CSR Management

By adhering to The Denka Value, our corporate philosophy, we will fulfill our social responsibilities and thereby contribute to the sustainable development of society.

CSR Promotion Structure

Denka has established a CSR promotion structure in which the CSR & Corporate Communications Department and other specialized bodies act in collaboration to spearhead CSR activities undertaken by all Group members. In addition, each body and department supervises initiatives in such areas as worksite safety and Responsible Care and is striving to achieve systematic improvements in its area of responsibility. Meanwhile, the Management Committee, chaired by the president, is in charge of discussing CSR materiality issues as well as deliberating plans for and reviewing the results of each activity associated with CSR. Conclusions reached by the committee are reported to the Board of Directors.

Material Issue Selection Process

**STEP 1** Determine issues subject to analysis and evaluation

- Established an across-the-board taskforce and identified the issues to be tackled to fulfill society’s expectations regarding chemical companies in reference to international standards as well as important guidelines (GRI guidelines, ISO26000, GC, SDGs, EICC and DJSI).

**STEP 2** Analyze stakeholder expectations

- Departments at Denka in charge of each issue evaluated the expectations of stakeholders, including customers, consumers, employees, local communities, shareholders, investors and suppliers, with regard to such issues and their impact on our operations based on its own analysis.

**STEP 3** Assess each issue’s importance to the Denka Group

- Departments in charge of each issue assessed the importance of the issue in light of the implementation of the Denka Value-Up management plan, which aims to realize The Denka Value corporate philosophy and secure sound and sustainable corporate growth, as well as the fulfillment of Denka’s social responsibilities, thereby validating said assessment in tandem with the Corporate Planning Department.

**STEP 4** Select CSR materiality

- Selected 32 CSR issues, applying a materiality matrix based on the importance of said issues to stakeholders and the Denka Group, with 13 items being identified as particularly critical by the Management Committee, which, in turn, validated and finalized each.
### CSR Management

#### CSR Promotion Themes, Targets and Performance (fiscal 2017)

<table>
<thead>
<tr>
<th>Category</th>
<th>CSR Materiality Issues</th>
<th>Relevance of SDGs</th>
<th>Fiscal 2017</th>
<th>Results</th>
<th>Pages</th>
<th>Rating</th>
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**Relevant SDGs:**

- SDG 17:  
- SDG 16:  
- SDG 8:  
- SDG 3:  
- SDG 9:  
- SDG 7:  
- SDG 6:  
- SDG 4:  
- SDG 2:  
- SDG 1:  

#### CSR Materiality Issues

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<tr>
<th>CSR Materiality Issues</th>
<th>Relevance of SDGs</th>
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**Relevant SDGs:**

- SDG 13:  
- SDG 12:  
- SDG 11:  
- SDG 10:  
- SDG 9:  
- SDG 8:  
- SDG 7:  
- SDG 6:  
- SDG 3:  
- SDG 2:  
- SDG 1:  

#### CSR Priorities and Objectives

**Priorities and Objectives:**

- Enhance governance and achieve a high level of transparency and soundness of management.

#### CSR Evaluation Framework

**CSR Evaluation Framework:**

- Evaluation of CSR performance is conducted through the following procedures:
  - Developing the Denka Value-Up management plan while ensuring that the plan's goals are shared by all employees.
  - Establishing the Denka Value-Up management plan while ensuring that the plan's goals are shared by all employees.
  - Reviewing the Denka Value-Up management plan while ensuring that the plan's goals are shared by all employees.
  - Developing a management system in conformity with the IATF 16949 standard for the automotive industry.
  - Establishing the Denka Value-Up management plan while ensuring that the plan's goals are shared by all employees.
  - Reviewing the Denka Value-Up management plan while ensuring that the plan's goals are shared by all employees.

#### CSR Practices

**CSR Practices:**

- Enhance quality management and assurance levels.

#### CSR Impact and Performance

**CSR Impact and Performance:**

- Enhance quality management and assurance levels.

#### CSR Contributions

**CSR Contributions:**

- Enhance quality management and assurance levels.

#### CSR Coordination

**CSR Coordination:**

- Enhance quality management and assurance levels.

#### CSR Communication

**CSR Communication:**

- Enhance quality management and assurance levels.

#### CSR Reporting

**CSR Reporting:**

- Enhance quality management and assurance levels.

#### CSR Disclosure

**CSR Disclosure:**

- Enhance quality management and assurance levels.

#### CSR Performance

**CSR Performance:**

- Enhance quality management and assurance levels.

#### CSR Progress

**CSR Progress:**

- Enhance quality management and assurance levels.

#### CSR Challenges

**CSR Challenges:**

- Enhance quality management and assurance levels.

#### CSR Strategies

**CSR Strategies:**

- Enhance quality management and assurance levels.

#### CSR Outcomes

**CSR Outcomes:**

- Enhance quality management and assurance levels.

#### CSR Impact

**CSR Impact:**

- Enhance quality management and assurance levels.

#### CSR Performance Indicators

**CSR Performance Indicators:**

- Enhance quality management and assurance levels.

#### CSR Governance

**CSR Governance:**

- Enhance quality management and assurance levels.

#### CSR Accountability

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- Enhance quality management and assurance levels.

#### CSR Management

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- Enhance quality management and assurance levels.

#### CSR Results

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- Enhance quality management and assurance levels.

#### CSR Evaluation

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#### CSR Communication

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#### CSR Reporting

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- Enhance quality management and assurance levels.
Prioritization of Safety

“Prioritizing safety to help realize Denka Value Up and build a brighter future!” Under this slogan, we hold the annual Safety Promotion Meeting, conduct a one-day inspection and discuss safety assurance activities undertaken at each business site.

Basic Policy for Workplace Safety, Health, Security and Disaster Prevention

We put the utmost priority on worksite safety and health, facility security and disaster prevention in all aspects of our business activities.

To fulfill our social responsibilities as a chemical company, we put the utmost priority on safety as our basic stance for operations, thereby working together to create a lively and sound workplace and becoming a company capable of eliminating accidents and disasters and worthy of society’s trust.

Safety Assurance Activities Undertaken at Each Business Site

Since our initiatives in 2015, we have continued to promote safety assurance activities associated with logistics operations, by inviting representatives from transportation subcontractors and other chemical manufacturers to jointly organize facility tours. In this way, we will incorporate external perspectives and exchange insights on logistics safety while helping employees constantly refresh their consciousness on safety operations.

In fiscal 2018, we will continue to promote safety assurance activities associated with logistics operations by inviting representatives from transportation subcontractors and other chemical manufacturers to jointly organize facility tours. In this way, we will incorporate external perspectives and exchange insights on logistics safety while helping employees constantly refresh their consciousness on safety operations.

In line with the Denka Value-Up management plan, which took over the previous Denka100 management plan, we will constantly scrutinize every cost element under the new growth strategies in addition to placing the utmost priority on logistics safety. By doing so, we will establish a more efficient logistics structure.

Maintain Occupational Safety and Health while Creating a Vibrant and Comfortable Workplace Environment

Occupational Safety and Health Management System

Denka conducts risk assessments to monitor the degree of risk at each plant. Based on assessment results, we comprehensively manage risks and implement improvements.

The status of certification acquisition from external institutions is as in the following table. Although the plants and affiliates that are not listed below may have not acquired certification for their occupational safety and health management systems, said business sites nevertheless implement safety management and promotion activities equivalent to those prescribed by a certified system.

Initiatives Undertaken on the Production Frontlines in Line with the Aforementioned Basic Policy

Securing Transportation Safety

In addition to preventing accidents and unfortunate incidents in the course of logistics operations, we focus on maintaining safety awareness among employees in charge of transportation. To this end, our fiscal 2017 initiatives included safety patrols undertaken by staff from the logistics departments of Denka’s Omi, Omuta and Shibukawa plants and the Bibai Subplant as well as their peers from two affiliates Denka Azumin and Kyuyyu Plastic Industry. These patrols were proven successful in terms of raising safety awareness.

In fiscal 2018, we will continue to promote safety assurance activities associated with logistics operations by inviting representatives from transportation subcontractors and other chemical manufacturers to jointly organize facility tours. In this way, we will incorporate external perspectives and exchange insights on logistics safety while helping employees constantly refresh their consciousness on safety operations.

In line with the Denka Value-Up management plan, which took over the previous Denka100 management plan, we will constantly scrutinize every cost element under the new growth strategies in addition to placing the utmost priority on logistics safety. By doing so, we will establish a more efficient logistics structure.
### Products and Technologies

**Creating New Products and Technologies**

**That Contribute to the Development of a Sustainable Society**

In 2015, the United Nations adopted “Transforming Our World: The 2030 Agenda for Sustainable Development,” identifying 17 Sustainable Development Goals (SDGs) and 169 targets. These SDGs are designed to address universal issues confronting society, with all UN members and stakeholders being called to join initiatives to achieve them.

Focusing its management resources on healthcare, the environment and energy, and high-value-added infrastructure, the Denka Group is aware of the fact that a number of social issues that lie in these fields are also identified by SDGs. Therefore, Denka will maintain acute awareness of what the Company should do to help achieve SDGs, thereby pursuing the possibilities of chemistry to provide solutions to address these goals.

### Examples of Our R&D Accomplishments

#### Promoting Open Innovation

With the 2014 opening of the renovated Denka Innovation Center, the number of external collaboration projects increased significantly. In fiscal 2017, we engaged in 274 such projects, an increase of 14 projects from fiscal 2016. To create new businesses and products targeting future generations of potential customers, we have proactively promoted open innovation in a way that utilizes a variety of pipelines, including those secured by top management. As part of in-house collaboration, we also began holding across-the-board meetings on polymer processing. These periodic meetings help relevant employees exchange insights while building a more robust structure for polymer manufacturing and processing.

<table>
<thead>
<tr>
<th>Fields</th>
<th>Denka’s key solutions</th>
<th>Primary SDGs</th>
</tr>
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<tbody>
<tr>
<td><strong>Healthcare</strong></td>
<td>• Vaccines and diagnostic reagents for infectious diseases</td>
<td>Goal 3 GOOD HEALTH AND WELL-BEING</td>
</tr>
<tr>
<td></td>
<td>• Diagnostic reagents for lifestyle-related diseases</td>
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<td></td>
<td>• Cancer remedy information services employing gene amplification analysis</td>
<td></td>
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<tr>
<td><strong>The environment and</strong></td>
<td><strong>Heat dissipation circuit substrates supporting energy-saving technologies</strong></td>
<td>Goal 7 AFFORDABLE AND CLEAN ENERGY</td>
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<tr>
<td><strong>energy</strong></td>
<td>• Thermally conductive materials and other thermal solution products for electronic components</td>
<td></td>
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<tr>
<td><strong>High-value-added</strong></td>
<td>• Asaphane black that is used as a conductor and in lithium-ion secondary cells to help promote the use of clean energy</td>
<td>Goal 11 SUSTAINABLE CITIES AND COMMUNITIES</td>
</tr>
<tr>
<td><strong>infrastructure</strong></td>
<td>• Cement and special cement additives that help build robust and environment-friendly infrastructure</td>
<td>Goal 13 CLIMATE ACTION</td>
</tr>
<tr>
<td></td>
<td>• Special cement additives and other civil engineering solutions, capable of contributing to the effective maintenance and repair of aged structures and buildings</td>
<td></td>
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<tr>
<td></td>
<td>• Construction and civil engineering materials, including underground drilling processes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Thermally conductive materials and other thermal solution products for electronic components</td>
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</tbody>
</table>

**SUSTAINABLE DEVELOPMENT GOALS**

- Goal 3 GOOD HEALTH AND WELL-BEING
- Goal 7 AFFORDABLE AND CLEAN ENERGY
- Goal 11 SUSTAINABLE CITIES AND COMMUNITIES
- Goal 13 CLIMATE ACTION
- Goal 6 CLEAN WATER AND SANITATION
- Goal 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
- Goal 12 SUSTAINABLE CITIES AND COMMUNITIES

### Stepping Up Life Innovation Research

Since the launch of Denka Life Innovation Research (DLIR) Private Limited (Singapore) in February 2017, we have been focused on smoothly pushing ahead with and properly managing progress in our R&D activities. To this end, we hold periodic video conferences between researchers while convening bimonthly face-to-face meetings aimed at discussing research themes. Also, the verification of POCT solutions and influenza vaccines is under way at DLIR, with its diagnostic reagent group evaluating the effectiveness of gene-based diagnostic test kits for detecting tropical disease infections and its vaccine group evaluating that of influenza vaccines (Pfizer mRNA vaccine).

To this end, we hold periodic video conferences between researchers while convening bimonthly face-to-face meetings aimed at discussing research themes. Also, the verification of POCT solutions and influenza vaccines is under way at DLIR, with its diagnostic reagent group evaluating the effectiveness of gene-based diagnostic test kits for detecting tropical disease infections and its vaccine group evaluating that of influenza vaccines (Pfizer mRNA vaccine). Other initiatives undertaken by DLIR include surveys on peripheral needs and potential technologies in the fields of POCT diagnostic reagents and cancer diagnosis with the aim of developing new healthcare-related businesses. Also included are ongoing surveys aimed at identifying next-generation diagnostic technologies and other promising technologies that can be used for such applications as the detection of tropical infectious diseases.

### Strengthening Our R&D Capabilities and Progress Management

**Young researchers engage in collaboration with potential customers**

In addition to maintaining technological interaction between young researchers and their external peers, Denka encourages these researchers to be flexible in their pursuit of collaborative research to identify unconventional R&D themes, and, in turn, may lead to the creation of new businesses. This approach is expected to yield the added benefit of helping researchers embrace independent-mindedness and achieve personal growth. In fiscal 2017, three external partners were involved in this kind of collaboration.

**Nurturing the next-generation of R&D specialists**

The Denka Innovation Center held workshops to explore new themes. Avoiding any particular insistence on certain materials, we promote initiatives aimed at encouraging researchers, ranging from new recruits to those working at Denka for 10 years, to bring fresh ideas and employ flexible ways of thinking to the identification of new themes and creation of new businesses and solutions.

**Helping promising researchers pursue overseas studies and obtain diploma from leading educational institutions**

A researcher has been dispatched from the Denka Innovation Center’s Advanced Technologies Research Institute to the University of California, San Diego, to engage in research into Li-ion secondary batteries, completing studies spanning a period from July 2015 to September 2017 as a visiting researcher. We are proactively helping our researchers to pursue studies at leading educational institutions at home and abroad and to obtain diplomas, including Ph.D.s. Currently, six people are studying at the graduate school of a national university in Japan to complete the doctoral course.
Properly Managing Product Safety and Quality while Continuously Improving the Quality Assurance Level

Product Safety Management
1. Verify the Safety of Raw Materials and Required Quality Level and Engage in Production Process Design

We select and use raw materials for which safety can be verified while developing products that conform with customer and legal demands. We establish production processes that ensure consistent quality and thus trust in the products we develop.

2. Green Procurement and Purchasing Specifications

We ensure that we purchase only raw materials that do not contain chemical substances prohibited under Japanese and international regulations. At the same time, we purchase raw materials based on purchasing specifications that delineate the required characteristics. Consequently, we are striving to manufacture products from quality raw materials and production processes.

3 & 5. Manufacturing Vendor Audits

We work with vendors whose manufacturing processes are partially or entirely outsourced. We regularly audit manufacturing vendors based on in-house standards for quality, logistics, environmental management and product safety.

4. Maintain/Improve Environmental Protection and Quality

We are undertaking environmental and quality management operations; gradually expanding the scope of our efforts to include new products; and working to maintain and improve quality, environmental protection and safety.

6. Waste Contractor Audits

We commission waste contractors in line with the Waste Management and Public Cleansing Law. We require drivers to carry yellow cards that explain the required precautions for its transport, handling, and storage. We require vendors to engage in face-to-face dialogue.

The Number of Major Product-Related Incidents and Failures to Meet Customer Requirements

Since April 2016, we have experienced no product liability-related problems or major quality issues, such as serious client complaints or product recalls due to critical product defects. Moreover, the number of complaints registered in fiscal 2017 was down approximately 8% year on year. A continuation of the declining trend we have seen over the last several years (359 in fiscal 2015; 326 in fiscal 2016; and 298 in fiscal 2017).

8. Displaying Yellow Cards and Yellow Card Container Labels

We require drivers to carry yellow cards that explain post-accident procedures. We also label containers to ensure swift and proper remediation. We regularly inform drivers of our requirements and conduct emergency drills.

9. Safety Data Sheets (SDS)

We produce these sheets for all products to ensure proper handling according to physical and chemical hazards and health and environmental risks. The sheets inform customers and help educate employees. We also disseminate information on environmentally hazardous substances contained in our products to customers through chemical hazard sheets, which supplement chemical substance information conveyed on SDS sheets.

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Customer Satisfaction Surveys

We collect a broad range of customer feedback, including complaints, requests and opinions, to assess customer satisfaction with regard to our quality management initiatives. Moreover, the Electronics & Innovative Products and Living & Environment Products divisions periodically send out questionnaires to identify the level of customer satisfaction. Such actions help us to improve the quality of our products in a way that takes heed of customers’ voices. Thanks to such efforts, in April 2017 DENKA HITTPLATE was chosen by Toyota Motor Corporation’s Horse Plant to receive an Excellent Quality Award. Looking ahead, we will pay close attention to what customers say about our products and continually pursue higher product quality.

Introducing a System for Handling Customer Complaints

In May 2014, we introduced a system for handling customer complaints on a Companywide basis. Employing a centralized database that contains such information as the content of customer complaints, our responses and steps taken to prevent recurrences as well as the verification of steps taken, the system is helping us confirm the status of each complaint on a real-time basis, thereby speeding up information sharing and response time. Moreover, we analyze the database to further enhance product quality and customer satisfaction.

By addressing all negative customer feedback, including complaints, we are doing our best to accommodate requests for even greater product quality.

Response to the Conflict Minerals Issue

In the United States, listed companies are obliged to report on transactions involving the use of conflict minerals to the Securities and Exchange Commission (SEC) in accordance with the Dodd-Frank Wall Street Reform and Consumer Protection Act enacted in July 2010 and rules issued by the SEC in August 2012. Although Denka is not subject to this legislation, the Company considers it a social responsibility to follow suit. With this in mind, we undertake tracking surveys when requested by customers to affirm that our products are conflict mineral free.

Stepping Up Partnerships with Supply Chains

In order for Denka to implement its management plan, maintaining robust supply chains is a matter of importance. We are well aware of the need to ensure that neither the sell-side or buy-side constituents of a supply chain is forced to accept conditions detrimental to their business, which would damage our favorable relationship with them and eventually cause trouble for end customers. With this in mind, Denka strives to build strategic partnerships with its suppliers while facilitating their understanding of its CSR Procurement Policies and Guidelines. To make our supply chains even stronger, in fiscal 2017 we paid visits to approximately 60 suppliers to engage in face-to-face dialogue.

Questionnaires with Regard to CSR Procurement

In fiscal 2017, Denka conducted questionnaires to the top 80% of its suppliers (in terms of transaction value) to confirm their policies on and the status of their CSR activities. Most of the recipients responded and the results suggested that more than 80% of respondents undertake CSR activities, including measures aimed at ensuring operational safety and strict compliance.

Looking forward, we will expand the scope of our questionnaires while facilitating mutual understanding through in-depth dialogue. In these ways, we will step up CSR activities in tandem with supply chains.

Primary Items Featured in Suppliers’ CSR Policies

Note: Figures in parentheses represent the proportion out of 10 of respondents responding affirmatively with regard to having in place CSR policies addressing the matters listed below.

<table>
<thead>
<tr>
<th>CSR Policy Area</th>
<th>9.5</th>
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<th>8.4</th>
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<tr>
<td>Social contribution</td>
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<td>Legal and regulatory compliance</td>
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<td>Prevention of terrible accidents</td>
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<td>Stance against antisocial forces</td>
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Flowchart

1. Development
Verify the safety of raw materials and ensure quality level

2. Raw Materials
Prepare raw materials

3. Production
Product development; production (trial production)

4. Improvement
Produce products

5. Communication
Provide important safety information

6. Management
Manage safety information and distribution

7. Management
Manage safety information and distribution

8. Improvement
Make product improvements

9. Communication
Provide important safety information

*The Japan Chemical Industry Association created a labeling format to augment the Yellow Card system. The labels present emergency guideline numbers for different chemicals transported simultaneously in relatively small amounts on the same vehicle. The labels aid in proper handling of these chemicals in emergencies.
Corporate Governance: Corporate Conduct Deserving Trust

We are committed to maintaining the soundness and transparency of management as we aim to enhance our corporate value and secure sustainable growth.

Improving Corporate Governance

Analysis and Evaluation of the Effectiveness of the Board of Directors

(1) Method of Evaluation
Following last year, the Company analyzed and evaluated the effectiveness of the Board of Directors by having individual Directors and Audit & Supervisory Board Member to complete the “Self Evaluation Questionnaire,” which covers items related to the effectiveness of the Board of Directors, such as scale, composition, operation, and 20 other items, and discussing the questionnaire results at Board of Directors meetings.

(2) Summary of Evaluation Results and Future Efforts
The Company reaffirmed that discussion was reinvigorated at the Board of Directors by ensuring an appropriate Board size and composition (in terms of getting the right balance of expertise, experience, ability and diversity) and an appropriate meeting frequency and duration, as well as through various initiatives to deepen the understanding of Outside Officers of the Company, including prior explanations of agenda items, enabling them to make proactive contributions at the Board of Directors meetings.

Standards of Independence for Outside Officers

The standard of independence for an Outside Director or Outside Audit & Supervisory Board Member of the Company shall be persons that do not fall under any of the categories defined in items (1) through (5) below.

(1) An executive of business (F1) at a main customer (F1), main supplier (F2), or main lender (F3) that is a main trading partner of the Company.
(2) A Consultant, accountant, lawyer, or other such person that has received money or other property exceeding ¥10 million in value per year from the Company, including off-site compensation, in the most recent fiscal year.
(3) A person belonging to a group for whom the amount paid by the Company makes up 2% or more of the group’s revenues or total income in the most recent fiscal year, in cases where the entity receiving property under item (2) above is a group.
(4) A Person that has fallen under any of the above categories (1) through (3) within the past year.
(5) A spouse or relative within the second degree of a person falling under any of the categories below (excluding an insignificant person).
   i. A person that falls under any of the above categories (1) through (4); or
   ii. A person that is or was an executive of business at the Company or a subsidiary of the Company now or within the past year;
   iii. A person that is or was a non-executive director at the Company or a subsidiary of the Company now or within the past year (for Outside Audit & Supervisory Board Members only).

(1) Main customer: A customer from whom the amount paid has made up 2% or more of the Company’s revenues in the most recent fiscal year.
(2) Main supplier: A supplier to whom the amount paid from the Company has made up 2% or more of the supplier’s revenues in the most recent fiscal year.
(3) Main lender: A lender that was essential for the Company’s funding, and that the Company relied on to the extent the lender was indispensable, as of the end of the most recent fiscal year.
(4) Executive of business: An executive director, executive, executive officer, or other employee, etc.

In addition, in the area of the Denka Group’s overall business strategy as pertains to the last year evaluation, in consideration of the views indicating that further improvement of the role of the Board of Directors may be achieved if the Board of Directors secures adequate time for discussion, including information provision and prior explanations, such that appropriate management and supervision may be implemented, we reaffirmed that we conducted constructive and adequate discussions informed by a relentless management of opinion and advice from Outside Officers with regard to the new management plan “Denka Value-Up” through the Management Advisory Committee, which is a voluntary committee comprising all Outside Directors, all Outside Audit & Supervisory Board Members, the Chairman and the President to foster transparency and objectivity in management decision-making, and prior explanations, etc.

At the same time, opinions were submitted that in order to further deepen discussions regarding the overall business strategy of the Group and individual business strategy, it is important to review the time allocation of the Board of Directors and for outside and internal officers to share medium- and long-term and short-term business strategies.

In consideration of these constructive opinions, the Board of Directors will work for the improved effectiveness of the Board to increase medium- and long-term corporate value.

Internal Control Systems

Internal Auditing Department

As the organization independent from other business units that monitors the business operations of the whole company, the Internal Auditing Department conducts audits of all organizations and operating companies within the Group.

In fiscal 2017, the department conducted operational theme audits aimed at examining the status of occupational safety and quality management at each plant and cement distribution facility as well as compliance audits of subsidiaries handling cement products around Japan. In addition, the department provided managers of business units across the Company with practical case studies, taken from these audits of the above-listed business sites, as part of educational sessions focused on internal control systems. Thanks to these activities, including practical case studies, we were able to help individual managers confirm their roles and significance in the internal control systems and raise their awareness of internal control.

In fiscal 2018, we are striving to increase the volume and quality of our audits assessing operational risks and management risks. By doing so, we will realize even more solid corporate governance, which is a requisite for “Sustained Growth” and “Sound Growth,” two objectives identified in our threefold growth vision under the Denka Value-Up management plan. Specifically, our audits are aimed at ensuring comprehensive examinations of the management of the assets and risks in each Group company and the status of legal compliance and business operations. In these ways, we are striving to identify risk and issues that may have otherwise been overlooked and examine each operational process to assess its effectiveness and appropriateness. Issues identified through audits are communicated to business units subject to auditing to encourage spontaneous efforts to make improvements. Furthermore, we share these issues with other departments as necessary, so as to expect them to contribute their ideas to devise solutions and mutually help their peers improve the value of their respective business units.

Our Structure for Screening Contracts

As we aim to ensure that each Group company maintains fair and impartial conduct in the course of transactions with customers, suppliers and other business partners, we believe that the screening of contracts is essential. This screening must carefully examine contractual terms and conditions from a legal perspective and in light of our operational objectives. To that end, Denka is developing an overarching intranet system serving as an end-to-end management tool that updates the status of contracts, including those undergoing pre-signing screening by the Legal Department and those that have already been signed, as well as the whereabouts of each contract paper. In addition to providing relevant individuals with an easy-to-use interface, this system is expected to help them realize the earlier detection of contractual risks requiring attention and address such risks in a more efficient manner.

Maintaining Strict Compliance with Laws, Regulations and Corporate Ethics

Our Stance against Corruption and Antisocial Forces

The Denka Group Ethics Policy prohibits employees from engaging in bribery or other illegal activities as well as from providing or receiving entertainment or gifts of excessive value or the nature of which violates social norms. We send out periodic alerts reminding employees to take particular heed of the prohibition against bribery when engaged in transactions overseas or trying to penetrate into new market areas. We intend to also implement such employee education at overseas subsidiaries. In addition, our subsidiaries in Singapore have in place even more stringent in-house rules regarding gifts and entertainment in line with the country’s legal standards. All Group employees are strongly acting in way to benefit antisocial forces, and we ensure that every business contract incorporates a clause requiring the severance of any relationship with such entities.

Security Trade Control

Current international regulations on trade aim to prevent the proliferation of weapons of mass destruction by prohibiting exports of products and technologies that could help the development and manufacture of such weapons. In line with this, the Denka Group Ethics Policy requires adherence to Japan’s Foreign Exchange and Foreign Trade Act, the Export Trade Control Order and other related regulations as well as the Company’s in-house rules on screening of Contractor. In addition to providing our researchers with education on the protection of IP rights, targeting our employees at sales, marketing planning and administrative departments. We are thus endeavoring to raise employees’ compliance awareness regarding the protection of IP rights.
Prevention of Insider Trading

In recent years, the incidence of insider trading and illegal use or leakage of privileged information has increased. In response, Japan’s Securities and Exchange Surveillance Commission is stepping up efforts aimed at cracking down on such illegal activities. In line with its in-house rules regarding the control of insider information and prevention of insider trading, Denka prohibits information leakage while requiring employees in certain positions to submit prior notice when they engage in the sale or purchase of stocks. Also, such sales and purchases are uniformly banned during the two weeks before the date of financial results announcement.

Looking ahead, we will strive to disseminate these rules via the Company’s intranet and other media, thereby helping to ensure the appropriate control of information and the prevention of insider trading.

Fair Trade

In line with the stipulations of the Denka Group Ethics Policy requiring adherence to competition laws (e.g., the antimonopoly laws), we are holding in-house compliance training sessions and seminars while conducting internal audits with the aim of facilitating employee understanding of relevant issues and ensuring even stricter compliance. Thanks to these and similar efforts, Denka has not been charged with any violation of competition laws since 1993 in Japan and 2002 overseas. As we aim to remain in this status, we are stepping up such initiatives as employee education aimed at ensuring compliance with fair trade and competition laws.

The Number of Incidents Reported via the Compliance Hotline System

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Information Security Management

① Information Management Rules

The Denka Group Ethics Policy encompasses guidelines under the headings the Safe Management of Personal Information/Confidential Information Management and Respect for Intellectual Property Rights, both of which are strictly compiled with. As subordinate regulations of these guidelines, Denka established and developed the Personal Privacy Policy and the Regulation for Protecting Information regarding Corporate Secrets.

The Company annually updates rules regarding the use of the information system and posts these rules on its intranet bulletin board with the aim of ensuring that every officer and employee is well aware of “dos and don’ts” with regard to their usage of such systems. Furthermore, Denka strictly manages and respectfully handles confidential information provided by third parties in accordance with the Denka Group Ethics Policy.

② Information System Management and the Protection of Electronic Data

To ensure the safe and efficient management and operation of its information systems, Denka established the Information System-Management Guidelines and the Information System-Work Manual as subordinate rules under the Regulation for Protecting Information regarding Corporate Secrets.

As we aim to enforce robust measures aimed at protecting our electronic data, we utilize external secured data centers to operate our servers, disc devices and other equipment constituting our system platform. Moreover, we established a structure that links two data centers (located in the east and west of Japan), each capable of supplementing the other’s operational capacity even if one site is struck by a wide-area disaster like an earthquake or a tsunami, thereby securing the continuity of system operations.

Well aware of the threat of malicious cyberattacks employing increasingly sophisticated methodologies, we implement vigorous countermeasures against intrusion into our network and the theft of information from it, striving to ensure the early detection of computer virus infections and other unauthorized activities.

Information System Management Structure

- President
- Vice President
- General Managers
- Managers
- Directors in Charge
- Chief officer at each relevant department
- General administrator at each relevant department
- Administrator in each section in area in charge

③ Lectures on Information Security

Denka provides newly hired employees with joint training sessions themed on information security, utilizing easy-to-understand videos to instill relevant in-house rules. For mid-ranking and veteran employees, the Company implements annual information system training sessions at Headquarters, branches and plants, giving them lectures on these rules. In these ways, Denka ensures that all employees are well-versed in information security rules whether they are new recruits or veterans.

Employee Happiness

We are proactively pushing ahead with efforts to create a sound workplace environment in which all employees stay healthy while working vigorously.

Helping Women Earn Career Success

Every year, we strive to ensure the proportion of women among our newly hired specialists is 20% or more. In April 2017, 12, or 28% of our newly hired specialists were women. As our aim is to facilitate equal participation in business of both genders, we have lengthened the period that those engaged in child rearing may opt for shorter working hours while allowing employees to take half-day nursing care leaves for tending to family members. This and other assistance programs have been introduced to help employees develop lengthy careers even when they face the need to place stronger focus on family duties. Moreover, we have prepared and distributed Life in Denka, an in-house booklet aimed at facilitating employees’ understanding of these programs.

Status of Work-Life Balance (non-consolidated basis)

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Total working hours</th>
<th>Overtime hours</th>
<th>Average number of days of paid leave utilized</th>
<th>Ratio of annual paid leave utilized</th>
<th>Number of employees who took childcare leave</th>
<th>Number of employees who opt for shorter working hours</th>
<th>Number of employees who utilized parenteral care leave</th>
<th>Number of employees who took nursing care leave</th>
</tr>
</thead>
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<tr>
<td>2014</td>
<td>1,931</td>
<td>1,931</td>
<td>1,948</td>
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<td>10</td>
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</tbody>
</table>

An informative handbook aimed at helping employees strike a balance between nursing care and work.

Under the slogan “Your value is Denka’s value,” we compiled and distributed this handbook to all employees (January 2018).
Ms. Yoshie Komuro and Denka President Manabu Yamamoto
Engage in Dialogue

In line with the Denka Value-Up management plan, which we launched in April 2018, we have identified diversity promotion and work style reforms as key factors supporting the plan's threefold growth vision. To discuss these factors, President Manabu Yamamoto and Ms. Yoshie Komuro,
President & CEO of Work-Life Balance Co., Ltd., engaged in a dialogue aimed at showcasing Denka management's commitment to promoting diversity and outlining the Company's future initiatives.

Promoting Diversity as a Key Management Strategy

Personal experiences drove home the realization that diversity is essential

Komuro: Looking back on your career, could you point to a specific experience that significantly affected your perspective on diversity?

Yamamoto: When my wife and I married, we had both been working full-time for several years. We had attended the same university, but her more impressive academic achievements won her a well-paying job. While we were attending the same university, my wife held a job that paid more than mine. When my wife and I married, we had both been working full-time for several years. We had attended the same university, but her more impressive academic achievements won her a well-paying job. While we were attending the same university, my wife held a job that paid more than mine.

Komuro: It was. After her resignation, our finances suddenly became tight. Generally speaking, if you are expecting a new family member, you want to see your income going up, don’t you? Nevertheless, instead of securing income from two earners, we had been forced to make a choice that ran contrary to our needs. The dissatisfaction with the circumstances we were forced into has lingered ever since.

Komuro: However, I imagine that at that time, the majority of working men in Japan didn’t think to question the status quo did they?

Yamamoto: Perhaps not. In fact, at first I simply grumbled that “Our life would be much easier if my wife were working full-time.” However, I came to realize that “Our life would be much easier if my wife were working full-time.”

Komuro: So, despite your negative experience, you thought that’s just the way it was.

Takeaways from observations of German practices

Komuro: Mr. Yamamoto, you’ve worked overseas. What were your impressions regarding differences in the working styles of a typical Japanese as opposed to a foreign businessperson?

Yamamoto: In 1989, when Japan’s bubble economy was in full swing, I was transferred to Germany. That was just a month after the collapse of the Berlin wall. My office was in the former West German segment, which had far older population than its East German counterpart. I soon recognized the difference of human resources were lacking and the presence of women in the workplace was equally as strong as that of male counterparts.

Komuro: So, the norm was for women to play an equally important role in the workforce and they were actually achieving robust careers as early as the 1990s?

Yamamoto: That’s right. I still recall seeing significant numbers of female managers working in the purchasing departments of Denka’s client companies. I also met with a number of female researchers. On numerous occasions I was amazed and impressed to see people enjoying career success regardless of gender. In addition, my German counterparts hardly ever had to work overtime to complete their tasks. That was what really inspired me during my association with Germans. Moreover, they took many days off. German law stipulates that annual paid leave granted to employees must be fully utilized within a one-year cycle. No German corporations are allowed to covertly push employees to forgo their rights of annual paid leave by, for example, offering cash incentives.

Komuro: That’s different! Did you find it surprising?

Yamamoto: Yes indeed, I found it almost shocking. Although German workers usually take summer vacations that are a month or more long, this practice didn’t affect their productivity. They were also extremely good at maintaining a strong focus on work during business hours. Having seen the system at work, I concluded that the secret behind Germany’s economic success lies in its strategic emphasis on labor efficiency.

Komuro: So, how did you feel about Japanese working styles once you had returned from Germany?

Yamamoto: In contrast to Germany industry’s strong economic position backed by the capabilities of its human resources and efficient working styles, Japan’s economic competitiveness is the simple result of human wave tactics and unlimited overtime work. That was my impression.

Komuro: I see. So these observations significantly affected your views on diversity, helping you recognize the need to realize an inclusive and diverse workplace as well as to improve the efficiency of work styles in Japan, right?

Yamamoto: Yes, they did.

Changing our corporate culture to better adapt to the new reality

Komuro: In line with the “Denka Value-Up” management plan, Denka has positioned diversity promotion and work style reforms as key strategies. What was your intention behind this positioning?

Yamamoto: Over the course of its century-long history, Denka has been accumulating strengths in various areas. We now boast a wealth of technological expertise as well as a robust pool of human resources. Although the strengths we have are worthy of being preserved, we must also embrace change so that we can better adapt to the new reality of a rapidly evolving and increasingly globalized market environment. Going forward, we must differentiate ourselves from competitors. We will otherwise be left behind. All of us share a sense of urgency in this regard. Moreover, we are acutely aware of the fact that the conventional, homogeneous organizational model is rapidly becoming irrelevant in the face of the need to accommodate wide-ranging customer needs while looking to specialize our business portfolio. That’s why we consider promoting workforce diversity essential. We believe that human diversity helps us enhance versatility and flexibility throughout our organization.

Komuro: So the changing business environment is prompting Denka to promote diversity as a management strategy.

Yamamoto: Exactly. Moreover, promoting diversity also addresses our need to remedy a severe lack of human resources in non-metropolitan areas. At our plants in Niigata, Kashiwazaki and other regions, the scarcity of suitable human resources has become a major obstacle to maintaining robust plant operations. Moreover, given our aim of securing people capable of contributing to the specialization of our businesses, adhering to an age-old recruitment policy focused on maintaining a male-dominated, full-time-only workforce no longer makes sense. We are therefore concentrating on creating a workplace environment that welcomes women, foreign nationals, persons with disabilities and other diverse people and helps them realize their potential. We believe that failing to do so would be critically detrimental to our corporate growth.

Komuro: If a lack of human resources forces a company to give up work that it could otherwise undertake, the loss of business opportunities could be significant, couldn’t it?

Yamamoto: That’s true. So, in addition to promoting diversity as a management strategy, we would like to make Denka an attractive employer for diverse individuals who are either working at or seeking careers with the Company.

How Denka promotes diversity

Komuro: Now, let’s move on to the details of how Denka promotes diversity. Could you name any specific initiatives now under way?

Yamamoto: First, we will keep our focus on recruiting...
At the same time, we need to standardize our diversity and work style reforms. Accordingly, we will step up efforts to nurture female manager candidates. Simultaneously, we will proactively hire human resources with specific, unknown skills. We expect these initiatives to enhance our diversity.

Komuro: What are your views on diversity promotion and work style reforms at production sites?

Yamamoto: Historically, production sites have typically been run by regimented male-dominated organizations. In order to handle dangerous, unmanned tasks, we have been employing operators who are physically strong, but often at a cost to their own well-being. I suspect that there may be some who feel their tasks are well-built and stronger while others are slighter. I wonder to what extent we might resign after reaching retirement age, doesn’t it? What’s critical is that we must improve the uniform quality of operations and products while leveraging IoT, AI and robots. Automation via the use of IoT, AI and robots will make our production lines more productive and safer. Overall, what we're trying to do is to realize labor-saving operations. To promote the initiatives you've just discussed, Denka needs to focus on improving the well-being of our employees, as well as their working conditions. We must ensure that employees are well-rested and that the hours they work are fair. To promote the initiatives you've just discussed, Denka needs to focus on improving the well-being of our employees, as well as their working conditions. We must ensure that employees are well-rested and that the hours they work are fair. To promote the initiatives you've just discussed, Denka needs to focus on improving the well-being of our employees, as well as their working conditions. We must ensure that employees are well-rested and that the hours they work are fair.
Environmental Preservation

As a chemical company, we are committed to preserving the global environment through Responsible Care activities while pursuing manufacturing operations that contribute to environmental conservation initiatives.

Sixth Medium-Term Environmental Plan

We are promoting systematic energy-saving initiatives aimed at annually achieving a 1% improvement in both energy consumption and CO2 emissions intensity indices. Moreover, efforts are now under way to continuously reduce emissions of environmental load substances by improving our production technologies through such measures as the upgrading production substances by improving our production technologies and storage to distribution to usage and disposal. In these ways, we will fulfill our social responsibilities.

Fiscal 2018 Responsible Care (RC) Activity Policies (environment related)

In line with the Responsible Care Global Charter, we will engage in dialogue with stakeholders to accurately assess society’s expectations in addition to maintaining strict compliance and preventing environmental pollution. As our goal is to contribute to environmental conservation initiatives aimed at realizing a sustainable society, we will promote RC activities in all aspects of our business operations, ranging from raw materials procurement through manufacturing and storage to distribution to usage and disposal. In these ways, we will fulfill our social responsibilities.

Promoting Climate Change Countermeasures

Our Response to the Revised Act for Rationalized Use and Proper Management of Fluorocarbons

In accordance with the Act for Rationalized Use and Proper Management of Fluorocarbons (put into force in April 2015), we are stepping up the management of our freezing and air conditioning equipment that uses fluorocarbons as refrigerants. With the revision of this act, business operators are obliged to submit a report to relevant authorities whenever their annual emissions volume exceeds 1,000 t-CO2e. Even though we have maintained our fluorocarbon emissions below this limit (fiscal 2015: 812 t-CO2e; fiscal 2016: 448 t-CO2e; fiscal 2017: 440 t-CO2e), we will steadily implement facility inspection and maintenance while promoting the systematic renewal of such equipment, replacing it with alternatives that use refrigerants with a smaller GWP (global warming potential). In this way, we are working to make fundamental improvements.

Third-Party Verification of Denka’s GHG Emissions Data

The Denka Group has undergone a third-party verification of its GHG emissions data. This verification was undertaken by Bureau Veritas Co., Ltd. and was intended to enhance the reliability of said GHG emissions data through independent verification as part of initiatives aimed at continuously stepping up the Denka Group’s environmental management. For more details, please also see the third-party verification report posted on Denka’s corporate website.

【Period covered by the verification】
April 1, 2016 to March 31, 2017

【Scope of the verification】
Scope 1 and 2 GHG emissions (CO2 emissions from energy and non-energy sources)
Business sites identified as sources of emissions under these categories are as follows.
Denka’s six domestic production sites (Omihachiman, Chiba, Shikubawa, Okuna and Isesaki)
Categories 1, 6 and 7 of the Scope3 GtGHG emissions
Business sites identified as sources of emissions under these categories are as follows.
Categories 1 (purchased goods and services)
Goods and services procured by six domestic production sites (Omihachiman, Chiba, Shikubawa, Okuna and Isesaki)

Examples of concrete initiatives:
Conducting periodic surveys aimed at assessing the impact of limestone mine development on ecosystems in neighboring areas
Engaging in the planting of Japanese evergreen oak and pin oak trees to restore areas that have undergone mining to their original state
Developing a water treatment business via group company Denka Consultant & Engineering Co., Ltd. by employing its microorganism handling technologies
Preserving Cephalanthera erecta and Cephalanthera fasciata, both of which are facing a growing threat of extinction and have been designated as class II endangered species by the Tokyo Metropolitan Government, on the premises of the Denka Innovation Center (Machida, Tokyo) and adjoining areas.

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Minami Substation Serving Various Production Facilities at the Omi Plant

Electrity generated by a total of 15 hydroelectric power plants, which are situated along the Himekawa, Umikawa and Omigawa river systems, is transferred over the mountains via a high-voltage transmission network maintained by Denka to the Minami Substation. As a key facility feeding various production facilities across the Omi Plant, this substation also relays electricity purchased from Tohoku Electric Power Co., Inc. as well as electricity generated by the Omi Plant's on-premises natural gas turbines. Itoigawa City is located on the country's power supply frequency borderline separating western Japan (60 HZ) and eastern Japan (50 HZ). Because of this, the Omi Plant is capable of handling both frequencies. Specifically, most of the facilities in the Omi district are adjusted for 60 HZ, while those in the Tomi district are adjusted for 50 HZ. In addition, some facilities can accept either 50 HZ or 60 HZ power feeds.

The Minami Substation collectively handles electricity from in-house power generation facilities, such as hydroelectric power plants that are often impacted by seasonal factors and weather conditions as well as on-premises generators located across the Omi Plant. It also relays externally purchased electricity bought at varying rates by time, day and season. Simultaneously, the station efficiently manages an optimal demand-supply balance while ensuring the constantly evolving electricity needs of production facilities.

The Utilization of Government Subsidies Related to the Environment and Energy

We proactively utilize subsidy programs to develop technologies that lead to ecological and energy-saving solutions.

Over the course of the last five fiscal years (fiscal 2013 through 2017), the Company has been granted subsidies for 12 projects under various subsidy programs sponsored by government ministries. These programs, aimed at facilitating public-private cooperation in advanced technology pilot projects and encouraging Japan-based production and R&D facility construction, are having a significant effect on results and helping us meet objectives in various project areas.

Energy Saving Initiatives

The Omi and Chiba plants have been engaged in projects aimed at upgrading their cement and chloroprene rubber manufacturing facilities and styrene manufacturing facilities, respectively, under the auspices of Japan’s Ministry of Trade, Economy and Industry (METI). The projects in question were subsidized by METI’s program for the rationalization of business operators’ energy use and have successfully yielded the intended results. Meanwhile, a subsidized project has been underway at the Omi Plant since fiscal 2015 to introduce energy-saving facilities at electrolysis plants and thermal power generation facilities alongside improvements in the calcium carbide production process.

List of Subsidized Projects

<table>
<thead>
<tr>
<th>Category</th>
<th>Project</th>
<th>Business site</th>
<th>Subsidy title, relevant authority</th>
<th>Fiscal year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy saving</td>
<td>Introduction of high-performance burners for cement production</td>
<td>Omi Plant</td>
<td>METI Subsidy program for the rationalization of business operators’ energy use</td>
<td>FY2013</td>
</tr>
<tr>
<td>Energy saving</td>
<td>Introduction of high-performance drying equipment for chloroprene rubber-related facilities and the introduction of high-speed drying systems associated with cement production</td>
<td>Omi Plant</td>
<td>METI Subsidy program for the rationalization of business operators’ energy use</td>
<td>FY2015-FY2016</td>
</tr>
<tr>
<td>Energy saving</td>
<td>Introduction of the latest steam and fuel consumption reduction technologies at petrochemical plants</td>
<td>Chiba Plant</td>
<td>METI Subsidy program for the rationalization of business operators’ energy use</td>
<td>FY2015-FY2016</td>
</tr>
<tr>
<td>Energy saving</td>
<td>Introduction of energy-saving facilities at electrolysis plants and thermal power generation facilities. (Chiba)</td>
<td>Omi Plant</td>
<td>METI Subsidy program for the rationalization of business operators’ energy use</td>
<td>FY2015-FY2016</td>
</tr>
<tr>
<td>Energy saving</td>
<td>Introduction of LiDAR lighting</td>
<td>Omi Plant</td>
<td>METI Subsidy for promoting investment in energy conservation and a productivity revolution for SMEs</td>
<td>FY2016</td>
</tr>
<tr>
<td>Energy saving</td>
<td>Introduction of LiDAR lighting</td>
<td>Chiba Plant</td>
<td>METI Subsidy for promoting investment in energy conservation and a productivity revolution for SMEs</td>
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<td>METI Subsidy for promoting investment in energy conservation and a productivity revolution for SMEs</td>
<td>FY2016</td>
</tr>
<tr>
<td>Energy saving</td>
<td>Promotion of CO2-SUICOM environment-friendly concrete</td>
<td>Omi Plant</td>
<td>METI Subsidy program for verification of carbon dioxide capture and storage (CCS) technologies</td>
<td>FY2016</td>
</tr>
<tr>
<td>Advanced technology</td>
<td>Demonstration of a biomass rocket production facility (for demonstration of new re-generative high-speed combustion technology)</td>
<td>Omi Plant</td>
<td>METI Subsidy for Advanced Technology Demonstration and Evaluation Facility Development</td>
<td>FY2015-FY2016</td>
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<tr>
<td>Advanced technology</td>
<td>Establishment of an R&amp;D facility for renewable energy applications</td>
<td>Advanced Technologies Research Institute</td>
<td>METI Program for Acquiring Breakthrough Innovation for Practical Applications</td>
<td>FY2015-FY2016</td>
</tr>
<tr>
<td>Advanced technology</td>
<td>Development of high-output and high-density SiC power devices capable of withstanding high temperatures</td>
<td>Omi Plant</td>
<td>METI Subsidy for Domestic Location Promotion Projects</td>
<td>FY2015-FY2016</td>
</tr>
<tr>
<td>Advanced technology</td>
<td>Establishment of a facility for producing high-performance conductive agent (acetylene black) for use in lithium ion batteries</td>
<td>Omi Plant</td>
<td>METI Subsidy for Domestic Location Promotion Projects</td>
<td>FY2015-FY2016</td>
</tr>
</tbody>
</table>
Cement Production-Related Recycling Business

The cement production facilities at Denka’s Omihachiman Plant (Niigata Prefecture) accept a large amount of waste and byproducts both as fuels and as raw materials. Natural minerals have long been used for these purposes in cement production; however, Denka is aware of the potential utility of the chemical and calorie content of many waste materials and byproducts and maintains a policy of actively promoting a switchover to these materials.

Raw materials utilized by these facilities include coal ash from thermal power stations; contaminated waste soil and plasterboard waste from construction sites; and foundry sand that has been used for casting molds by automakers and machine parts makers. We also accept sludge from water supply and sewage treatment systems, which are integral to people’s daily lives.

For fuel, we accept waste plastic separated from general waste as well as automobile shredder residue and waste oil recovered after automobile disassembly. Moreover, the Omihachiman Plant’s biomass thermal power facility is fed by scrap wood from the demolition of houses. Also, the plant utilizes byproducts from on-premises chemical production facilities, helping to minimize overall external emissions.

The plant accepts waste from all over Japan. To gather this waste we use ground transport in the surrounding Niigata communities and larger Hokuriku area and have proactively adopted cost-effective marine transport to carry large amounts of waste from regions as far away as the Kyushu area, Hokkaido Prefecture, and major cities located on the Pacific side of the Japanese archipelago, including Tokyo, Osaka and Nagoya.

As a result of these efforts, in fiscal 2017 Denka used 562 kilograms of waste and byproducts for every metric ton of cement produced.

Recently, we began considering accepting incineration ash from municipal garbage incineration facilities processing general waste while stepping up collaboration with the local governments of communities in which we operate. Due to the impact of restrictions on waste imports enforced by the Chinese government, the need for resource recycling measures is growing in Japan. In response, we are striving to develop a more robust structure capable of accepting an even broader range of waste.

In addition, Denka was chosen by the 3R SUISHINKYOGIKAI (the Reduce, Reuse and Recycling Promotion Committee) to receive the Chairman’s Award for 3R Contributor under the committee’s Fiscal 2017 3R Award Program. This commendation was attributable to the Company’s proactive efforts to accept scrap wood collected from areas devastated by the Kumamoto Earthquake and a massive fire that engulfed streets north of Itoigawa City’s main station as part of its social contribution initiatives.

Kaneyo Recycling Center: a Business Partner Supporting Denka’s Resource Recycling Operations

The Kaneyo Recycling Center, a business unit of the Ishigaki-based Kaneyo Unyu K.K., is charged with screening and processing scrap wood and waste plastic collected for use as alternative fuels for cement production facilities and biomass boilers at Denka’s Omihachiman Plant.

The quality of waste plastic collected for this purpose varies widely in terms of calorific value and other properties. It is thus important to screen these materials in order to secure good alternative fuels: sometimes plastics containing hazardous substances must be rejected in light of a facility’s treatment capacity. Of course, the Company’s resource recycling operations must not be undertaken in ways that run counter to its commitment to quality management and environmental preservation.

With this in mind, the Kaneyo Recycling Center screens waste plastic mainly via manual picking because the proper screening of a wide variety of waste emitted from general households and business operations is ultimately dependent on well-experienced operators equipped with specialized expertise. The center also accepts scrap wood collected from housing demolition sites while handling waste wood generated via tree trimming undertaken as part of forest conservation projects. Nails and other metal objects attached to wood materials are rejected while they are processed through automated operational lines that employ magnetic metal rejection systems, and gravity separation systems. Screened plastic and wood materials are then crushed and chipped into fractions of designated size, for transport to cement production facilities.

In recent years, scrap wood processing costs have been falling due to an increase in the number of biomass generation facilities and despite a surge in logistics expenses. Closely monitoring the material supply and market conditions, which may together affect its operational cost, the center works in collaboration with Denka’s cement production facilities to optimize its output as well as its inventory volume.

Today, an ever broader range of general households and business operators are called on to practice resource recycling by, for example, properly separating recyclable materials and other waste. This improves the value of resources, reduces the cost for the reuser and helps generate profit and employment.

Looking ahead, Denka will work shoulder to shoulder with its business partners, including the Kaneyo Recycling Center, to step up operations aimed at facilitating the recycling of resources. By doing so, we will make a positive impact on environmental issues communities around the globe are now confronting.

Environmental Preservation


Currently, a large amount of waste emitted from people’s day-to-day living and business operations is disposed of in landfills despite recycling efforts undertaken by the public and private sectors. Providentially, Denka’s cement manufacturing facilities can be fed by a variety of waste and byproducts, which serve as alternative fuels, while utilizing incineration ash from these substances as cement raw materials. Therefore, we believe that our cement manufacturing is an outstanding example of resource recycling, especially in light of its ability to accept broad range of waste. We are confident that our cement production process is contributing to the preservation of the global environment while helping to extract the full value of resources that would otherwise be wasted in the course of recycling.

We also accept debris from areas devastated by natural disasters and utilize waterworks sludge that meets a radioactivity clearance level determined by municipal bodies of neighboring communities, putting the utmost priority on the safety of frontline production operators, local residents and product users. In these ways, we contribute to the development of local societies.

As such, Denka’s resource recycling operations via cement production are recognized as an example of an excellent CSV initiative as they contribute to the enhancement of people’s quality of life and the sound development of society while at the same time securing profitability and business continuity. In addition, these operations also rely on the cooperation and understanding of various stakeholders, including our business partners. Here, we introduce one such partner charged with sorting and processing waste, essential functions in our resource recycling operations.

Volume of Waste Accepted (total and per unit of production)  
Breakdown of Waste Accepted in Fiscal 2017
### Environmental Accounting

#### Fiscal 2017 Environmental Performance Data

#### Conservation Costs

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Details</th>
<th>Conservation Costs (millions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Business site costs</td>
<td>Subtotal</td>
<td>607</td>
</tr>
<tr>
<td>2. Upstream and downstream costs</td>
<td>Change of raw materials, etc.</td>
<td>0</td>
</tr>
<tr>
<td>3. Administrative costs</td>
<td>Educational activities</td>
<td>1</td>
</tr>
<tr>
<td>4. R&amp;D costs</td>
<td>Development of energy-saving products, etc.</td>
<td>347</td>
</tr>
<tr>
<td>5. Social activity costs</td>
<td>Educational activities</td>
<td>0</td>
</tr>
<tr>
<td>6. Environmental damage costs</td>
<td>Community relations</td>
<td>1</td>
</tr>
<tr>
<td>7. Others</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>955</td>
</tr>
</tbody>
</table>

#### Economic Effects

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Details</th>
<th>Effects (millions of yen)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profits</td>
<td>Proceeds from selling waste from core operations and income from recycling, waste</td>
<td></td>
<td>388</td>
</tr>
<tr>
<td></td>
<td>Cost reductions</td>
<td>Lowering energy costs by conserving energy</td>
<td>476</td>
</tr>
<tr>
<td></td>
<td>Cost reductions</td>
<td>Reducing waste treatment costs by conserving or recycling resources</td>
<td>-28</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>836</td>
</tr>
</tbody>
</table>

To present the actual economic effects of our environmental conservation measures, we calculated proceeds from selling and recycling waste as well as cost reductions in the form of reductions in waste treatment costs.

#### Overview of Environmental Impacts

The Company’s environmental investments in fiscal 2017 were mainly accounted for by the following items: implementation of environmental burden reduction measures (25%); introduction of energy-saving facilities (21%); investments for the effective use of resources (16%); and R&D spending focused on developing energy-saving products (36%).

#### Conservation Effects

<table>
<thead>
<tr>
<th>Environmental Load</th>
<th>FY2016 Results</th>
<th>FY2017 Results</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2 emissions (from energy and non-energy sources)</td>
<td>10,000 t</td>
<td>209</td>
<td>221</td>
</tr>
<tr>
<td>SOx emissions</td>
<td>1</td>
<td>65</td>
<td>44</td>
</tr>
<tr>
<td>NOx emissions</td>
<td>1</td>
<td>4,192</td>
<td>4,365</td>
</tr>
<tr>
<td>Soot and dust emissions</td>
<td>1</td>
<td>61</td>
<td>65</td>
</tr>
<tr>
<td>COD (BOD5) discharges</td>
<td>1</td>
<td>359</td>
<td>326</td>
</tr>
<tr>
<td>Water used</td>
<td>1,000 t</td>
<td>62,777</td>
<td>58,260</td>
</tr>
<tr>
<td>PRTR substance emissions</td>
<td>1</td>
<td>83</td>
<td>75</td>
</tr>
<tr>
<td>Waste</td>
<td>1,000 t</td>
<td>110</td>
<td>113</td>
</tr>
<tr>
<td>Final landfill waste</td>
<td>1</td>
<td>119</td>
<td>88</td>
</tr>
<tr>
<td>CO2 emissions from transportation</td>
<td>1,000 t</td>
<td>34</td>
<td>34</td>
</tr>
</tbody>
</table>

#### CO2 Emissions

- **Final disposal and waste emission rate:** 0.0%
- **CO2 emissions from energy sources:** 1.00 million t (0.92 million t)
- **CO2 emissions from non-energy sources:** 1.21 million t (1.17 million t)
- **Flue gas emissions:** 83,000 t (72,000 t)
- **Emissions of PRTR Substances:** 0 t (0 t)

In fiscal 2017, energy consumption intensity was 96% of the fiscal 2015 level, continuing to improve at least 1% on an annual average basis. In fiscal 2018, although we expect production volume to grow, we will implement ongoing measures aimed at reducing energy consumption of each manufacturing site and enhancing the efficiency of in-house power generation. In these ways, we will engage in more effective energy-saving initiatives.

### Fiscal 2017 Environmental Performance Data

1. **Production Volume and Energy Consumption Intensity**

   ![Graph showing energy consumption intensity](image)

   In fiscal 2017, energy consumption intensity was 96% of the fiscal 2015 level, continuing to improve at least 1% on an annual average basis. In fiscal 2018, although we expect production volume to grow, we will implement ongoing measures aimed at reducing energy consumption of each manufacturing site and enhancing the efficiency of in-house power generation. In these ways, we will engage in more effective energy-saving initiatives.

2. **Emissions of PRTR Substances**

   ![Graph showing emissions of PRTR substances](image)

   We will continue to work on the systematic reduction of PRTR substances, especially at the Chiba Plant, which is a major source of emissions.

3. **Final Disposal Amount and Waste Emission Ratio**

   ![Graph showing final disposal amount](image)

   Overseas, the volume of final landfill waste disposed of by affiliates is increasing due to an increase in production volume. In response, we will strive to reduce the volume of waste generated while facilitating effective resource utilization via recycling. To this end, domestic mother plants and other relevant departments will act in collaboration with these affiliates. We will thus endeavor to maintain zero-emissions status at all Group members.

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In fiscal 2017, SOx emissions decreased slightly year on year, reflecting changes in the content of industrial waste processed at the Omi Plant's cement production facilities. In fiscal 2018, we will continue to work systematically to reduce SOx emissions.

In fiscal 2017, dust emissions increased slightly due to an increase in the production volume of the Omi Plant.

In fiscal 2017, COD (BOD) emissions decreased slightly, with the upgraded wastewater treatment facilities that were brought on line in February 2016 at the Omi Plant steadily contributing to the reduction of emission volume.
Social Dialogue

We will strive to ensure the appropriate and timely disclosure of corporate information while establishing bidirectional communication with stakeholders.

Our Initiatives to Ensure the Appropriate and Timely Disclosure of Corporation Information and Bidirectional Communication with Stakeholders

General Meeting of Shareholders

Denka’s annual General Meeting of Shareholders provides a valuable opportunity for engaging in direct communication with shareholders. Accordingly, we work to give shareholders enough time to confirm and examine the reports and items up for vote. To this end, we send the notice of convocation for the General Meeting of Shareholders three weeks prior to the date of the meeting. Since fiscal 2016, we also post such notice, along with its English translation, one week prior to sending it out in print, via the Company’s and the Tokyo Stock Exchange’s websites. As for the print version, we print this notice on large B5-sized (182 x 257 mm) sheets, with the aim of enhancing readability.

Moreover, we try to schedule the meeting at the earliest possible date to avoid overlaps with similar meetings held by other companies, thereby making it easier for shareholders to attend.

At each meeting, we use narrated videos to supplement our explanations of reported items while maintaining exhibition booths to showcase our initiatives and products and gain greater recognition of our operations. We have adopted a voting system that allows shareholders to use on-line voting via personal computers and cellular phones in addition to regular post. Also, Denka is a member of the Electronic Voting Platform for institutional investors run by the Tokyo Stock Exchange. As such, we are striving to improve shareholders’ convenience with regard to the exercise of voting rights.

Dialogue with Institutional Investors

We aim to help institutional investors enhance their understanding of our management strategies and plans as well as our corporate governance. To this end, Denka’s management team and staff from relevant departments engage in face-to-face dialogue with investors while undertaking such initiatives as inviting investors to attend plant tours and participate in dialogue sessions with outside directors.

Our Stance on Online Information Management

In accordance with Japan’s Financial Instruments and Exchange Law and timely disclosure rules set forth by the Tokyo Stock Exchange, Denka appropriately discloses information with the aim of ensuring the transparency of its management. It is also our policy to proactively disclose information that does not fall under these regulations whenever such information is considered helpful to our stakeholders. Moreover, using such opportunities as results briefings, corporate briefings for individual investors and the General Meeting of Shareholders, we are enhancing communication with our stakeholders while reflecting their feedback in management decisions and business activities.

Denka makes sure that corporate information subject to the timely disclosure rules is protected from unauthorized access or theft prior to release through the Tokyo Stock Exchange’s timely disclosure network (TDNet) service. The Company uploads such information to its website only after confirming that the information has been successfully disseminated through the aforementioned service. The number of personnel handling the management of the website is strictly limited, with their workspaces being set apart from other facilities and equipped with protection systems. We have also established a procedure to handle emergencies, such as unintentional information disclosure and leakage.

Message from the General Manager

As a chemical company, we supply materials for various products that support the development of society. In the production of these materials, we utilize a wide variety of raw materials, including limestone from local mines and waste from neighboring communities.

At times, we place particular priority on the careful handling of hazardous substances and the prevention of their release into the environment. We believe that such practices are key to continuing production in the regional communities surrounding us.

Looking ahead, we will accelerate the development of specialty businesses to realize sustained and sound corporate growth while striving alongside other community members to ensure mutual prosperity.

Message from the General Manager

What sets the Omuta Plant apart is its expertise in producing inorganic materials, such as calcium carbide and calcium cyanamide—two key products Denka has been manufacturing since its founding—as well as electronic materials, a class of products that requires the ability to adapt to a rapidly changing market environment. We are acutely aware of the value of the legacy passed down by our predecessors in the form of outstanding technological capabilities and unwavering commitment to precise manufacturing.

While we honor these traditions, we are also actively incorporating new methodologies. In the course of doing so, we are striving to create a safe, secure and lively workplace environment that allows staff to work with confidence. Furthermore, we are promoting an environment-friendly operational approach to ensure that our plant coexists in harmony with neighboring communities. In addition to developing and delivering unique products, we will sincerely take on every challenge that we meet in the course of these pursuits.
Shibukawa Plant

Operations

In 1991, the Shibukawa Plant was established as a production base for vinyl chloride polymers. In 1976, the plant began manufacturing HARDOC structural adhesive. In 1984, the plant started expanding its business domain, making a full-scale entry into the electronic materials business. Currently, the Shibukawa Plant specializes in electronics-related products, encompassing electronic circuit substrates, thermally conductive materials, emitters, structural adhesives and semiconductor processing-related products, helping drive Denka’s growth strategies as a key organic electronic materials production base.

Products

Electronics & Innovative Products: Materials for electronic circuit substrates, thermally conductive materials, emitters, structural adhesives and semiconductor processing-related products

Address

1-135, Nakamura, Shibukawa, Gunma
Telephone: +81-279-25-2109

Employees

243 (as of March 31, 2018)

Chiba Plant

Operations

About half a century ago, the Chiba Plant started out as Denka’s core petrochemical facility. Today, the plant is striving to transform its business structure by strengthening its capacity to produce functional chemicals with the aim of reaching a new growth stage. Its products include such petrochemicals as styrene-based functional resins and synthetic rubber, polymer processing products, including basically oriented polystyrene sheets, vinyl chloride tapes and other housing and environmental materials as well as ultra-high purity acetylene black for use in lithium ion batteries.

Products

Styrene monomer, polystyrene, ABS resin, heat-resistant polymers, transparent polymers, styrene-based specialty resins, EVA emulsions, synthetic rubber, basically oriented polystyrene sheets, vinyl chloride tapes, rain gutters, corrugated pipes and ultra-high purity acetylene black.

Address

6-83 Minamichibana, Ichihara, Chiba
Telephone: +81-470-26-3220
Mitsubishi Chiba: 1-1, Higashi-ogura, Higashimatsudo, Chiba
Telephone: +81-135-62-1444

Employees

6, Goi-Minamikaigan, Ichihara, Chiba

(181 as of March 31, 2018)

Ishizuka Yoshimi
Executive Officer, General Manager of Shibukawa Plant

Message from the General Manager

The Shibukawa Plant manufactures products expected to become increasingly sought after in markets for items used in such products as vehicle-mounted devices and mobile electronic terminals. In line with Denka’s strategies aimed at achieving sustained and sound growth, our plant operations place strong focus on maintaining the trust of our employees, the communities surrounding us and society as a whole. With this in mind, we will implement such priority initiatives as engaging in dialogue and interaction with community members as well as volunteer activities in tandem with businesses operating in our neighborhood.

Yoshimi Ishizuka
General Manager of Shibukawa Plant

Ofuna Plant

Operations

Employing injection molding and adhesion coating technologies, the Ofuna Plant is engaged in the development and production of such items as synthetic fibers, packaging tapes and functional films. We are Denka’s prime production unit charged with supplying polymer processing products and committed to accommodating customers’ product needs in a timely manner and satisfying their expectations in terms of product safety and quality.

Products

Packaging tapes
Catalyst 1 functional film
TOYOKALON synthetic fiber

Address

1-3-1, Chuo 2-chome, Kamakura, Kanagawa
Telephone: +81-467-57-1110

Employees

181 (as of March 31, 2018)

Shinetsu Mino
General Manager of Ofuna Plant

Message from the General Manager

We at the Ofuna Plant engage in manufacturing activities rooted in Kamakura City, which boasts an outstanding historical legacy. In terms of environmental activities, we strive to preserve the abundant blessings of the city’s natural environment and thereby help enhance the well-being of local residents. To this end, we strictly comply with environmental regulations and strive toward reduced waste emissions and energy consumption. These efforts are backed by an environmental management system designed to help us achieve continuous improvement. As for safety assurance activities, we are steadfastly committed to the prioritization of safety in all aspects of our operations while utilizing hazard prediction and risk assessment systems to identify workplace dangers and steadily mitigate operational risks. We are thus creating a sound workplace environment in which everyone can work vigorously and abide by compliance regulations associated with occupational safety and health while implementing robust measures to prevent accidents, injuries and diseases attributable to our operations.

Hideaki Watanabe
Executive Officer, General Manager

Isesaki Plant

Operations

This plant manufactures sheets and films from polystyrene, vinyl chloride and other raw materials. We supply food and electronic packaging materials that meet stringent requirements for performance and quality management, and are endeavoring to bolster our processing technologies while developing value-added offerings.

Products

Electronics & Innovative Products: Carrier tapes, trays and cover tapes for semiconductor and electronic component transportation
Living & Environment Products: Food packaging sheets, stretch films and solar cell module back sheet materials

Address

Isesaki Plant: 3015, Serada-cho, Ota, Gunma
Telephone: +81-270-32-1251
Isesaki Plant (Ota): 3015, Serada-cho, Ota, Gunma
Telephone: +81-275-52-4111

Employees

181 (as of March 31, 2018)

Message from the General Manager

The Isesaki Plant’s primary products are resin sheets and films used for packaging materials for foodstuffs and those for transporting electronic components. In line with the Denka Value-Lip management plan, we will place the utmost priority on safety in the course of our manufacturing operations, thereby delivering high-quality products to our customers. Also, we will develop specialty products that fill the needs of future generations and are environment-friendly. In these ways, we will create a plant capable of winning the trust of local society while fulfilling our social responsibilities.

Koichi Taguchi
Executive Officer, General Manager

Message from the General Manager

The Chiba Plant is striving to live up to the trust and expectations of the communities surrounding it. We focus on pursuing harmonious coexistence and mutual development with local society, to this end stepping up initiatives to facilitate communication, foster mutual understanding and nurture friendships with our fellow community members. We also aim to create a safe and secure worksite environment and ensure that all workers respect one another and engage in robust communication while striving to enhance profitability. To this end, we will rally the overall strengths of the Chiba Plant.

Takahashi Hideo
Executive Officer, General Manager of Chiba Plant
**Message from the General Manager**

Since the renovation of its main building in 2014, the Denka Innovation Center has been hard at work to realize its full potential as a key facility for open innovation initiatives being undertaken by business units across the Group. As the center expands its activities and serves as a venue for working with a broad range of customers in the co-creation of innovative solutions, the center engages in collaboration with partners and external research institutions at home and abroad while serving as a venue for working with a wide range of customers in the co-creation of innovative solutions. Furthermore, we participate in the annual summer holiday children’s chemical experiment show for children to help young people—the leaders of tomorrow—experience the excitement of chemistry. We also host a plant tour for local elementary school students as part of social contribution initiatives.

Going forward, we will strive to support the realization of a company capable of contributing to the sound and sustainable development of society and to this end rally our Group-wide strengths to live up to the expectations of each stakeholder.

**Message from the General Manager**

Unfortunately, on December 1, 2017, we experienced an accident. This sobering experience caused us to seriously reflect on how vigilant we must be to maintain safe operations. In response, our fiscal 2018 initiatives will be focused on fostering a corporate culture that places the utmost priority on safety (via the solicitation of employee suggestions about safety measures) and providing plant employees and subcontractors with educational sessions focusing on laws, regulations and in-house rules. In these ways, we will step up our safety assurance activities.

**Message from the Deputy Managing Director**

In its efforts to contribute to society through production activities, Denka creates products of value by consuming limited natural resources and energy. We recognize that giving due consideration to the impact of such activities on the environment and communities surrounding us, as well as the well-being of our employees, is essential. We are therefore determined to focus on maintaining a harmonious coexistence with the environment, society and people of Singapore in the course of our production activities.

**Message from the General Manager**

In 2018, the Tuas Plant celebrated the 27th anniversary of its founding as a fused silica filler production facility. Amid the severe market environment for semiconductors, we are striving to maintain stable operations, improve our production technologies and enhance product quality, with the aim of achieving sustainable growth as Denka’s mainstay fused silica production base. We have positioned securing facility security and occupational safety as basic to operations. Accordingly, we are engaged in ongoing safety assurance activities aimed at creating a workplace environment in which every employee can work in confidence.
Message from the General Manager

Last year, we were able to maintain our zero-accident and disaster status thanks to ongoing safety activities that have been implemented since the production kickoff in addition to new initiatives being introduced to step up safety assurance. Under the slogan “GO ANZENHH!!” in fiscal 2018 we will rally the strength of all plant employees to secure a more robust safety assurance structure, realize even higher product quality and enhance our operational productivity.

Message from the Managing Director

We constantly strive to create a sound and safe workplace environment. We adhere to a policy of practicing safe operations in accordance with domestic and international laws and regulations as well as relevant principles and guidelines. We are dedicated to ensuring that all employees can work with confidence and, to this end, promote the betterment of our working environment by undertaking ongoing investment in occupational safety and health measures and by upgrading our safety, hygiene and environmental manuals.

Message from the General Manager

As a Denka Group member operating in Vietnam, we will uphold the Denka Principles and are committed to placing the utmost priority on safety in all aspects of our production and corporate activities as a whole. By doing so, we will realize Denka Mission: “Taking on the challenge of expanding the possibilities of chemistry to create new value and contribute to sound social development.”

Message from the General Manager

1. On May 1, 2016, we achieved 1,600 days of zero-accident and disaster status. Looking ahead, we will rally the strengths of all employees to promote safety assurance activities, with the aim of lengthening this record to 2,000 days.
2. As a resin processing and marketing base that handles electronic and food packaging materials, we will not only expand our facilities but also enhance our technologies to differentiate ourselves from competitors. Moreover, we will regularly assess our profitability and region-specific operational risk, thereby pursuing sound corporate development.
Denka Chemicals Development Suzhou

Operations
Established in December 2010 in China, Denka Chemicals Development Suzhou is Denka’s first overseas R&D base. We are engaged in R&D focusing on such materials as chloroprene rubber. We are focused on the development of products and technologies that will enhance the function of cement, mortar and concrete as well as to provide technical consulting services.

Products
- Hardening accelerator for special cement additives (SC-1, BEFORM, etc.)
- Special cement additives for quick-setting cements (Xunpai, Junchiwang, etc.)

Address
Unit 1D, Modern Industrial Square, No. 333 Xinguo Road, Suzhou Industrial Park, Suzhou, Jiangsu, China 215126

Employees
17 (as of March 31, 2018) (Including four Japanese nationals)

Denka Electronics Materials Dalian

Operations
In September 2014, Denka Electronics Materials was established in Dalian, China, as a company that produces ALSINK, a thermal conductive substrate for use in power modules installed in high-speed rolling stock and other vehicles.

Products
- ALSINK

Address
Building Unit 30, Jingshang Industrial Park, Phase II, No. 41-11 Wanda Road, Dalian Economic & Technological Development Zone, Dalian, Liaoning Province, China 116600

Employees
12 (as of March 31, 2018) (Including two Japanese nationals)

Message from the General Manager

We are in charge of research into core technologies supporting Denka’s operations in China. In addition to contributing to the success of the Denka Value-Up management plan, we will help our researchers enhance their skills while creating a working environment in which everyone can work vigorously with the utmost priority on safety. To this end, we will rally all our strengths to promote operational process reforms. We will also tackle unconventional R&D themes and flexibly collaborate with organizations across the board, including other Group business bases in China. In these ways, we will push ahead with exploring new themes in an effort to accurately accommodate region-specific needs.

Yutaka Shiraishi
General Manager

Denka Inorganic Materials (Tianjin)

Operations
As part of the Group’s special cement additive supply chain, Denka Inorganic Materials was established in September 2013 as a wholly-owned subsidiary (capital: ¥250 million) of Denka to manufacture and sell such products as inorganic additives that enhance the function of cement, mortar and concrete as well as to provide technical consulting services.

Products
- Hardening accelerator for special cement additives (SC-1, BEFORM, etc.)
- Special cement additives for quick-setting cements (Gurupai, Junchiwang, etc.)

Address
No. 3 Saida Mechanical Park, Xingping Economic Development Area, Tianjin, China 300335

Employees
9 (as of March 31, 2018) (Including two Japanese nationals)

Denka Performance Elastomer LLC

Operations
Having taken over operations related to chloroprene rubber (Neoprene™) from DuPont in November 2015, Denka Performance Elastomer was established as a joint venture owned by Denka and MITSUI & CO., LTD. Bringing together the strengths of Neoprene™, long a top-selling product, and proprietary Denka technology, Denka Performance Elastomer will supply superior-quality products to customers around the world, especially those in the Americas.

Products
- Chloroprene rubber (Neoprene™)

Address
560 Highway 46, LaPlace, LA 70068, USA

Employees
239 (as of March 31, 2018) (Including seven Japanese nationals)

Message from the General Manager

Denka Performance Elastomer LLC, or DPE, is engaged in the production and sale of chloroprene rubber in the United States. Japanese and American staff at DPE work hand in hand to enhance the company’s production structure and technological capabilities with the aim of further expanding the chloroprene rubber business, a core business supporting the Denka Group. We are also committed to helping revitalize communities in the surrounding region.

Makoto Funada
General Manager

Message from the Vice President

Denka Electronics Materials Dalian

In addition to contributing to the success of the Denka Value-Up management plan, we will help our researchers enhance their skills while creating a working environment in which everyone can work vigorously with the utmost priority on safety. To this end, we will rally all our strengths to promote operational process reforms. We will also tackle unconventional R&D themes and flexibly collaborate with organizations across the board, including other Group business bases in China. In these ways, we will push ahead with exploring new themes in an effort to accurately accommodate region-specific needs.

Kazuhito Osihara
General Manager

Message from the General Manager

We are a new company that has been operating only four years. With the majority of our workforce being accounted for by young people in their late 20s, we are engaged in systematic staff education and training aimed at motivating local employees to become advocates for continuous improvement. Hoping that Denka’s corporate culture is embraced by people of Dalian, China, we will endeavor to create a safe workplace in which employees find their job rewarding.

Yutaka Shiraishi
General Manager

DPE is engaged in the production and sale of chloroprene rubber in the United States. Japanese and American staff at DPE work hand in hand to enhance the company’s production structure and technological capabilities with the aim of further expanding the chloroprene rubber business, a core business supporting the Denka Group. We are also committed to helping revitalize communities in the surrounding region.

Makoto Funada
General Manager

Yutaka Shiraishi
General Manager

Masamitsu Koizuka
Vice President Technology
utilization of the magnICON® platform, our proprietary technology capable of efficiently producing genetically modified proteins for medical applications in four to five weeks, a significantly shorter time than possible with other methods. Through these development efforts, we will strive to contribute to people’s well-being in various ways.

Icon Genetics

Icon Genetics GmbH became a part of the Denka Group in August 2015 and a wholly owned subsidiary of Denka in August 2017. We are currently striving to develop new vaccines via the magnICON® platform, our proprietary technology capable of efficiently producing genetically modified proteins for use in medicines as well as vaccines for clinical trials. Icon operates a Good Manufacturing Practice (GMP) conformant facility and is capable of producing prototypes of genetically modified proteins for use in medicines as well as vaccines for clinical trials.

Denka Polymer

As a wholly owned subsidiary of Denka, we are supporting the Group’s styrene business through the molding and sale of food containers. Founded in 1966, as Nakagawa Kagaku K.K., we boast a business track record spanning more than 50 years. Along with the development of Japan’s retail sector, including supermarkets, we have been endeavoring to deliver plastic food containers that satisfy the latest customer needs.

CRK

On August 8, 1963, we were founded as Chloroprene Rubber Kogyo K.K. through a joint investment by Denka and local interests based in Takasaki City. On February 28, 2018, we became a wholly-owned subsidiary of Denka. We are engaged in the manufacture, processing and sale of industrial rubber products.

Denka Seiken

Since its founding in 1950, Denka Seiken has been operating its mainstay plants in Gosen, Niigata. Taking on its mission as a supplier of vaccines and diagnostic reagents, the company is striving to protect people’s lives and well-being via its corporate activities.

Message from the President

A key management issue for a business wishing to grow is the provision of a favorable workplace environment. We therefore believe that the company must become more inclusive and help employees envision a bright and stable future. This is essential as we want our employees to be able to take on their duties without anxiety. Based on this belief, we will continue to improve our workplace environment, placing the utmost priority on safety and security. In these ways, we will contribute to society while maintaining the trust of customers.

Message from the CEO

Icon Genetics GmbH became a part of the Denka Group in August 2015 and a wholly owned subsidiary of Denka in August 2017. We are currently striving to develop new vaccines via the magnICON® platform, our proprietary technology capable of efficiently producing genetically modified proteins for medical applications in four to five weeks, a significantly shorter time than possible with other methods. Through these development efforts, we will strive to contribute to people’s well-being in various ways.

CRK

On August 8, 1963, we were founded as Chloroprene Rubber Kogyo K.K. through a joint investment by Denka and local interests based in Takasaki City. On February 28, 2018, we became a wholly-owned subsidiary of Denka. We are engaged in the manufacture, processing and sale of industrial rubber products.

Denka Seiken

Since its founding in 1950, Denka Seiken has been operating its mainstay plants in Gosen, Niigata. Taking on its mission as a supplier of vaccines and diagnostic reagents, the company is striving to protect people’s lives and well-being via its corporate activities.

Message from the President

A key management issue for a business wishing to grow is the provision of a favorable workplace environment. We therefore believe that the company must become more inclusive and help employees envision a bright and stable future. This is essential as we want our employees to be able to take on their duties without anxiety. Based on this belief, we will continue to improve our workplace environment, placing the utmost priority on safety and security. In these ways, we will contribute to society while maintaining the trust of customers.

Message from the CEO

Icon Genetics GmbH became a part of the Denka Group in August 2015 and a wholly owned subsidiary of Denka in August 2017. We are currently striving to develop new vaccines via the magnICON® platform, our proprietary technology capable of efficiently producing genetically modified proteins for medical applications in four to five weeks, a significantly shorter time than possible with other methods. Through these development efforts, we will strive to contribute to people’s well-being in various ways.
**Operations**

Kyusyu Plastic Industry was established in 1964. As a Denka Group affiliate, the company engages in the processing of hard polyvinyl chloride, which is well known to entail extremely sophisticated technologies, the manufacture of dual-layered resin products with superior weather resistance, the ejection molding of acrylic resin and the annealing and molding of polycarbonate resin products with complex shapes. Our offerings also include continuously molded polyethylene corrugated pipes with inner diameters ranging from 50 to 1000 millimeters.

**Products**

- TOYO GUTTERS hard polyvinyl chloride rain gutters
- TOYODRAIN corrugated pipes used as underground drainpipes for agriculture and construction use
- DENKA THERMOSHEET with superior thermal conductivity and insulation property

**Address**

209-1, Naka Aza Ominato, Tamana, Kumamoto

**Telephone:** +81-968-72-5121

**Employees**

100 (as of March 31, 2018) (including part-time and temporary workers as well as those seconded from other Group companies)

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**Message from the President**

For more than 50 years, we have been engaged in manufacturing, with 100 employees working together to deliver products that contribute to and meet the needs of society. Looking ahead, we will continue with these pursuits while fulfilling our responsibilities and obligations as a corporate citizen via the creation of employment and the payment of tax.

In the course of day-to-day operations, we will also strive to create an inclusive workplace environment in which employees find their job fascinating and fulfilling.

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**Hinode Kagaku Kogyo**

**Operations**

In fiscal 2018, Hinode Kagaku Kogyo will mark the 69th anniversary of its founding as Japan’s first commercial phosphate fertilizer producer. Based in Maizuru City, northern Kyoto, the company began operating in 1949 as the first plant established in response to the city’s initiatives aimed at attracting business operators. Due to its location near Maizuru Port, which boasts beautiful landscapes, the company has quick access to port facilities handling imported cargoes and materials to be relayed to such domestic destinations as Hokkaido. Accordingly, we are determined not only to produce fertilizers but also make significant contributions to the development of the port’s logistics operations.

**Products**

- YORIN (fused magnesium phosphate)
- TORETARO (fused silicate phosphate fertilizer)

**Address**

660, Aza Kuratani, Maizuru, Kyoto

**Telephone:** +81-773-75-5760

**Employees**

40 (as of March 31, 2018)

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**Message from the President**

Hinode Kagaku Kogyo produces long-selling YORIN fused magnesium phosphate, as well as TORETARO fused silicate phosphate, which has garnered a solid reputation as a fertilizer for use in rice paddies and at vegetable farms. In recent years, we have invited a number of farmers to take part in plant tours. While allowing them to take a close look at our production lines, we often exchange opinions with them and acquire valuable insights. Building on strengths backed by a longstanding manufacturing legacy, we will engage in forward-looking efforts to enhance our technologies as we aim to remain a strong supporter of the development of Japan’s agricultural sector.