprivileged students to work harder. Since the end of 2015, part-time student worker opportunities have been offered to a total of 33 students with disabilities.

**Developing Campus Relations**

UMC pursues extensive relationships with various campuses and arrangements so that future trends and career instructor’s assessment of student characteristics and knowledge, career plans are recommended to help students find suitable career paths. In addition, practical, resume writing advice is offered to help new graduates highlight their market themselves, and capture the attention of companies and executives.

**Disabled students were employed as part-time student workers to strengthen talent recruitment and encourage other underprivileged students to work harder. Since the end of 2015, part-time student worker opportunities have been offered to a total of 33 students with disabilities. Currently, 16 of these students remain employed by UMC.**
4-3 Health and Safety Workplace

Comprehensive Care Program

UMC believes that a healthy staff is an important foundation for corporate success. The comprehensive health care initiative by UMC entered Phase 2 in 2015 and continued upon the spirit of the 2014 program based upon the model of building a quality workplace and common employee identity. UMC shall continue to pursue the three principles of providing a safe work environment, safeguarding employee health, and encouraging work-life balance to ensure the health of all our employees as well as those of their families.

In addition to dedicated efforts in building a quality and engaging workplace, UMC also referenced the latest amendments to the Occupational Safety and Health Act and began actively carrying out investigations related to overtime work. Results of overtime surveys and mental stress surveys were used to assess the physical and mental state of our fellow employees. Discussions were held with the resident physician to arrange healthcare plans. Groups exposed to high overtime risks were provided with health inquiries, instructions, and follow-up checks. The resident physician also offered instructions, health education courses, and physical, mental, and spiritual health seminars to safeguard employee health and prevent health risks stemming from over-exhaustion. In addition to health management systems, UMC is also using automated systems to achieve effective management and prevention of overtime. Overwork limits and warnings established by UMC were more stringent compared to those prescribed by law. When employee overtime hours approach warning limits established by the company, alert systems would be triggered immediately to notify the relevant supervisor as well as the said employee. Relevant human resources and tasks would be arranged to improve work-life balance and prevent over-exhaustion.

Proactive Vacation Management Mechanism

To truly achieve balance between work and life, UMC has implemented a proactive leave management mechanism. In addition to promotional activities to remind employees to arrange for vacations, directors are required to schedule vacation times for their subordinates. Furthermore, the attendance system is set to remind supervisors, directors, and employees are regularly educated during factory meetings. An exclusive incentive package is also offered by the UMC Park Activity Center. Each employee’s labor contract with UMC is in compliance with local regulations, and states that overtime is voluntary. Moreover, company regulations prohibit exceeding overtime limit.

Healthy Workplace: Safeguarding Employee Physical and Mental Health

A total of 18 projects were implemented in 2015, including annual health promotion program and events, theme-based seminars, yearly health examinations, as well as various testing, stress-relief, and inquiry activities. 4 different major themes and focuses are implemented in every quarter, including Fighting Against Muscle Soreness, Love Yourself (maternity protection), Stay Away from the 3 Hights, and Freedom from Exhaustion to ensure comprehensive protection of fellow employees.

Key Results of Health Promotion Activities from 2013 to 2015

<table>
<thead>
<tr>
<th>Number of Individuals Served in Health Promotion Activities</th>
<th>Note 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>18,673</td>
<td>79,092</td>
</tr>
</tbody>
</table>

Total Satisfaction for Health Promotion Activities

<table>
<thead>
<tr>
<th>Satisfaction Rate</th>
<th>Note 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>95%</td>
<td></td>
</tr>
</tbody>
</table>

Establishing Health Mindset, Caring for Employee Dependents

UMC provides annual physical examinations for items that exceed legal stipulations. Its Self-Health Management Program is tailor made for employees. Case managers follow up on health examination results by tracking abnormalities, such as making referral appointments, following up regularly and providing health education, maintaining complete records of employee health indicators, and analyzing and classifying trends. Health examination results for management are included in the cases for follow-up. In addition, health promotion activities targeting commonly seen ailments are conducted to provide free consultation and ensure employee health. Furthermore, UMC employs doctors to provide employees with health counseling services as well as preventive services such as special examination and susceptibility screening to help employees take a proactive approach to a healthy lifestyle. In addition, UMC also actively cares for the dependents of employees by offering annual family health examination and massage services as ensuring the health of employees and their families creates benefits and harmony for both society and families. In 2015, a total of 327 employees and their family members underwent health examinations.

Maternity Health Protection

UMC places great importance on motherly care and breastfeeding, and has implemented extensive measures to provide breastfeeding mothers with a safe and comfortable environment. Milk-collecting rooms were also established in various plants for female employees. In 2015, FAB8A, FAB8C, FAB8D, and UF plants were successfully rewarded the Excellent Breastfeeding Room Award by the Public Health Bureau of Hsinchu City Government.

Q1 Fight Against Muscle Soreness

Prevent soreness caused by poor ergonomics by encouraging colleagues to stretch their bodies to eliminate the cause of fatigue factors.

Over 30,000 individuals participated in pain prevention seminars.

Q2 Love Yourself

Regular provision of health information for mothers and screening for gynecological cancers, and implementing workplace safety assessments for pregnant employees.

Subtotal satisfaction rate for health answering activities for women: 94.5%

Q3 Stay Away from Three Hights

Provided the latest slimming tips and information; offered light, wholesome meals with reduced oil and greasy contents in the company’s canteens. Health promotion activities were also designed for high risk groups with the three-hights.

Satisfaction rate for TCM war: 96.1%

Q4 Freedom from Exhaustion

Provided fellow employees with rejuvenation tips according to the season. Tips on wholesome and nutritious information were provided in winter to help employees sustain their health and body. Traditional Chinese Medicine (TCM) practitioners were also engaged to provide seminars on the body manners to safeguard employee health.

Subtotal satisfaction rate for TCM war: 96.37%

Note 1: To provide complete coverage of the company’s efforts in promoting a Healthy Workplace, the method used for calculating the total number of individuals benefiting from health promotion activities in 2015 were changed to include all event participants. Scope of calculations does not include FS.

Note 2: Number of individuals served in yearly health examinations only include general health examinations.

Measures for a Safe Workplace

Establish a Culture of Gender Equality

Measures for gender equality are consistent with or exceed those stipulated by the Labor Standards Act. Positive actions are implemented for employee selection, hiring, education and leave.

Measures for Nighttime Job Safety for Female Employees

Night time car service, parking lot escort, roadside assistance, emergency buttons, other emergency assistance, day and night time shuttle, 24-hour employee hotline, and night-time emergency response mechanism.

Assistance for Pregnant Women and Special Needs

Priority mail order, designated parking space, clearing and distribution notification, no shift, child-sitting allowance (for both male and female employees), breastfeeding room, eligibility to pre-apply for maternity leave after 3 months of pregnancy.

Flexible Time for Work and Vacation to Balance Work and Family

Work flextime, and employees of less than 1 year are offered special leave or vacation flextime.

Comprehensive Mechanism for Sexual Harassment Prevention

Recording and Ordinance Measures for Workplace Sexual Harassment, mechanism for investigating complaints, procedure for selecting team members, confidential complaint channel, education and training, and internal security service for providing assistance are established.

Note: UMC complies with government regulations such as the Labor Standards Act, Act of Gender Equality in Employment, and Sexual Harassment Prevention Act in its personnel policies, and also promotes related measures.
Integrated Mechanisms for Employee Care
To provide timely employee assistance, UMC offers comprehensive care mechanisms such as counseling and employee support, injury and illness care, and a healthcare consultation platform to service the family, work and interpersonal needs of employees. Employees are provided with friendly and practical care, and counseling is available when needed to ensure high work productivity and employee stability. UMC’s integrated mechanisms for employee care had a very early beginning, and in recent years, even more effort was invested into integrating and reconstructing the care mechanisms for physical and mental health, and post-injury return to work. The company hopes that by providing the most comprehensive measures and methods of support, a stress-free workplace may be created for employees.

In addition to collaborating with dedicated professionals who are familiar with the company’s Employee Assistance Program (EAP), UMC is also committed to promoting the EAP. The company has established the “UMC Mental Health” page, an employee web page for mental health chat and support on its internal site, and also posts the latest information on the company homepage for employees to easily access and use.

In 2003, UMC introduced the ‘Employee Assistance Program’ (EAP) to provide free counseling service to help employees relieve physical and psychological stress. Individual counseling and confidentiality mechanisms are provided to help employees resolve physical and psychological issues. Each employee has access to 5 free sessions per year, paid for by the company, and for those with special needs, additional assistance is provided by the company’s professional counseling group. In 2013 – 2015, service was provided to 423 employees.

Number of Employees Receiving Assistance in 2013-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Cases</th>
<th>No. of Cases Closed</th>
<th>Frequency of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>122</td>
<td>125</td>
<td>810</td>
</tr>
<tr>
<td>2014</td>
<td>223</td>
<td>186</td>
<td>1226</td>
</tr>
<tr>
<td>2015</td>
<td>328</td>
<td>238</td>
<td>1260</td>
</tr>
</tbody>
</table>

Injury and Illness Care
Employee physical, psychological and traffic incidents are followed up by telephone and e-mail contacts from a nurse from the health center, and appointments with house doctors are arranged if necessary. Continuing care and psychological support is provided to help employees return to work as soon as possible, and psychological support is strengthened for unclosed cases from 2011-2014. In terms of return to work following physical or psychological injuries and illnesses, support mechanism and case management procedures are formulated, and with the assistance of house doctors and nurses, relevant department directors, and personnel and legal departments, recovery/work distribution is facilitated to return physically or psychologically disabled employees to the workplace.

Number of injury and illness cases and frequency of support provided in 2013-2015

Establishing a Comprehensive Healthy Workplace
Health promotion activities implemented by the UMC Health Center in 2015 achieved total average satisfaction of 93%, while many employees also participated in other activities such as yearly health examinations and visual acuity tests, demonstrating the positive reception and support for these activities. The promotion and implementation of Healthy Workplace in UMC were also praised by external agencies. In 2015, UMC won the Corporate Citizenship Award as well as the Corporate Social Responsibility Benchmark Award 2015 organized by CommonWealth and Global Views Monthly respectively. UMC fab sites FABBA, FABB C, FABB D, and UT also received the Certificate of Excellence for Milk-Collecting awarded by the Public Health Bureau of Hsinchu City Government. All UMC plant sites were also recipients of the Self-Accreditation and Health Promotion Label of the Health Promotion Administration, Department of Health, Executive Yuan. All these rewards testify to the results of UMC’s dedication and efforts in building healthy workplaces.

Dedication to Public Charity and Social Responsibility
UMC is also dedicated to charity activities, and introduced massage services provided by those with visual impairments in both Hsinchu Science Park (HSP) and South Taiwan Science Park (STSP). These services not only provide employment opportunities for the disabled, but also professional massage services to help ease discomfort and improve physical and mental health of fellow employees. UMC employees also support blood donation drives held 2-5 times every year, helping to save the lives of other people. A total of 13 donation drives were held in 2015 where over 1,300 employees donated blood to provide about 1,900 units of blood. Since initiating these donation drives in 2011, over 7,800 employees have answered the call and donated a total of 10,760 units of blood.

UMC Club Activities

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Employees Receiving Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>141</td>
</tr>
<tr>
<td>2014</td>
<td>136</td>
</tr>
<tr>
<td>2015</td>
<td>146</td>
</tr>
</tbody>
</table>

UMC Recreational Facilities and Services
<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relaxation Center in Hsinchu</td>
<td>24 people</td>
</tr>
<tr>
<td>Quality Recreation Center in Hsinchu for employees and their families</td>
<td>15 people</td>
</tr>
<tr>
<td>Dormitory in Taichung</td>
<td></td>
</tr>
<tr>
<td>UMC Clubs can generally be classified into 6 types, namely ball games, sports, public service, music and dance, arts, and business investment.</td>
<td></td>
</tr>
<tr>
<td>Through the club assessment system, clubs with excellent performance receive subsidies for their operating expenses.</td>
<td></td>
</tr>
</tbody>
</table>

Site Events for Building Team Identities
In 2015, corporate competition events such as Team Up for UMC were held. Teams competed with each other in room escapes and other games to help build corporate identity and inject positive energy into the UMC family. It is hoped that positive competition between different plant sites will help build employee identity and cohesiveness, reduce opposition to new internal measures, and create high performing and effective teams.

Family Cohesion
UMC emphasizes work-life balance, and in addition to focusing on employees, UMC also reaches out to their families. In its various themed events, UMC plans activities that are appropriate for employee families, such as the 2015 Jurassic Park in UMC family activity, a monthly movie selected by employees for family movie time where movies are shown in the fab after work, and art festivals that are open to employee families. UMC hopes to support employees as well as their families to relieve employee stress and ensure their physical and mental health. At the same time, employee families may also become involved with UMC, get to know UMC and continue to support the employees in their diligent contributions toward the company.

LOHAS Workplace: Emphasis on Work-Life Balance
UMC believes that employees are its most important asset, and that having healthy and happy employees is key to high productivity in a corporation. In addition to providing a safe and healthy working environment, an employee oriented LOHAS workplace that integrates benefits, vitality and public service is created. Through a diversity of activities, creativity and vitality are nurtured in the work and lives of employees.
I had never performed on stage before this. When I became part of the Music society, I became apprehensive yet excited about the impending performance. I practiced intensely for about 2 months to prepare. My stage performance was not perfect, but it was a thrilling experience nonetheless. Performers must be well-prepared and adjusted to their roles. They must refer to the demographic of the target audience and discuss with fellow members to perform popular pieces or novel songs. This experience taught me that performances are not just centered round the performer but should include a plethora of other considerations. The following lists the songs that we finally decided to include in our performance. [Happy Face] is a morning song often performed and played in kindergartens and is perfect for children who want to dance along with the music. Our young audience also tried to keep pace with our rhythm. [Little Apple] is extremely popular. The children and adult audiences cheered and sang excitedly while we played, once again proving its worth as one of the most widely sung songs of the year.

<table>
<thead>
<tr>
<th>Category</th>
<th>Songs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ergonomics category</td>
<td>[Happy Face]</td>
</tr>
<tr>
<td>Malnutrition Protection</td>
<td>[Longing for Spring Breeze]</td>
</tr>
<tr>
<td>Overwork category</td>
<td>[Longing for Spring Breeze]</td>
</tr>
<tr>
<td>Health examinations for family members</td>
<td>[Longing for Spring Breeze]</td>
</tr>
<tr>
<td>Public charity and blood donation</td>
<td>[Longing for Spring Breeze]</td>
</tr>
</tbody>
</table>

UMC Extreme Art
UMC Extreme Art was an art event organized by UMC in 2015, and included a series of activities such as movie screenings, book fairs, photo galleries, musicals and art performances, tap dancing, and celebrity seminars as well as measures that encourage employees to include diverse arts as part of their daily lives. The purpose of these activities is to help UMC employees achieve ideal work-life balances while improving their quality of life.

Events planned for 2015 were designed to highlight the core value of Customer (and Employee) Focus upheld by UMC. Activities were also based upon UMC Extreme Art organized in previous years. 2015 UMC Extreme Art included a total of 59 art events which were attended by about 1,833 individuals. The choice of activities was based upon recommendations from fellow employees and proved to be both enriching and well-received by the entire company.

Create a Corporate Culture of Work Safety for Everyone

Any safety and health risks could result in major economic or social loss for a company, and undermine its competitiveness. UMC builds its safety and health management on inherent safety, and actively establishes a corporate culture of mutual assistance to create “work safety for everyone”. It is hoped that the result of safety and health management promotion can be reflected in the operating outcomes.

Key measures for “Work Safety for Everyone” in 2015 include:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment of a potential chronic injury and disease report, follow-up, and review database to achieve real-time assessment of potential injuries and diseases in the work place and prevent the incidence of occupational diseases.</td>
<td></td>
</tr>
<tr>
<td>Ambiant nanoparticle exposure measurements for key machinery / equipment maintenance and repairs.</td>
<td>The hazards posed by nanoparticles are yet known. However, as part of the active care program for fellow operators and employees, measures were put in place for early detection of environmental hazards and exposures in work places in order to promptly enact the necessary protection. (October 2014: Started focusing on measurements of environmental nanoparticle exposure during machine maintenance and repairs. February 2015: Initiation of improvements for hazards prevention in various plants.)</td>
</tr>
<tr>
<td>Establish an Accident Prevention Committee. Routine Committee activities will help increase the scope and depth of accident investigations in order to achieve effective prediction and prevention of potential risks and accidents.</td>
<td></td>
</tr>
</tbody>
</table>

High Risk Jobs and Occupational Disease Management

Statutory regulations in Taiwan, Mainland China, and Singapore were reviewed to identify high risk jobs and employees related to certain equipment and facilities operations. Special health examinations offered for high risk jobs, including noise, ionizing radiation, dust, organic solvents, specific chemical substances and other operation examinations, were conducted according to law. Health management was also implemented according to the classification of health examination results.

To create a healthier and more comfortable work place, comprehensive health risk classification and management systems would be used for early detection of high risk groups while simultaneously improving on work processes and subsequent healthcare measures. An occupational healthcare system was formulated for groups experiencing suspected work-related discomfort that was. A healthcare team composed of occupational health physicians, health center personnel, and staff members of the Risk Management and EHS department, shall investigate the root cause of the discomfort and propose improvement measures. As of 2015, a total of 3 cases were handled accordingly.
Employer-employee Communication for Health Issues

The method for generating labor representatives for occupational safety and health (OSH labor representative) prescribed in the Occupational Safety and Health Act were used as the basis for empowering employees to vote for their labor representatives. With the approval of the labor representatives of the employer-employee meeting, the OSH labor representative shall attend quarterly safety committee meetings, and be included as a joint participant for amendments to safety and health principles, accident investigations, work environment monitoring, and joint resolutions in related OSH issues. The employer-employee meeting shall also jointly discuss the penalties for employees who violate the code of conduct and the election process of a labor representative. Any relevant OSH issue and requirements shall be discussed in employer-employee meetings to reach a mutually acceptable consensus.

Accident Management

UMC continues to dedicate itself to reducing the incidence of workplace accidents and aimed to achieve a 10% reduction in accidents with severity rated higher than slight injuries in 2015 (compared to 2014). In order to achieve the objectives of accident management, preventive plans were proposed at the beginning of the year at every plant site. Dynamic root cause analysis was also implemented at different times of the year in response to accidents that occur at any site. In order to propose corresponding solutions. A series of activities such as Plant Site Safety Performance Reward System, established by the Accident Prevention Committee, improvements to employee discipline when traversing the fab, and employee training in order to prevent the recurrence of accidents. In 2015, UMC initiated key projects of Work Safety for Everyone to successfully meet reduction goals for work accidents. The 11 incidents that occurred in 2015 were reviewed as follows: personnel falling: 1 incident; fan operations: 1 incident; chemical leakage: 1 incident; burnt or melted electrical component: 2 incidents; and injuries from falling objects: 1 incident. UMC shall continue to propose strategies for the causes of these incidents in 2016 to prevent their recurrence. In addition, UMC also established goals for the 10-year accident management plan to reduce incidents by 75% by 2020 (based on 2011 levels) in order to achieve the final objective of zero-incidents.

Disabling Frequency Rate (FR)

In 2016, the Disabling Frequency Rate (FR) for UMC was 0.136, and its Disabling Severity Rate (SR) was 1.698, and both values are far below the average value for semiconductor industries. UMC will successfully meet reduction goals for work accidents with severity rated higher than slight injuries in 2016 to prevent their recurrence. A series of activities such as Plant Site Safety Performance Reward System, established by the Accident Prevention Committee, improvements to employee discipline when traversing the fab, and employee training in order to prevent the recurrence of accidents. In 2015, UMC initiated key projects of Work Safety for Everyone to successfully meet reduction goals for work accidents.

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Contractor Management

Contractor management is a very important part of safety and health management in UMC. Every contractor must be trained in fire protection and company rules, with emphasis on health and safety. In addition, all contractors are required to undergo a further training program to ensure that they are up to date with all safety regulations and that they understand the company’s procedures.UMC also requires that all contractors should attend the contractor education and training to ensure that they are aware of potential risks and regulations so that the contractors realize the company’s commitment to their lives and safety. Contractor companies must also complete the Overseer Education and Training Program to fully understand their responsibilities, tasks, and competency. In addition, to manage contractor entry into the fab and perform the various construction work within the fab, and also to prevent occupational accidents, a comprehensive contractor management standard is developed. The standards include operational safety and health management regulations for contractors, environmental safety, and health instructions for contractors, regulations for operating in confined spaces, regulations for electrical safety, regulations for dismantling dangerous circuits, and regulations for fire detection and isolation for follow-up training and requirement criteria.

UMC also established a new supplier assessment system and will assemble a professional evaluation team to implement OSH system assessments for new suppliers. Suppliers whose assessment results were less than ideal would be provided with advice consultation and support from UMC to strengthen their OSH systems. In 2015, UMC successfully provided consultation and induction to 3 new contractors to become UMC partners.

In order to ensure effective integration of work permits and access controls, the Taian plant introduced integrated access control systems in the second half of 2014. The system became fully operational throughout the Taian plant in 2015. All qualified vendor personnel who have completed the UMC Contractor Environmental Safety and Health Training would be allowed to apply for Access Passes. These Passes could then be used to provide access to areas listed within the construction work permits, greatly reducing the time and effort required for maintaining company security as well as pass replacement for vendor personnel. These solutions provided effective improvements to vendor access controls while fulfilling current regulations that govern work permits.

4-3-3 UMC Fire Brigade

Semiconductor plants often use a large variety of gases and chemicals while clean rooms tend to be large, enclosed spaces, leading to higher risk of fires. Fire prevention measures used in these facilities also differ from those traditionally employed. In April 1999, UMC established a high-tech Fire Brigade under the Group Risk Management & Environmental, Safety and Health Division, making us the only electronics company with a dedicated fire brigade in Taiwan. Rapid expansion of facilities and production capacities in the Southern Taiwan Science Park (STSP) also led to the formal establishment of the STSP Fire Brigade in 2013. This Brigade will be in charge of fire safety, prevention, rescue, and quick response missions in STSP plant sites.

Fire fighters in the Brigade serve 2-year terms, with the 9th cohort serving the term of 2015-2016. Personnel composition included 13 fire fighters and 93 members delegated to specific tasks. Most fire fighters and members of the Brigade are holders of Master's degrees and skilled in semiconductor processes, making the UMC Fire Brigade the best educated firefighting team in Taiwan.

Emergency Response Training

Professional emergency response training focuses on the basics of fire shelter training and training for new recruits which would then be followed by strategic and tactical training. Every newbie must undergo professional disaster relief training and examination which would include professional disaster rescue for simulated fires and response skills to occupational disasters. In order to improve and maintain firefighting skills and professional competencies of Brigade members, practical training and exercises were carried out regularly every month in order to improve disaster response abilities.

Emergency response training for fellow employees: UMC also organizes emergency response training for the entire company to educate and improve employees' knowledge of safety, protection, and emergency response skills. Practical exercises and examinations including various training courses, building safety evacuation drills, and unannounced day/night/night/day-based fire drills were implemented to establish the concepts of fire prevention, fire safety, and disaster response within the minds of every employee.

A total of 14,995 individuals throughout UMC underwent various emergency response training in 2015.

Professional Simulated Training in Fire Rescue
“People orientation, co-existence with the environment and shared social prosperity” are the most important elements of UMC’s vision in sustainability policies. UMC upholds the spirit of social co-prosperity and shall contribute its fair share towards social development. Under the leadership of UMC Science and Culture Foundation, more and more employees have started to take notice of the importance of community services, and begun to take an active role in volunteer activities which initiated positive development within UMC. Our growing positive influence would help external agencies recognize UMC while providing assistance to more of those who need help, generating a growing positive feedback cycle that expands from within.

To effectively quantify the benefits brought about by community services, UMC referred to the community investment assessment system established by London Benchmark Group (LBG). Investment time, cost, material donations, and management expenses were carefully recorded to evaluate the positive benefits brought about by these investments. Outputs of community services include reductions in cost, generation of benefits, and intangible influences such as positive corporate image, becoming a benchmark of corporate social responsibility (CSR), establishing positive value systems amongst school children, and helping to compensate for the inadequacy of educational resources for school children living in remote areas.

In addition to the Spreading the Seeds of Hope Project that was initiated in 2005, UMC also mobilized other agencies such as the UMC Science and Culture Foundation, UMC LOHAS Education Foundation, UMC Fire Brigade, and employee societies and clubs in 2015, using their different skills to target and identify the best means of investing in community services.

In 2015, UMC employees provided a total of 12,241 volunteer hours. Charitable donations and the number of beneficiaries also grew significantly and the latter grew to over 25,416 individuals. These results demonstrate the continued growth of human resources and kindness of UMC volunteers offering services to the needy throughout Taiwan.

| Category and Sums of Community Service Investments from 2013 to 2015 |
|-----------------|-----------------|-----------------|
| 2013            | 2014            | 2015            |
| Total           | 10,179,796,360  | 8,205,179,648   | 11,878,893,720 |
| Unit: NT$       |                 |                 |                 |
| Cash donations  | 32,552,861      | 47,481,910      | 34,435,555      |
| (3.2%)          | (0.2%)          | (0.1%)          |
| Time contributions | 3,765,361      | 4,622,727      | 4,172,045      |
| (0.0%)          | (0.0%)          | (0.0%)          |
| Material donations | 10,111,097,406  | 8,124,275,019   | 11,808,406,852 |
| (99.33%)        | (99.31%)        | (99.41%)        |
| Management costs | 32,978,774      | 28,799,912      | 31,879,268     |
| (3.2%)          | (3.2%)          | (2.27%)         |
| Total           | 34,435,555      | 47,481,910      | 34,435,555     |
| Unit: NT$       |                 |                 |                 |

Note 1: This table only includes projects carried out by the Science and Culture Foundation, UMC LOHAS Education Foundation, and societies and clubs as well as employee donations.

Note 2: Includes volunteer leave and holiday service hours.
The UMC Science and Culture Foundation, with its LOHAS Education Foundation, focuses on the education of disadvantaged children. The UMC Science and Culture Foundation has been committed to enhancing the education of school children from disadvantaged families, and has continued implementing the “Spreading the Seeds of Hope” educational assistance program for school children from disadvantaged families. The UMC and the LOHAS Education Foundation have furthered their efforts by establishing the UMC LOHAS Education Foundation in 2015, which has continued implementing the “Spreading the Seeds of Hope” educational assistance program for school children from disadvantaged families, and has been dedicated to the support of education and community development initiatives. In 2015, the company has allocated NT$ 155 million to tutoring programs for school children from disadvantaged families, and with the support of UMC, more than 6,000 school children have continued in their studies, thereby fulfilling the mission of the “Spreading the Seeds of Hope”.

In 2015, in addition to investing in the “Spreading the Seeds of Hope” educational assistance program for disadvantaged children, the program also focused on cultivating “Life Education”. “Reading Promotion”, “Green Energy” and “Basic Science and Technology Talent” to promote a new wave of nurturing that is founded on spiritual, learning, environmental and basic technological perspectives. In addition, the company also realizes that corporate social responsibility cannot be fulfilled only by the company itself, but should involve the joint efforts of employees. It is only through practical personal involvement that individual efforts can unite into a significant strength that becomes a new momentum for Taiwan’s growth.

Executive Summary

<table>
<thead>
<tr>
<th>Item &amp; Implementation</th>
<th>Results &amp; Effects in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeds of Hope</td>
<td>800 hours of after-school counseling services</td>
</tr>
<tr>
<td>Educational Assistance for Children from Disadvantaged Families</td>
<td>Sponsoring the Nantou Karate Association</td>
</tr>
<tr>
<td>After-school counseling</td>
<td>Educating 120 underprivileged children</td>
</tr>
<tr>
<td>Reading class</td>
<td>Volunteers would help provide children with correct perspectives to prevent delinquency, using quality education to bring them out of their impoverished background.</td>
</tr>
<tr>
<td>Ethics class</td>
<td>Sponsorship is provided to Nantou Karate Association to train karate students, helping underprivileged students to regain confidence and become aware of their own self-worth.</td>
</tr>
<tr>
<td>Long-term care</td>
<td>Industry-academic classes for the semiconductor industry</td>
</tr>
<tr>
<td>Organizing festivals and events</td>
<td>Industry-academic classes for the semiconductor industry</td>
</tr>
<tr>
<td>Semiconductors Knowledge</td>
<td>Industry-academic classes for the semiconductor industry</td>
</tr>
<tr>
<td>Cultivating Caltech Talents in Taiwan</td>
<td>Industry-academic classes for the semiconductor industry</td>
</tr>
<tr>
<td>Industry-academic classes for the semiconductor industry</td>
<td>Industry-academic classes for the semiconductor industry</td>
</tr>
<tr>
<td>Creative R&amp;D projects</td>
<td>Industry-academic classes for the semiconductor industry</td>
</tr>
<tr>
<td>Other business-education partners</td>
<td>Industry-academic classes for the semiconductor industry</td>
</tr>
<tr>
<td>Campus Cultivation Project</td>
<td>Industry-academic classes for the semiconductor industry</td>
</tr>
</tbody>
</table>

Volunteer Services

While focusing on business growth, UMC is also actively contributing towards community work and social participation. To encourage fellow employees to participate in community service, employees are allowed to apply for official leave and partake in various volunteer services. Under the guidance of the UMC Science and Culture Foundation, the spirit of voluntarism in UMC has begun to spread beyond volunteer teams to include the entire employee population. In 2015, the number of employee businesses and clubs taking the initiative to participate in community work increased from 3 (the Candelight Club, Mountainering Club, and Ukulele Society) to 7. Total donations and beneficiaries are continuing to grow every year, with societies and clubs providing a total of 159 volunteer services in 2015. Active donations and participation in community services by UMC employees demonstrate their initiative, kindness, and selfless contributions as well as the importance of UMC places upon building a volunteer culture.

To provide employees with greater freedom, UMC not only encouraged employees to participate in various community work and social activities, but also emphasized comprehensive social group assessment systems to encourage company societies to engage in charity work as well. Societies that attained excellent achievements were provided with additional funding to support both social group activities as well as community participation. During annual scheduling of events, social groups would be invited to provide support according to the nature and purpose of the event. Many activities were made possible through the assistance and participation of social group members, and these measures help create an inseparable link among community work, corporate-wide event planning and social groups to encourage employees to engage in social work.

Certificate of Graduates

In support of volunteering efforts for high tech professionals, UMC is also leading the way in supporting professionals with management potential. The UMC Business Management Thesis Award was established in 2010 and started offering monetary donations to the Award in 2011 to help further training programs for potential management professionals, encourage academia and industry exchange, achieve effective integration of management practice and theory, and contribute towards sustainable corporate management. In 2015, a sum of NT$ 3 million was invested in the award.

Cultivation and Training of Professionals with Management Potential

In addition to supporting training efforts for high tech professionals, UMC is also leading the way in supporting professionals with management potential. The UMC Business Management Thesis Award was established in 2010 and started offering monetary donations to the Award in 2011 to help further training programs for potential management professionals, encourage academia and industry exchange, achieve effective integration of management practice and theory, and contribute towards sustainable corporate management. In 2015, a sum of NT$ 3 million was invested in the award.

Community Service Project - “Spreading the Seeds of Hope”

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Three Major Social Welfare Groups in UMC

- **UMC Science and Culture Foundation**
  - Since 1996
  - Foster education for the disadvantaged
  - Promote fire safety
  - Support industry technical talents
  - Promote environmental education
  - Supports the Whatever Makes Sense show provided by Voice of IC Dr. Hung Lan Hui-Yi

- **UMC LOHAS Education Foundation**
  - Since 2003
  - Promote sports
  - Open the UMC Park Activity Center to disadvantaged groups
  - Provide UMC tours to university students
  - Education for the disadvantaged
  - Provide free training for urban residents
  - Free training for elementary school students

- **UMC Fire Brigade**
  - Since 1998
  - Assist in emergency and community disaster rescue
  - Promote fire safety in elementary schools

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**Appendix**: UMC CSR - 2015
Services Provided by Various Societies in 2015

<table>
<thead>
<tr>
<th>Society Name</th>
<th>Volunteer Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candideign Club</td>
<td>Offering companionship at the House of Miracles</td>
</tr>
<tr>
<td></td>
<td>Services provided at Farien’s Children’s Home</td>
</tr>
<tr>
<td></td>
<td>Services in remote villages including love charity drives</td>
</tr>
<tr>
<td></td>
<td>Charity services jointly held with the foundation</td>
</tr>
<tr>
<td>Mountaineering Club</td>
<td>Sponsorship for children living in aboriginal settlements</td>
</tr>
<tr>
<td></td>
<td>Material collection / donation</td>
</tr>
<tr>
<td></td>
<td>Christmas events activities</td>
</tr>
<tr>
<td>Ukulele Club</td>
<td>Services for children living in remote areas</td>
</tr>
<tr>
<td></td>
<td>Ukulele instructions for children living in remote areas</td>
</tr>
<tr>
<td></td>
<td>Charity performances</td>
</tr>
<tr>
<td>Music Lover Club</td>
<td>Supporting community work organized by the foundation</td>
</tr>
<tr>
<td></td>
<td>Engage in community work through music</td>
</tr>
<tr>
<td>Guitar Club</td>
<td>Island band, charity performances, and volunteer work</td>
</tr>
<tr>
<td></td>
<td>Supporting community work organized by the foundation</td>
</tr>
<tr>
<td>Swimming Club</td>
<td>Promotion of safety concepts</td>
</tr>
<tr>
<td></td>
<td>Provide Beggars duties</td>
</tr>
<tr>
<td>i-Ching Club</td>
<td>Promotion of study of I-Ching</td>
</tr>
<tr>
<td></td>
<td>Participate in educational activities and parent-child park tours</td>
</tr>
</tbody>
</table>

Benefits | Sessions Held
---|---
Underprivileged students | 134
Underprivileged senior citizens | 1
Underprivileged students | 13
Underprivileged students | 4
Underprivileged students | 3
Hsinchu residents | 3
Hsinchu residents | 1

4-4-3 UMC Science and Culture Foundation

The UMC Science and Culture Foundation continues to promote community service, and currently, its focus is on long-term educational assistance. Promoting the “Spreading the Seeds of Hope Program,” the Foundation funds the company’s collaboration with universities in Hsinchu and Taichung. The universities provide classrooms and employ part-time instructors to provide free remedial tutoring to students who are economically disadvantaged.

In 2015, in response to the diversified learning needs of the newly instituted 12 year education policy, the Foundation integrated with community resources to establish the “UCM Sacred Heart Learning Center” in Hsinchu. To date, more than 40 professionals comprising teachers and students from National Tsing Hua University and National Chiao Tung University, engineers from the Hsinchu Science Park and professionals from various disciplines have joined the tutoring and volunteer team.

In addition to supporting the existing remedial tutoring, they also help students develop a positive learning attitude and appropriate values.

Since 2013, the Foundation has supported Taiwan remedial classes with the National University of Science Park and professionals from various disciplines have joined the tutoring and volunteer team. Since 2013, the Foundation has supported Taiwan remedial classes with the National University of Science Park and professionals from various disciplines have joined the tutoring and volunteer team. Since 2013, the Foundation has supported Taiwan remedial classes with the National University of Science Park and professionals from various disciplines have joined the tutoring and volunteer team.

Other Community Services by the Foundation are Listed Below

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<tr>
<th>Services</th>
<th>Volunteers</th>
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<tr>
<td>Volunteer Activities</td>
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<tr>
<td>UMC Love Storytelling Club Volunteer</td>
<td>Hard-Lan Wen</td>
</tr>
<tr>
<td>Love is ever present in the UMC Love Storytelling Club. Everything, from the script to the performance, was created by UMC volunteers. We hope that theater is not just about performances, but a means by which we convey love to friends of all ages and telling them that love is ubiquitous. The tears and laughter of our audience in every performance serve as the best encouragement. The letters we receive from children who viewed our performance revealed the innocence and kindness in their hearts. Some children even illustrated the appearances of every performer, and some even included the cameramen. These works greatly moved our fellow volunteers. We also derived great happiness from performing, just like a candle burning itself to illuminate ourselves and those around us. We hope that our performances can strike at the hearts of our volunteers, using our love to kindle the flames of kindness and bring brightness to the world.</td>
<td></td>
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</tbody>
</table>

Letter Writing Volunteers | 110 children were adopted through Children and Families Fund |
| A total of | |
| 110 children | |
| were adopted through Children and Families Fund |
| Children and Families Fund adopt school children on behalf of the Foundation. In addition, employees volunteer to write letters to the adopted children to reach out and give encouragement. Such a simple friendship is the chain of love and hope. |

4-4-4 UMC Fire Brigade and Community Service

In addition to offering assistance to the community, the UMC Fire Brigade actively participates in large-scale drills outside the company, and assists the Environmental Protection Agency in toxic chemical disaster training. Furthermore, the UMC Fire Brigade collaborates with the UMC Science and Culture Foundation to conduct safety education in elementary schools to firmly establish disaster prevention education, and positively influence community attitude and actions.

In 2015, the UMC Fire Brigade supported Hsinchu County / City fire department in promoting awareness for fire safety while working with the UMC Science and Education Foundation to implement various activities, providing a total of 23 services outside the company.
Joint Ventures and Subsidiaries

The ventures of the company and its affiliated enterprises include wafer manufacturing, electronics, optoelectronics industry, investment, insurance and trading industries. In 2015, over 90% of revenue was generated by UMC's integrated semiconductor manufacturing operations, and the remainder generated from the company's trading activities.

This report is based upon the outcomes of actual sustainable assessments listed in Chapter 1 and discloses the information of 10 joint ventures and 9 manufacturing subsidiaries. Information of UMC and its subsidiaries are provided in Page 124 of the 2015 Annual Report.

Joint Ventures

<table>
<thead>
<tr>
<th>Name</th>
<th>Establish Time</th>
<th>Address</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMC ( Suzhou ) Co., Ltd.</td>
<td>2001.11</td>
<td>No. 333, Xinghua Street, Suzhou Industrial Park, Suzhou, Jiangsu Province, China</td>
<td>UMC-related information shall be disclosed in various chapters.</td>
</tr>
<tr>
<td>United Semiconductor (Xiamen) Co., Ltd.</td>
<td>2014.10</td>
<td>No.888, Wajia Road, Xiamen, Fujian Province, P.R. China</td>
<td>As for new investments / companies of 2015, their and UMC's information shall be disclosed in various chapters once their plants become operational for mass production.</td>
</tr>
<tr>
<td>Wavetek Co., Ltd.</td>
<td>2010.10</td>
<td>1F, No. 10, Innovation 1st Road, Hsinchu Science Park, Hsinchu County, Taiwan, R.O.C.</td>
<td>Refer to the list of information on manufacturing subsidiaries</td>
</tr>
<tr>
<td>NexPower Technology Corp.</td>
<td>2005.11</td>
<td>No.2, Huohe S. Rd., Huohe Township, Taoyuan City, Taiwan, R.O.C.</td>
<td>Refer to the list of information on manufacturing subsidiaries</td>
</tr>
<tr>
<td>United Microelectronics Corporation (USA)</td>
<td>1997.8</td>
<td>488 De Gujia Drive, Sunnyvale, CA 94085, USA</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
</tr>
<tr>
<td>UMC Group Japan</td>
<td>2013.02</td>
<td>1F, 9f, 10f, Yamaishi Centerpiece Bldg., 1 Kanda Aoto-cho Chiyoda-ku Tokyo 101-0025 Japan</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
</tr>
<tr>
<td>UMC Capital Corp.</td>
<td>2001.01</td>
<td>1F, No. 333, Section 2, Tunhua Rd., Taipei City, Taiwan, R.O.C.</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
</tr>
<tr>
<td>United Microelectronics Corporation (China)</td>
<td>2004.07</td>
<td>1F, No. 333, Section 3, Tunhua Rd., Taipei City, Taiwan, R.O.C.</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
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<tr>
<td>TLC Capital Co., Ltd.</td>
<td>2005.10</td>
<td>Venture Investment</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
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<tr>
<td>Fortune Venture Capital Corp.</td>
<td>1993.09</td>
<td>Venture Investment consulting and planning</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
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Manufacturing Subsidiaries

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<tr>
<td>TLC Capital Co., Ltd.</td>
<td>2005.10</td>
<td>Venture Investment</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
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<tr>
<td>United Microelectronics Corporation (China)</td>
<td>2004.07</td>
<td>1F, No. 333, Section 3, Tunhua Rd., Taipei City, Taiwan, R.O.C.</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
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<td>TLC Capital Co., Ltd.</td>
<td>2005.10</td>
<td>Venture Investment</td>
<td>Refer to the list of information on non-manufacturing subsidiaries.</td>
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</tbody>
</table>
No significant fines related to violation of relevant regulations in 2015.

In 2015, there is no incidence of corruption, and no violations of antitrust.

Complaint mechanism in place. No complaints related to human rights issues in 2015.

No incidence of discrimination in 2015.

No incidence of forced or compulsory labor in operation base in 2015.

No incidence of forced or compulsory labor risks in operation base in 2015.

No incidence of forced or compulsory labor in operation base in 2015.

No significant fines related to violation of relevant regulations in 2015.

Promoted according to the UMC Code of Conduct (For relevant information, please refer to the company website http://www.umc.com/English/CSR/c_4.asp)

No incidence of forced or compulsory labor in operation base in 2015.

No significant fines related to violation of relevant regulations in 2015.
matters related to organizational integrity.

**G4-56** Description of the organization’s values, principles, standards and norms of behavior.

**G4-57** Internal and external mechanisms for seeking advice on ethical and lawful behavior, and matters

**G4-53** How stakeholders’ views are sought and taken into account regarding remuneration, including the

**G4-51** Remuneration policies for the highest governance body and senior executives.

**G4-49** Process for communicating critical concerns to the highest governance body.

**G4-48** The highest committee or position that formally reviews and approves the organization’s

**G4-47** Frequency of the highest governance body’s review of economic, environmental and social

**G4-42** The highest governance body’s and senior executives’ roles in the development, approval, and

**G4-41** For more information, please refer to the 2015 Annual Report (page 10).

**G4-40** Remuneration and selection processes for the highest governance body and its committees, and the

**G4-39** Report whether the Chair of the highest governance body is also an executive officer.

**G4-38** Composition of the highest governance body and its committees.

**G4-37** Processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics.

**G4-36** Executive-level position or positions with responsibility for economic, environmental and social

**G4-35** Process of delegating authority for economic, environmental and social topics from the highest
governance body to senior executives and other employees.

**G4-34** Governance structure of the organization.

**G4-33** External assurance for the report.

**G4-32** Contact point for questions regarding the report or its contents.

**G4-30** Reporting cycle for the informative provided.

**G4-29** Date of most recent previous report.

**G4-28** Reporting cycle on an annual (internal).

**G4-27** Updating of the organization’s purpose, value or mission statements, strategies, policies, and goals

**G4-26** The highest governance body’s role in the implementation of due diligence processes. Report whether stakeholder consultation is used to support

**G4-25** Economic, environmental and social impacts, risks, and opportunities. The highest governance body’s role in the

**G4-24** Governance of economic, environmental and social topics, and whether post holders report directly to the highest governance body.

**G4-23** Executives-level position or positions with responsibility for economic, environmental and social

**G4-22** To the highest governance body and senior executives roles in the development, approval, and

**G4-21** Corporate Governance p21

**G4-20** Principles for the highest governance body to ensure conflicts of interest are avoided and managed and whether conflicts of interest are disclosed to stakeholders.

**G4-19** The highest governance body’s role in identifying and managing economic, environmental and social impacts, risks, and opportunities. The highest governance body’s role is the implementation of due diligence processes. Report whether stakeholder consultation is used to support

**G4-18** The highest governance body’s role in reviewing the thresholds of the organization’s risk

**G4-17** Frequency of the highest governance body’s review of economic, environmental and social

**G4-16** The highest governance body’s role in identifying and management of economic, environmental and social impacts, risks, and opportunities.

**G4-15** The highest governance body’s role in determining and management of economic, environmental and social impacts, risks, and opportunities. The highest governance body’s role is the implementation of due diligence processes. Report whether stakeholder consultation is used to support

**G4-14** Processes for evaluation of the highest governance body’s performance in respect to governance of economic, environmental and social topics. Frequency and independence of the Evaluation. Report whether such evaluation is a self-assessment. Actions taken in response to the

**G4-13** Principles for determining and establishing or amending the highest governance body’s collective knowledge of economic, environmental and social topics.

**G4-12** The highest governance body and senior executives roles in the development, approval, and

**G4-11** Principles for determining and modifying the highest governance body’s collective knowledge of economic, environmental and social topics.

**G4-10** Principles for report compilation for the organization.

**G4-9** Principles for determining and modifying the highest governance body’s collective knowledge of economic, environmental and social topics.

**G4-8** The highest governance body’s role in determining and management of economic, environmental and social impacts, risks, and opportunities. The highest governance body’s role is the implementation of due diligence processes. Report whether stakeholder consultation is used to support

**G4-7** The highest governance body’s role in determining and management of economic, environmental and social impacts, risks, and opportunities. The highest governance body’s role is the implementation of due diligence processes. Report whether stakeholder consultation is used to support

**G4-6** The highest governance body’s role in determining and management of economic, environmental and social impacts, risks, and opportunities. The highest governance body’s role is the implementation of due diligence processes. Report whether stakeholder consultation is used to support

**G4-5** The highest governance body’s role in determining and management of economic, environmental and social impacts, risks, and opportunities. The highest governance body’s role is the implementation of due diligence processes. Report whether stakeholder consultation is used to support

**G4-4** The highest governance body’s role in determining and management of economic, environmental and social impacts, risks, and opportunities. The highest governance body’s role is the implementation of due diligence processes. Report whether stakeholder consultation is used to support

**G4-3** Principles for report compilation for the organization.

**G4-2** Principles for report compilation for the organization.

**G4-1** Principles for report compilation for the organization.

**G4-EC9** Spending on local suppliers at significant locations of operation.

**G4-EC4** Financial assistance received from government.

**G4-EC3** Coverage of the organization’s defined benefit plan obligations.

**G4-EC2** Financial implications and other risks and opportunities for the organization’s activities due to climate change.

**G4-EC1** Direct economic value generated and distributed.

**G4-EC** Economic Indicators (DMA and Indicators)
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<td>G4-EN6 Reduction of energy consumption.</td>
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<td>G4-EN9 Water sources significantly affected by withdrawal of water.</td>
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<td>G4-EN10 Percentage and total volumes of water recycled and reused.</td>
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<td>G4-EN12 Direct greenhouse gas (GHG) emissions (Scope 1).</td>
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<td>G4-EN12 Other direct greenhouse gas (GHG) emissions (Scope 2).</td>
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<td>G4-EN13 Greenhouse gas (GHG) emissions intensity.</td>
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<td>G4-EN20 Emissions of ozone-depleting substances (ODS).</td>
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<td>G4-EN21 NOx, SOx, and other significant air emissions.</td>
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<td>G4-EN22 Total water discharge by quality and destination.</td>
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<td>G4-EN23 Total weight of waste by type and disposal method.</td>
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<td>G4-EN24 Total number and volume of significant spills.</td>
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<td>G4-EN26 Total number and volume of significant spills.</td>
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<td><strong>Compliance</strong></td>
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<td>G4-EN30 Emission level of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.</td>
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<tr>
<td>G4-EN31 Total number and volume of significant spills.</td>
<td>3.7-3. Clean Production</td>
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<tr>
<td>G4-EN32 Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention.</td>
<td>3.4. Green Products</td>
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<tr>
<td><strong>Products and Services</strong></td>
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<td>G4-EN35 Water bodies and related habitats that are significantly affected by water discharges.</td>
<td>3.3-4. Water Pollution Control</td>
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<td>G4-EN36 Extent of impact mitigation of environmental impacts of products and services.</td>
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<td>G4-EN37 Percentage of products sold and their packaging materials that are recycled by category.</td>
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<td>G4-EN42 Significant actual and potential negative environmental impacts in the supply chain and actions taken.</td>
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## Labor Practices and Decent Work

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- **Principles for Report Compilation**
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- **Sustainable Development-Environment**
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