

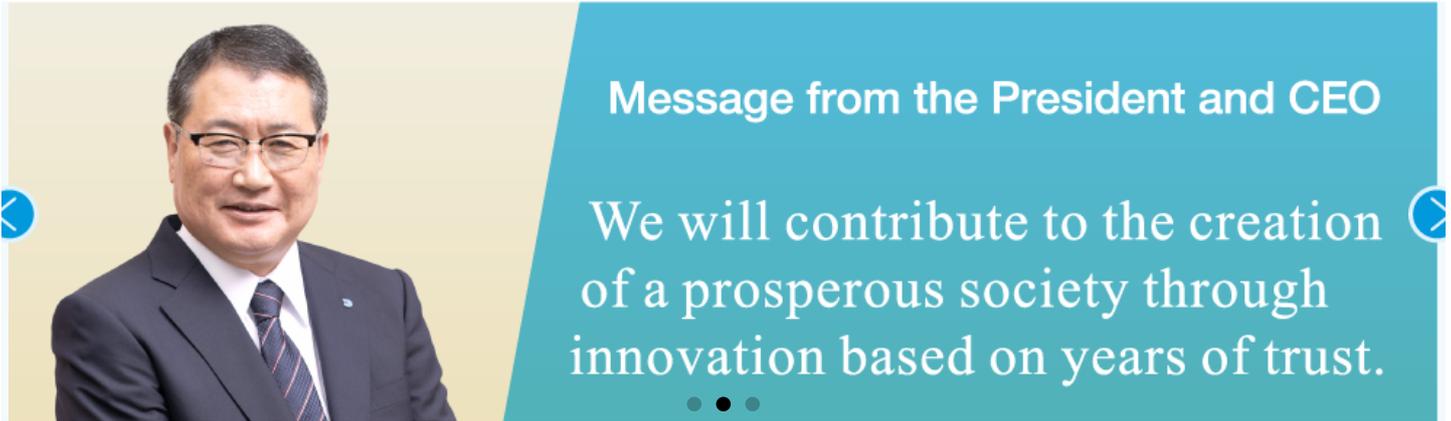
Daicel Group CSR Report 2019



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Basic Philosophy System

CSR Management

Daicel Group CSR Activities

Daicel is making a Group-wide effort to continue building trust with society



Environmental Report	Social Report	Governance
<ul style="list-style-type: none"> ▶ Environmental Management ▶ Global Warming Prevention ▶ Reduction and Recycling of Industrial Waste ▶ Initiatives to Reduce Emissions of Chemical Substances ▶ Water Resource Preservation ▶ Environmental Management and Prevention of 	<ul style="list-style-type: none"> ▼ Responsibility for Customers and Product Safety <ul style="list-style-type: none"> ▶ Enhancing Product Quality ▶ Chemical and Product Safety ▶ Process Safety and Disaster Prevention ▶ Distribution Safety ▼ Creating Attractive Workplaces <ul style="list-style-type: none"> ▶ Occupational Health and Safety ▶ Human Resource Management 	<ul style="list-style-type: none"> ▶ Corporate Governance ▶ Compliance ▶ Risk Management

Atmospheric Pollution	▶ Initiatives to Help Employees Maintain Mental and Physical Health
▶ Preserving Biodiversity	▶ Human Resource Development
▶ Environmental Accounting	▶ Initiatives to Promote Diversity
	▶ Work-Life Balance Promotion
	▼ Human Rights —
	▶ Respect for Human Rights
	▼ Sustainable Procurement —
	▶ Supply Chain Management
	▶ Local Communities and Contribution to Society



Responsible Care Index [→](#)



CSR Library

- [▶ Annual Report 2019](#)
- [▶ ESG Data](#)
- [▶ Archives](#)



Safety and Quality Assurance

Development of Human Resources Specialized for Manufacturing Drives Growth in the Safety Systems Business

- [▶ Editorial Policies](#)
- [▶ Third-party Verification](#)
- [▶ GRI Standards Content Index](#)
- [▶ List of Declarations and Certifications](#)
- [▶ Policy List](#)
- [▶ Scope of Reporting for Human Resources and Governance Data](#)
- [▶ Scope of Reporting for Environmental and Occupational Safety and Health Data](#)



MSCI Japan ESG Select Leaders Index



2019 Constituent MSCI ESG Leaders Indexes

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Message from the President and CEO



Commemorating Our Centennial

This year we proudly commemorate the centennial of our founding in 1919, when our Company was formed with the merger of eight major celluloid manufacturers. At the time, this merger was notable for being outside the conventional framework of Japan's corporate conglomerates known as zaibatsu. The Company succeeded in developing a flame-retardant celluloid by adopting a new raw material, which was a long-sought breakthrough in the foundation period. The Company also participated in the downstream development of the business through domestic production of celluloid-based motion picture and photographic films. Throughout the historical periods of the Showa-era Depression, World War II, and post-war turmoil and reconstruction, we have continued to reform our business operations and improve our technologies. These efforts have resulted in strengthened competitiveness and the development of product lines offering greater added value even as we faced the challenges of a tumultuous century characterized by oil shocks, the bursting of economic bubbles, the collapse of Lehman Brothers, and several devastating earthquakes. Today, Daicel Corporation stands as the beneficiary of the efforts of our predecessors and the cooperation of our customers, suppliers, investors, the communities in which we have a presence, and many other stakeholders. Once again, I would like to thank you all for your contributions to our success.

Looking back on our 100-year history, it is necessary to point out some issues we should all keep top of mind.

At various times in our past, our Company has had to address several urgent personnel issues. Therefore, it is important that we keep in mind that one of our basic policies, human-centered management, was adopted in the belief that we should never allow our bonds with our colleagues to fray.

Moreover, at several points in our history we have experienced devastating accidents, such as the explosion and fire at the Sakai Plant in 1982. These events resulted in the tragic loss of several employees as well as a great deal of inconvenience to local residents and our business partners. With a vow never to allow such serious accidents to recur, our employees and management have focused their collective efforts on implementing the Responsible Care initiative and have adopted the Monozukuri (manufacturing) policy of "Safety and Quality First."

In addition, allegations of antitrust violations in the U.S.A. also had a significant social and economic impact. As a result, we came to reaffirm that our Company must always follow firm ethical guidelines in our dealings with society, and we have renewed our commitment to never violate laws or social norms in our quest for achievement.

On the occasion of our 100th anniversary, we are strengthening our dedication to upholding the spirit of our founders and returning to the essential underpinnings of our rules and mechanisms. While recognizing again that the assurance of safety, quality, and compliance stand as the essential foundations of corporate management, we will continue to contribute to the greater affluence of society by giving substance to the functions that support our society.

We remain committed to maintaining the trust of our stakeholders by always operating our business in an honest and stable manner.

Responding to Change

In recent years, we have been working on various "innovations", structural reforms, and informatization, not to be swayed by changes, but to anticipate and transform them into opportunities. We have achieved a certain measure of results through "process innovations" such as the "Daicel Way" production innovation and the development and introduction of new process technologies, and "product innovations" that address new product development and commercialization, and "management innovations" that improve the efficiency of existing businesses and organizations.

At the same time however, we are facing a difficult situation in which our business performance has suffered a decline over four consecutive years. We believe that an urgent need has arisen that requires us to restructure our existing businesses, create new ones, and develop them so that we continue to contribute to society through our business operations.

In order to achieve this, we are implementing a fundamental organizational reform of our corporate divisions. We have reformed our Production Technology Headquarters into our Production Management Headquarters, which will focus on sweeping cost reductions in our existing businesses while strengthening the competitiveness of our core businesses. Our Innovation and Business Development Headquarters, meanwhile, will integrate and reinstitute some functions of our R&D Headquarters, New Business Development, and Production Technology Headquarters. It is intended to accelerate the creation and development of new businesses by consolidating the functions required to develop new business themes and pursue mass production and commercialization. Moreover, our new Research Center will explore the challenges facing our customers' industries from their perspective and will focus on developing new materials by integrating our own products and technologies with those of our customers.

By providing strong support to our own business Companies and Group companies at a faster pace through our corporate divisions, not only will we recover our business performance, but we will also work to solve social issues by offering both energy-efficient solutions and innovative new materials.

Corporate Management and the SDGs

In addition to strengthening existing businesses and fostering new ones as described above, we will focus on reforming management across the Daicel Group. The reorganized Digital Strategy Division will seek to reform the way our employees perform their tasks by proactively incorporating constantly evolving digital technologies such as IoT and AI in all work areas including production, sales, and research. This approach is intended to further improve work efficiency and reduce workloads. Moreover, we will promote sustainable management throughout the Daicel Group by incorporating the Group's corporate management functions within the newly established Corporate Sustainability. The corporate objectives that the Group has outlined in its long-term vision (Grand Vision 2020) and in the Daicel Spirit that supports them are closely linked to the issues raised by the SDGs. In our next long-term vision, which we are currently formulating, we aim to contribute to existing businesses and the realization of new business units while clarifying our progress in achieving the SDGs. At the same time, in order to embody the philosophy of human-centered management, we are reviewing our personnel systems. Our focus is on respecting the basic human rights as well as diversity of the more than 12,000 Daicel Group employees around the globe. Our common objective is to become a corporate group in which each and every one of us is able to grow and play a productive role.

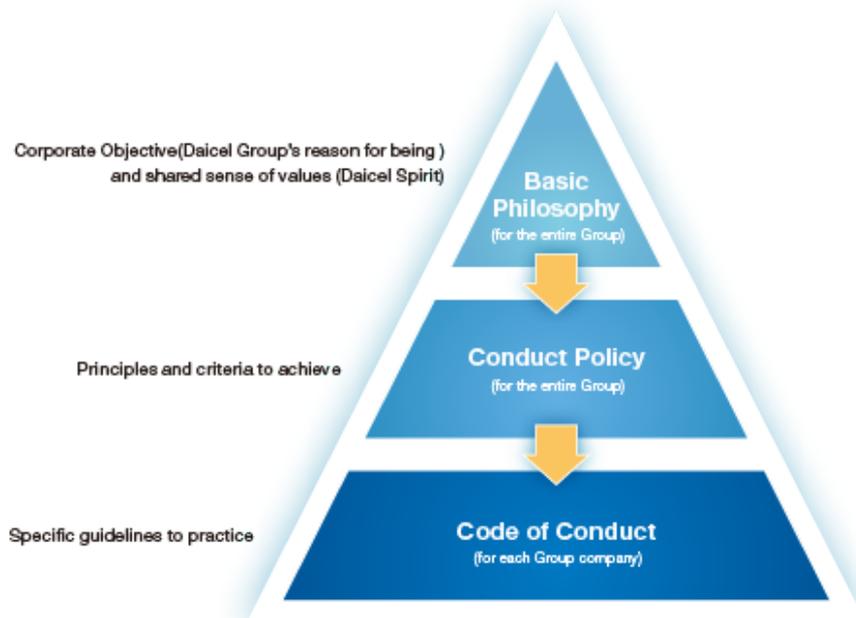
We have excelled at innovation for 100 years, and we intend to continue doing so. We welcome the ongoing guidance and support of our stakeholders as we turn the page and write the next 100 years of our story together.

Daicel Group Basic Philosophy System

The Daicel Group's Conduct Policy, which is implemented Group-wide, is based on its Basic Philosophy. In addition, each Group company has set its own code of conduct adhering to the rules in the Conduct Policy.

— Daicel Group Basic Philosophy System

Basic Philosophy System Diagram



[Basic Philosophy](#)

[Daicel Group Conduct Policy](#)

[Daicel Code of Conduct](#)

Basic philosophy

Our Basic Philosophy represents the ideals of utmost importance held by the Daicel Group. Acknowledged and embraced by each and every Daicel Group member, this long-standing philosophy will continue to represent our core values.

1. Corporate Objective:

The Daicel Group's Reason for Being

We contribute to a better quality of life by developing and manufacturing products that society needs and values.

Throughout its history, the Daicel Group and the chemical industry to which it belongs has provided optimal solutions addressing a wide range of issues. With a strong belief in the infinite possibilities chemistry has to offer, Daicel continues to meet the demands of the times by contributing to society the functions it requires and helping to enrich individual lifestyles through the application of proprietary technologies and know-how.

2. The Daicel Spirit:

A Shared Sense of Values

As members of the Daicel Group, we will continue to share the values below (The Daicel Spirit) and grow through innovation..

1. Integrity and Ceaseless Efforts

We believe that innovation starts with an ideal followed by tireless efforts undertaken with integrity. We understand the importance of clarifying what should be the ideal Daicel Group, the ideal division or unit and the ideal individual, and of the ceaseless efforts needed to achieve these ideals.

2. Focus on Creation of New Value (Monozukuri)

Our focus on Monozukuri is unshakeable. Although the literal meaning of the Japanese word Monozukuri is "making things," for our purposes the meaning of the term has been broadened to encompass the creation of new value in all corporate activities, including R&D, sales and marketing and support services.

3. Respect for Individuality and Achievements

We respect the individuality and achievements of all Daicel Group members, which serve to underpin the Group's Monozukuri efforts. Individual Group members collectively generate the driving force behind our overall growth. Group members are therefore offered ongoing opportunities to exert their own strengths, establish their own presence, realize their own ideals and enjoy their own sense of fulfillment.

Daicel Group Conduct Policy

— Daicel Group Conduct Policy

We, the Daicel Group, have established the Conduct Policy in order to realize our Basic Philosophy. Every member of the Daicel Group shall fully understand and voluntarily consider this Conduct Policy and shall put it into practice in a tangible way through their daily activities.

1. We shall not only comply with all laws and regulations but also act with high ethical standards and sound judgment.
2. We shall contribute to the development of society as good corporate citizens.
3. We shall offer safe, high-quality products and services that satisfy and gain the trust of our customers.
4. We shall contribute to the development of local communities by complying with international rules and each country's laws and regulations and by respecting local cultures and customs.
5. We shall willingly and justly disclose reliable corporate information.
6. We shall conduct honest trade in accordance with the basic principles of fair and free competition.
7. We shall work positively to conserve the natural environment and to ensure safety.
8. We shall properly manage corporate assets and information.
9. We shall respect the diversity, personality and individuality of every member of the Daicel Group and shall maintain a healthy and comfortable work environment that is free from discrimination and harassment.

— 1. We shall not only comply with all laws and regulations but also act with high ethical standards and sound judgment.

1-1 Response with integrity to stakeholders

We shall respond with integrity, respect and gratitude to all people connected to Daicel —customers, shareholders, business partners, employees and local society.

1-2 Compliance with laws and ethics

Rigorously complying with legal rules and regulations, whether local or foreign, we shall act to be constantly trusted and respected by all in society by using sound social judgment in the performance of our duties.

1-3 Maintenance of effective internal systems and training

In order to further ensure that laws and corporate ethics are complied with, we shall constantly review and improve our internal rules and regulations to strengthen effective internal systems and shall thoroughly familiarize the entire organization through training sessions.

1-4 Response to antisocial influences

We, in cooperation with the police, industrial associations and regional entities, shall take a firm stand against anti-social influences and/or organizations that disturb civil order and safety. We shall have no connections with them in any way, either directly or indirectly.

— 2. We shall contribute to the development of society as good corporate citizens.

2-1 Social contribution activities

We shall make social contributions from the viewpoint of trying to coexist in mutual prosperity with society through corporate activities, through cultural and sporting events, as well as by assisting in rescue and relief operations in the event of an emergency such as an accident or natural disaster.

— 3. We shall offer safe, high-quality products and services that satisfy and gain the trust of our customers.

3-1 Offer of products and services that are of use to society

We shall always listen to the opinions of each of our customers, such as consumers and users, and shall develop and offer products and/or services that are of use to society. We shall thereby contribute significantly to the realization of a society that is affluent and pleasant to live in.

3-2 Safety and quality assurances of products and services

With respect to the supply of our products and/or services, we shall be aware that safety and quality assurances are a corporate social responsibility. We shall strive for those assurances throughout the entire product life cycle, from product development and manufacture to distribution, sales and use.

3-3 Provision of product quality information

With respect to the supply of our products and/or services, we shall provide easily understandable product quality information, guides to safe usage, etc., as appropriate.

3-4 Response to incidents involving products

In the event of a safety or quality problem arising with a product supplied to a customer, we shall promptly respond with integrity to contain and prevent a recurrence of the problem.

— 4. We shall contribute to the development of local communities by complying with international rules and each country's laws and regulations and by respecting local cultures and customs.

4-1 Compliance with international rules and the laws of each country

In conducting our international business affairs, we shall fully look into and comply with international rules and the laws of each country.

4-2 Coexistence with society at national and local levels

We shall respect cultures and customs in order to coexist with the national and local societies in which we operate our businesses.

4-3 Contribution to the development of local society

Companies overseas shall enter into local society and contribute to the development of the locality by means of local procurement and employment to the maximum possible extent.

— 5. We shall willingly and justly disclose reliable corporate information.

5-1 Disclosure of corporate information

We shall actively disclose to actors in the financial markets, such as shareholders and investors, information concerning our corporate finances and the status of our business activities in an appropriate, timely and clear manner.

5-2 Fair accounting procedures

We shall accurately and properly record and store information on our corporate trading, asset and expense status by using fair accounting procedures based on legal and generally accepted accounting standards.

5-3 Prohibition of insider trading

We shall not buy or sell securities such as stocks or corporate bonds for the purpose of making personal profit, etc., by using undisclosed important information gained through business activities.

5-4 Communication with society

We shall strive to promote the understanding of our corporate activities by active communication with society.

— 6. We shall conduct honest trade in accordance with the basic principles of fair and free competition.

6-1 Compliance with antitrust

We shall not act in breach of antitrust laws and shall compete equitably and freely.

6-2 Compliance with laws relating to imports/exports

As an importer and exporter of technology and products, we shall examine and comply with the laws and regulations relating to imports/exports. The export of our technology and products shall in no way be illegally connected to the development and manufacture of weapons, munitions or narcotics.

6-3 Advertisements

We shall advertise on an equitable basis without defaming or denigrating other companies or their products and without using socially discriminatory language.

6-4 Highly transparent political and governmental relationships

We shall not engage in behavior that could be mistaken as corrupt but shall foster highly transparent relationships with government agencies and political bodies, whether in local or overseas activities.

6-5 Procurement transactions

With respect to procurement transactions, we shall comply with the Corporate Procurement Transaction Guidelines, shall conduct business fairly and honestly based on economically rational measures and shall not engage in the pursuit of personal profit.

6-6 Business entertainment, etc.

With respect to entertainment and gifts given to or received from clients, we shall act with a clear distinction between public and private matters within the scope of sound commercial practice and judgment.

— 7. We shall work positively to conserve the natural environment and to ensure safety.

7-1 Reduction of environmental impact

We shall address the reduction of environmental impact by such measures as preventing global warming through reduced energy consumption, activities aimed at saving natural resources, managing chemical substances, effective utilization of resources and reducing waste.

7-2 Realization of a sustainable society

With global environmental issues positioned as a major subject of our business activities, we shall strive to realize a sustainable society that can balance environmental protection with economic development.

7-3 Safe working environments

We shall not only comply with the laws in all of our activities, including research and development, manufacturing and distribution, but we shall also conduct our own assessments to promote all measures to ensure safety in our workplaces.

— 8. We shall properly manage corporate assets and information.

8-1 Effective use of corporate resources

We shall not use corporate resources such as people, materials, financing, information and time for private purposes, and shall make effective use of them.

8-2 Handling of confidential information

We shall not acquire confidential information about our customers, business partners, etc. by illegal methods. We shall strictly control and shall not disclose or divulge without predetermined procedures any confidential information acquired from companies or third parties in the course of our business activities. We shall not use such information for anything other than the purpose intended.

8-3 Maintenance and protection of intellectual property (IP) rights

We shall strive to maintain and protect our corporate IP rights (covering patents, utility model rights, trademark and design rights) and shall not infringe IP rights held by third parties.

8-4 Control of personal information

We shall strictly control and shall not disclose, divulge or use for anything other than the purpose intended without the prior consent of the person concerned, any information of a personal nature acquired in the course of our business activities.

8-5 Appropriate use of information systems

We shall use in-house corporate information systems only for Company-authorized duties and shall pay particular attention to the prevention of theft or falsification of data. We shall enforce all the necessary information security measures to prevent any information leaks, etc.

8-6 Behavior causing damage to the Company

We shall not gain profit for ourselves or third parties and shall not harm the reputation of a company by using our business position or power or information acquired in the course of our business activities.

— 9. We shall respect the diversity, personality and individuality of every member of the Daicel Group and shall maintain a healthy and comfortable work environment that is free from discrimination and harassment.

9-1 Human rights/discrimination, harassment

Our basic position shall be to respect humanity. We shall never violate human rights through such acts as discrimination on the grounds of ethnicity, nationality, creed, religion or gender, or through harassment.

9-2 Lively workplace environment

We shall strive to foster a lively workplace environment by promoting honest and open communication between employees.

9-3 Respect for individual ability

By establishing appropriate, fair methods and a range of human resource training procedures, we shall enable everyone to display his or her abilities to the fullest possible extent and mutually understand and respect all these diverse talents. Particularly overseas, we shall address employee skill development as a way of contributing to the development of local society.

9-4 Healthy workplace environment

We shall strive to create a workplace environment that is physically and mentally healthy by promoting all measures for health control.

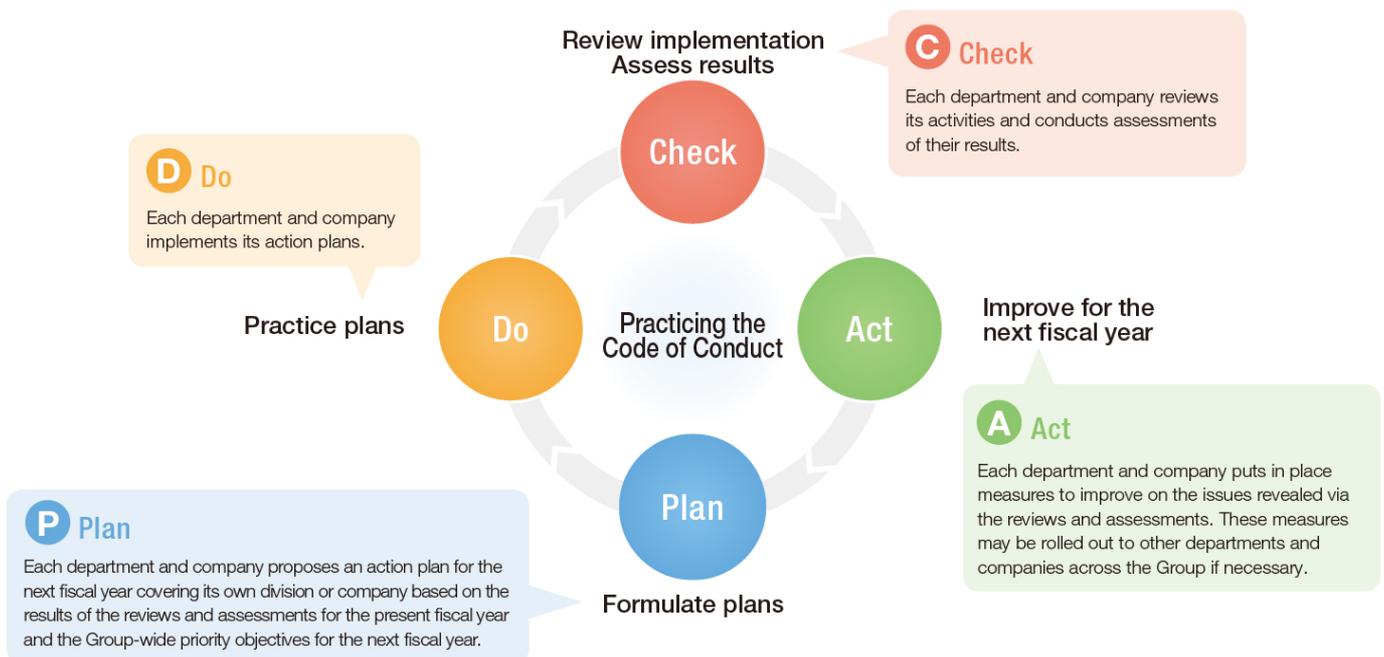
Promotion of CSR Activities

Basic Approach

The CSR activities of Daicel Group consists of its Corporate Ethics Initiative and Responsible Care Initiative (RC). Corporate Ethics Initiative is made of practicing the Daicel Group Conduct Policy founded on the Group's basic philosophy and the Code of Conduct formulated by each Group company under the policy. Our CSR activities are not limited to particular individuals or organizations but instead involve everyone who works at the Daicel Group. In pursuing our CSR activities, we are guided by a Check, Act, Plan, and Do (CAPD)* cycle as a basic methodology to continually improve our activities.

*Instead of a plan, do, check, and act (PDCA) cycle, the more widely known approach to continuous improvement, Daicel has adopted a CAPD improvement cycle to avoid the risk of overlooking crucial facts and realities that often lie hidden in the initial planning stage.

CAPD Cycle



— Promotion System for CSR Activities

The Daicel Group seeks to implement CSR activities by integrating them into its management. The Corporate Compliance Program Division and RC Council collaborate in promoting CSR activities, while each responsible division addresses individual issues by operating a CAPD cycle.

The Corporate Compliance Program Division receives reports on activities other than those related to RC from individual divisions and Group companies, and in turn reports them during the Top Management Review. Objectives for the next fiscal year are determined based on the results of the Review and then reflected in the activity plans. The status of the activities is reported to the Board of Directors.

The RC Council receives reports on RC activities, presents a report to the Planning Meeting, and determines the objectives and implementation activities for the following fiscal year. Additionally, the RC Council reports on the status of these activities to the Management Meeting.

TOPICS

The 17th Daicel Group Responsible Care Promotion Conference

RC activities are undertaken by chemical companies to proactively ensure environmental, health and safety preservation and constitute a key component of CSR activities. The Daicel Group holds a Responsible Care Promotion Conference at the start of each fiscal year to ensure that employees maintain a high level of awareness as they engage in RC activities. In FY2019/3, the 17th Daicel group RC Promotion Conference was held at the Innovation park in April and attended by about 100 participants, including members of Daicel management, company chiefs, presidents of Group companies, Daicel trade union representatives, and representatives of each department. During the conference, the president, along with the Responsible Care chairperson and vice chairperson, offered messages, and the RC activity policies were confirmed. RC awards were also presented to 15 employees who significantly contributed to RC activities in FY2018/3. This year, outside director Nogimori gave a lecture entitled “Corporate obligation to safety.”



Presentation of the RC Award (left: representative of the recipients, right: RC chairperson)

The Daicel Group holds KAIZEN (continuous improvement) Case Study Meetings to foster a spirit of continuous improvement among all Group employees under the theme of “be aware, think and act.” The meeting took place at the innovation park in April of FY2019/3. This year’s event was attended by staff members from 20 departments chosen out of 124 teams at business sites in Japan and overseas. They included teams selected from the sites of Aerospace & Defense Systems/Safety Systems companies in six countries that participated in the sixth Global KAIZEN Contest as well as sites chosen from the head offices in Tokyo, Osaka, and Nagoya, which participated in the meeting for the first time. Going forward, the Daicel Group will promote various improvement measures, placing utmost priority on the assurance of safety and quality.



KAIZEN Case Study Meeting

Promotion System for Corporate Ethics

Basic Approach

The Daicel Group has positioned corporate ethics as an essential component of the CSR engagement systems of each department and Group company. Instilling a sense of corporate ethics in every employee is considered to be just as vital, and therefore the Daicel Group promotes corporate ethics Group-wide.

— Corporate Ethics Management System

We have formulated Corporate Ethics Management Regulations for the Company. In addition, each department and Group company has established its own Corporate Ethics Management System based on processes that incorporate the Check (reviews and assessments), Act (improvement of past practices), Plan, and Do (CAPD) cycle. Through activities involving the participation of all employees, we are striving to maintain and improve this system.

— System for Promoting Corporate Ethics Activities

Daicel established the Corporate Compliance Program Division to promote corporate ethics activities and appointed a representative director of the Company as its Corporate Compliance Officer. Each Daicel department and Group company appoints a CSR Activity Facilitator who spearheads activities related to corporate ethics.

The Corporate Compliance Program Division compiles a report on the status of corporate ethics and related issues at each department and Group company at the end of each fiscal year and reports to the president and other members of the management team during the corporate ethics Top Management Review, where issues and objectives for the following fiscal year are discussed. Once the activity objectives for the next fiscal year are approved by the Board of Directors, the division requests each department and Group company to formulate and execute their respective activity plans for the next fiscal year based on the objectives.

Daicel's structure for promoting corporate ethics initiatives



— Education and Training Programs

Daicel systematically provides corporate compliance training tailored to each position and role for new graduate recruits, employees who have just been promoted, managers, directors, presidents of Group companies, employees posted to overseas Group companies, and others. We also organize seminars on specific themes in response to requests from individual departments and Group companies.

Group Training Programs in FY2019/3

Name	Target	Content	Number of Participants
Rank-based Training	New recruits	General course on corporate ethics (lectures, group discussions)	72
	Newly appointed mid-level staff, Grade S2 & S3		125
	Newly appointed senior staff, Grade S4		82
	Newly appointed senior staff, Grade S5		65
	Newly appointed managers		44
Engineering Ethics Training	Employees enrolled in our engineer development program	General course on engineering ethics (lectures, group discussions)	54

Other Training Programs in FY2019/3

Name	Target	Content
Training for Expatriate Employees	Employees posted overseas	Competition law, bribery, discrimination, harassment, prevention of misconduct
	Newly appointed presidents of overseas Group companies	Business ethics
Training for Newly Appointed Directors of Group Companies	Newly appointed directors of Group companies	Business ethics
Training for Directors	Daicel directors, presidents of domestic Group companies	Diversity

— FY2019/3 Initiatives

FY2019/3 Groupwide Priority Objectives

Create a workplace where all members can:

- 1) Visualize the current work status, progress, problems, etc.**
- 2) Voice one's awareness**
- 3) Listen and Respond to other's opinions**

The Corporate Compliance Program Division provided all employees at Daicel and its Group members (including overseas companies) with the rationale behind establishing these priority objectives. In response, each department and Group company formulated their corporate ethics initiatives. In addition to the initiatives planned and implemented by each department and company, we also designated August and September in FY2019/3 as the "Daicel Group Compliance Enhancement Period," as in the previous fiscal year, and throughout the course of this period the following initiatives were carried out by Daicel and its Group companies, including overseas companies.

1.Small-group Discussions

We created case study topics based on actual situations that have occurred within the Daicel Group as well as those reported by newspapers and other media, and we discussed the causes, responses, preventive measures, and similar experiences in small groups.

①Fraud involving quality data

We reconfirmed the importance of not making decisions on one's own, engaging multiple personnel in conducting reviews and the three priority objectives.

②Sexual harassment

We discussed the causes and the reasons for why victims find it difficult to speak up, the possibility of harassment occurring at our own workplaces, and what actions to take when harassment is noted.

2.Educational Sessions

We provided e-learning programs on the Basic Philosophy, Conduct Policy, each Group company's Code of Conduct, Compliance Help Line System (whistleblowing system), and other compliance issues. These were attended by 4,734 employees in FY2018/3 (98.6% attendance) and 4,878 employees in FY2019/3 (99.9% attendance).

3.Senryu * Contest

* Senryu: a humorous seventeen-syllable poem

We encouraged Group employees in Japan to submit their own senryu poem on compliance, then selected excellent pieces for prizes. Having received about 400 submissions, we are convinced that this poetry award contest provided Group employees throughout Japan with good opportunities to reflect on compliance.

As we did in the previous fiscal year, we uploaded a variety of compliance education materials each month to the intranet covering all Group companies in Japan and overseas. These materials included the latest news related to compliance, case studies aimed at facilitating group discussions, everyday examples of potential compliance violations depicted in four-panel cartoons, and compliance quizzes, all used effectively while facilitating casual compliance classes at workplaces.

In addition, staff at the Corporate Compliance Program Division tour all Daicel departments as well as Group companies, including overseas companies. These staff members assist each department and Group company in the operation of a CAPD cycle for compliance initiatives, confirm the content of and progress in the implementation of corporate ethics and compliance activity plans, and exchange opinions on issues specific to each of them.

Responsible Care Activities

Basic Approach

To practice the spirit of Responsible Care (RC), the Daicel Group established the Daicel Group Basic Policies for Responsible Care and is promoting cross-the-board RC activities to contribute to the sustainable development of society.

— Daicel Group's Responsible Care

RC activities are undertaken by businesses that engage in the manufacture or handling of chemicals to proactively preserve the environment and ensure health and safety at every stage of their operations, from product development, manufacture, distribution, and use to disposal. With chemical industries around the world participating in these efforts, the disclosure of results and dialogue with society are also positioned as key RC activities.

In 1995, the Daicel Group established its Basic Policies for Responsible Care (RC) based on "The Guiding Principles for the Improvement of Environmental, Health and Safety Conditions" of the Japan Chemical Industry Association (JCIA) and supplemented and revised the items on the preservation of biodiversity in 2011. In 2017, the Group's Basic Policies for Responsible Care were updated in response to the revision of JCIA's guiding principles.

Daicel Group's Basic Policies for Responsible Care

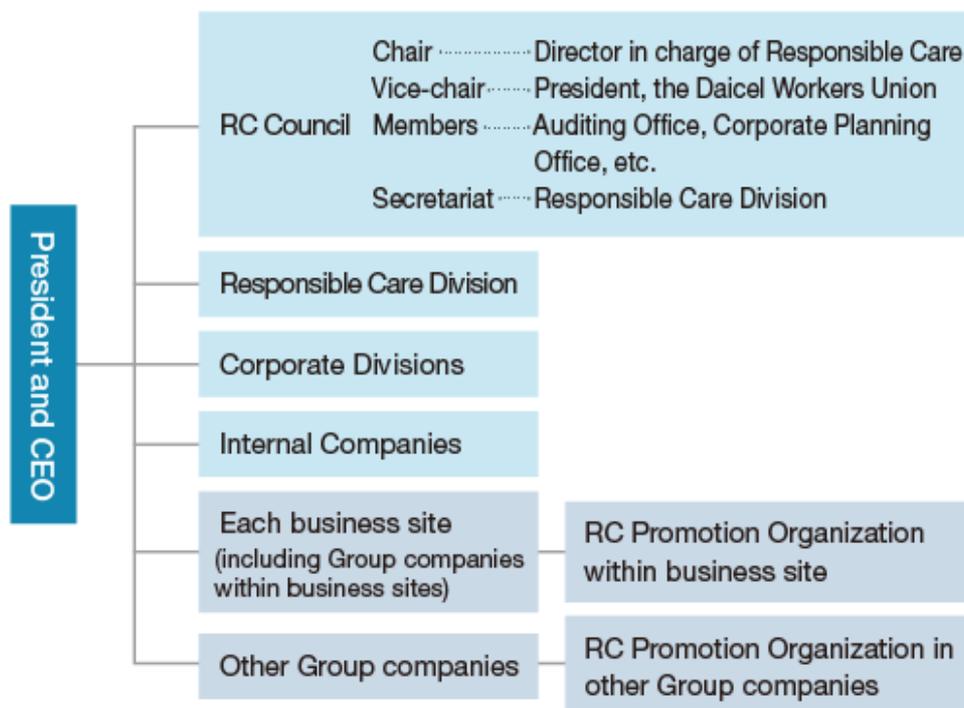
1. In accordance with management policy, we will comply with laws and regulations and strive to safeguard the environment, health, and safety. For this purpose, we share specific implementation plans among all employees and put them into action.
2. We will strive to continually improve environmental, health, and safety performance and the security of facilities as well as processes and technologies throughout the entire chemical lifecycle, from development to disposal, and inform society of the results of such efforts.
3. We will further reduce our consumption of resources and energy and strive to reduce, reuse, and recycle waste.
4. We will protect the environment and people's health and safety by driving continual improvement in chemical product safety and stewardship throughout the supply chain.
5. We will practice risk-based chemical management throughout the entire chemical lifecycle, from development and production to use, consumption, and disposal and strive to strengthen our chemical management systems by continual improvement.
6. We will influence the employees and the value chain stakeholders to promote the safe management of chemicals within their own operations.
7. We will strengthen our stakeholder relationships by understanding and responding to stakeholder concerns and expectations about safer operations and products as well as openly communicating about our performance and products.
8. We will put the Daicel Group's overall efforts into continually improving initiatives for the environment, health, and safety in order to meet stakeholder expectations.
9. We will contribute to the sustainable development of society by developing and providing unique and innovative technologies and other solutions.
10. We will promote biodiversity-friendly activities in order to pass on the wealth of nature to future generations.

— Implementation System for Responsible Care

The Daicel Group is implementing RC activities on the following fronts: occupational health and safety, process safety and disaster prevention, environmental preservation, chemical and product safety, distribution safety, and "Communication with Society." The Daicel Group promotes these RC activities under the RC Council. The council is chaired by a director placed in charge of RC by appointment by the president, who bears ultimate responsibility for RC activities. The council comprises the president of the Daicel workers union and heads of administrative divisions appointed by the chairman as well as the Responsible Care Division, which serves as the secretariat for the council.

The council discusses and determines such matters as basic policies and targets for RC activities as well as the content of annual RC implementation plans while engaging in auditing in accordance with the Rules on Responsible Care Audits.

Diagram of Responsible Care Promotion System



Promotion of Responsible Care Activities

Periodic Exchange Meetings for Supervisors of Environmental and Safety Divisions across the Group

Individuals charged with supervising the Environment and Safety divisions of each Daicel business site hold periodic meetings, while those in similar positions at other Group companies also meet regularly. With representatives from Daicel’s Responsible Care Division also attending, these meetings focus on discussing the content of and progress in RC implementation plans prepared by each Group business site and based on the Group’s overarching plans. Information is also exchanged on safety, environmental, and chemical regulations, and participants share their insights on other RC-related topics.

Special Meetings to Discuss Priority RC Issues

Representatives of Daicel’s Responsible Care Division periodically tour business sites of the Company and those of other Group companies to hold special meetings to discuss priority RC issues. To help promote RC activities across the Group, these meetings are aimed at confirming progress in RC implementation plans at each business site, sharing issues these sites are confronting, assessing countermeasures in place to prevent problems in terms of occupational and facility safety and disaster prevention, and discussing the status of their initiatives to address environmental concerns.

— Promotion of Overseas Responsible Care Activities

Global Safety Meeting

In FY2018/3, a Global Safety Meeting was held at the innovation park with 31 individuals in attendance. This number included those charged with supervising the Environment and Safety divisions at overseas business bases (namely DSSA, SDI, DSSE, DSSC, DSSK, DSST, and DSTT^{*}) as well as representatives from the Harima Plant, Daicel Pyrotechnics Ltd., and Daicel's Responsible Care Division. They exchanged opinions about such matters as the Basic Policies for Responsible Care, in-house standards for preventing occupational accidents, and the Group's performance in terms of environmental preservation and safety assurance while also discussing progress in chemical management surveys requiring supplier cooperation. Moreover, they discussed the status of security measures in place at each business site. We intend to continue holding these meetings as needed in a global effort to raise awareness.

Note on abbreviations:

DSSA : Daicel Safety Systems America Holdings, Inc.;
Daicel Safety Systems America, LLC;
Daicel Safety Systems America Arizona, Inc., and others;
SDI : Special Devices, Inc.;
DSSE : Daicel Safety Systems Europe Sp.z.o.o.;
DSSC : Daicel Safety Systems (Jiangsu) Co., Ltd.;
DSSK : Daicel Safety Systems Korea, Inc.;
DSST : Daicel Safety Systems (Thailand) Co., Ltd.;
DSTT : Daicel Safety Technologies (Thailand) Co., Ltd.;

— Responsible Care Audits

The RC activities undertaken by Daicel and domestic Group companies are subjected to periodic RC audits in accordance with the Rules on Responsible Care Audits. The auditors are appointed by the director in charge of RC. In addition, secretariat members of the RC Council take part in auditing.

RC audits are thus conducted at each business site, with the aim of assessing progress on annual RC action plans and identifying issues to be addressed in the pursuit of planned targets. The audits are expected to help each business site and domestic group companies enhance the level of their RC activities. Findings from RC audits are reflected in targets and plans for the upcoming fiscal year, thereby supporting a CAPD cycle to achieve continuous improvement.

In FY2019/3, we conducted RC audits at our overseas Group companies DSSC, DSTC, DSST, DSTT, and SDT^{*}. We will strive to continue implementing effective RC audits in FY2020/3 and beyond, by prioritizing based on a comprehensive assessment of the state of each Group company, with a focus, for example, on companies that have installed new equipment.

Note on abbreviations:

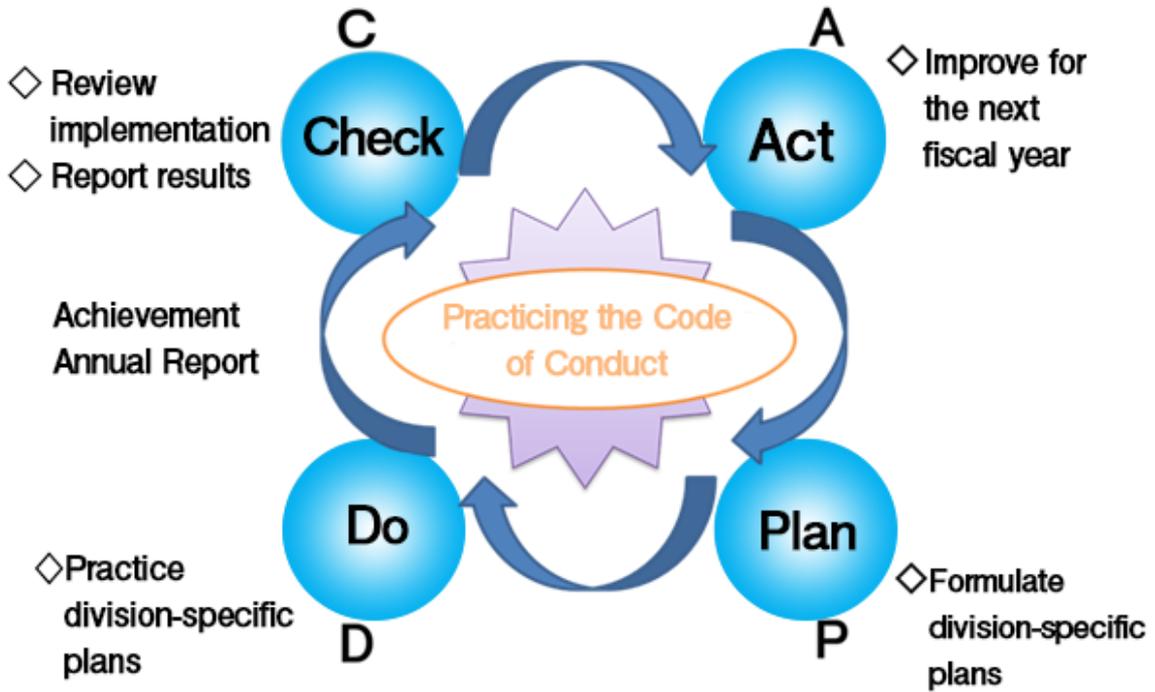
DSSC : Daicel Safety Systems (Jiangsu) Co., Ltd.;

DSTC : Daicel Safety Technologies (Jiangsu) Co., Ltd.;

DSST : Daicel Safety Systems (Thailand) Co., Ltd.;

DSTT : Daicel Safety Technologies (Thailand) Co., Ltd.;

SDT : Special Devices (Thailand) Co., Ltd.;



— Responsible Care Global Charter

The International Council of Chemical Associations (ICCA), an international RC activity organization, put in place the Responsible Care Global Charter in 2005 with the aim of promoting sustainable development within the chemical industry while contributing to society as a whole through RC activities. In complete agreement with the goals and principles of the charter, Daicel became a signatory in 2008. In order to more specifically detail the issues requiring attention with respect to the management of chemical product safety, improvements in the quality of life through the delivery and use of chemical products, and contributions to sustainable development in an easier to understand manner, the ICCA revised the charter in 2014. That same year, Daicel again declared its support of the revised version of the Responsible Care Global Charter and confirmed its participation as an ongoing signatory.



Declaration of Support for the Responsible Care Global Charter

— Total EHS Assessment System

The Daicel Group operates a Total Environmental, Health and Safety Assessment System (“Total EHS Assessment System”) as a system for evaluating risk in its business activities. Under the system, a prior assessment of diverse risks associated with all business operations in new plans—including R&D, production, consumption, and disposal—is initiated in order to ensure thorough consideration of environmental, health, and safety issues in new plans.

The Group’s Total EHS Assessment System has the following features:

1. The system evaluates the new plan based on prescribed standards for eight items: legal compliance, chemical safety, environmental preservation, occupational health and safety, operational safety at facilities, product safety, distribution safety and safety of production outsourcing, and purchasing and sales.
2. A new plan indicates all new changes that include the establishment and modification of facilities as well as changes in matters related to manufacturing, etc.
3. The system defines two types of assessment: Corporate Total EHS Assessment, which covers new plans that may cause a significant impact on management, and Division Total EHS Assessment, undertaken by each division. After evaluating new plans based on their scale and risk with an overall assessment rank (I and II), the Group determines items subject to assessment and designates individuals to serve as assessment executors and final evaluators in accordance with the overall assessment rank.
4. With regard to the adoption of a new process and/or increased production volumes, we carry out a Technical Assessment and Equipment Design Assessment, underscoring the importance of design specifications for technologies and facilities. After discussing the results of these assessments, a Corporate Total EHS Assessment is undertaken.

In addition, the Daicel Group began undertaking the Product Crisis Assessment in FY2016/3 with the aim of reinforcing product safety assessments. This assessment specifies risks associated with current product safety measures in place while also assessing the status of such steps as monitoring and incident responses. In FY2018/3, the Group initiated Product Safety Advisory Meetings, inviting a team of third-party specialists to conduct risk assessment.

In response to the fire that occurred at our peracetic acid manufacturing plant in the previous fiscal year, we systematically reinforced our safety measures in FY2019/3 by reassessing the risks of abnormal reactions and runaway reactions at plants handling chemical substances with polymerizing or self-reactive properties.

The number of Corporate Total EHS Assessments that evaluate new plans deemed to have a significant impact on management, including those undertaken to assess new plans for overseas production bases, has reached approximately 870 since the system was introduced.

Breakdown of Total EHS Assessment System

Categories of the Total EHS Assessment System

Legal compliance	Evaluate conformity with laws, regulations and agreements signed between relevant administrative authorities and each business site
Chemical safety	Evaluate hazards posed by all chemical substances handled
Environmental preservation	Evaluate based on conformity with prevailing environmental preservation standards
Occupational health and safety	Evaluate conformity from the viewpoint of preventing occupational accidents
Operational safety at facilities	Evaluate risk of fire, explosion and other facility accidents Assess results of other evaluations and fitness of relevant facilities
Product safety	Evaluate products for risk of causing health hazard
Distribution safety	Evaluate distribution safety
Safety of production outsourcing, purchasing and sales	Evaluate from perspectives of the environment, safety and preventing occurrence of health problems

Targets, Results, and Assessments of RC Activities

		Boundary	FY2019/3 Targets	FY2019/3 Results	Assessment	FY2020/3 Targets
Environmental Preservation	Global warming countermeasures	the business sites of Daicel and on-premise Group companies	<ul style="list-style-type: none"> Promote energy conservation to achieve the FY2021/3 targets set forth in the KEIDANREN's (Japan Business Federation) Commitment to a Low Carbon Society. Reduce energy intensity by 1% or more from the previous fiscal year (based on calculation methods stipulated by the Energy Saving Act). 	<ul style="list-style-type: none"> Emissions totaled 1.2 million tons against the GHG emission target of 1.58 million tons for 2020 (Business as Usual basis). Energy intensity improved by 0.8 percentage point. 	○	<ul style="list-style-type: none"> Promote energy conservation to achieve the FY2021/3 targets set forth in the KEIDANREN's Commitment to a Low Carbon Society. Reduce energy intensity by 1% or more from the previous fiscal year (based on calculation methods stipulated by the Energy Saving Act).
		Other Group companies	<ul style="list-style-type: none"> Reduce energy intensity by 1% or more from the previous fiscal year (based on calculation methods stipulated by the Energy Saving Act). 	<ul style="list-style-type: none"> Failed to meet the target of reducing energy intensity by 1% or more. 	△	<ul style="list-style-type: none"> Reduce energy intensity by 1% or more from the previous fiscal year (based on calculation methods stipulated by the Energy Saving Act).

		Boundary	FY2019/3 Targets	FY2019/3 Results	Assessment	FY2020/3 Targets
Environmental Preservation	Waste reduction and recycling	the business sites of Daicel and on-premise Group companies	<ul style="list-style-type: none"> Reduce landfill indices to not more than 16% of levels recorded in FY2002/3 to achieve our FY2021/3 target ahead of schedule. 	<ul style="list-style-type: none"> Reduced landfill indices to 12%. 	◎	<ul style="list-style-type: none"> Reduce landfill indices to not more than 16% of levels recorded in FY2002/3 to achieve our FY2021/3 target ahead of schedule.
		Other Group companies	<ul style="list-style-type: none"> Maintain zero emission status at all business sites. 	<ul style="list-style-type: none"> Achieved zero emission status at 5 Group companies except at DM Novafoam Ltd. 	○	<ul style="list-style-type: none"> Achieve zero emission status at all business sites.

	Boundary	FY2019/3 Targets	FY2019/3 Results	Assessment	FY2020/3 Targets
Occupational Health and Safety	the business sites of Daicel, on-premise Group companies, and partner companies	<ul style="list-style-type: none"> • Aim for zero occupational accidents (placing particular focus on preventing serious incidents, such as encounters with hazardous substances and heat stress). • Utilize TRC branch offices at each plant to enhance the content of hazard simulation training. 	<ul style="list-style-type: none"> • 17 occupational accidents (12 in the previous year) Encounters with hazardous substances remained the same but heat stress increased from the previous year. • Enhanced and strengthened training related to unique technologies and basic operations and hazard simulation training at TRC branch offices at each plant 	△	<ul style="list-style-type: none"> • Aim for zero occupational accidents (placing particular focus on preventing serious incidents, such as encounters with hazardous substances, heat stress and falling accidents). • Utilize TRC branch offices at each plant to enhance the content of hazard simulation training.

	Boundary	FY2019/3 Targets	FY2019/3 Results	Assessment	FY2020/3 Targets
Occupational Health and Safety	Other Group companies	<ul style="list-style-type: none"> • Aim for zero occupational accidents (placing particular focus on preventing injuries due to encounters with hazardous substances and falls). • Enrich the content of workplace safety meetings by, for example, grouping attendees by type of manufacturing operations. • Continue to roll out activities aimed at learning from the lessons of the past. 	<ul style="list-style-type: none"> • 9 occupational accidents (3 in the previous year) There was a falling accident involving a worker at a construction subcontractor. • Held safety meetings at Group companies primarily involved in production based on processing. • Confirmed lessons of the past and effectiveness of countermeasures. 	△	<ul style="list-style-type: none"> • Aim for zero occupational accidents (placing particular focus on preventing injuries due to encounters with hazardous substances and falls). • Continue holding workplace safety meetings by, for example, grouping attendees by type of manufacturing operations. • Continue to roll out activities aimed at learning from the lessons of the past.

	Boundary	FY2019/3 Targets	FY2019/3 Results	Assessment	FY2020/3 Targets
Process Safety and Disaster Prevention	the business sites of Daicel, on-premise Group companies, and partner companies	<ul style="list-style-type: none"> • Aim for zero accidents involving fire, explosions, and leaks. • Systematically address issues associated with safety infrastructure and corporate culture. • Enhance BCPs *1 for key products. • Strengthen security measures in accordance with security guidelines. 	<ul style="list-style-type: none"> • There were 3 small fires and 1 process incident, with minor impact. • Reviewed risks that may lead to accidents, strengthened the system for responding to accidents, and prepared for the early resumption of product supply. • Secured spare parts in accordance with BCP guidelines and strengthened the supply chain. • Systematically strengthened access control at the gates of each business site in accordance with security guidelines. 	△	<ul style="list-style-type: none"> • Aim for zero accidents involving fire, explosions, and leaks. • Systematically promote preventive measures against risks that may lead to accidents, the ability to deal with accidents, and measures to ensure the early resumption of product supply. • Enhance BCPs for key products. • Promote measures for strengthening security measures in accordance with security guidelines.

	Boundary	FY2019/3 Targets	FY2019/3 Results	Assessment	FY2020/3 Targets
Process Safety and Disaster Prevention	Other Group companies	<ul style="list-style-type: none"> • Aim for zero accidents involving fire, explosions, and leaks. • Systematically address priority issues for each Group company. • Step up security measures at each Group company in accordance with security guidelines. 	<ul style="list-style-type: none"> • 2 small fires with minor impact; preventive measures were implemented. • Systematically addressed priority issues for each Group company. • Stepped up consideration of security measures in accordance with security guidelines. 	△	<ul style="list-style-type: none"> • Aim for zero accidents involving fire, explosions, and leaks. • Systematically address priority issues for each Group company. • Step up security measures at each Group company in accordance with security guidelines.

	Boundary	FY2019/3 Targets	FY2019/3 Results	Assessment	FY2020/3 Targets
	Distribution Safety	<ul style="list-style-type: none"> • Aim for zero logistics accidents at Daicel Logistics Services and partner companies. • Reduce logistics issues at partner companies by 20% from the previous fiscal year. • Improve 5-year average energy intensity by at least 1% (based on the calculation method in the Energy Conservation Act). 	<ul style="list-style-type: none"> • No serious logistics accidents, but logistics issues increased. • Failed to achieve target due to an increase in logistics issues. • Energy intensity did not improve by 1% or more. 	△	<ul style="list-style-type: none"> • Prevent recurrence of logistics issues such as contact accidents at customer sites as well as shipping and delivery errors. • Eliminate leaks of hazardous substances as well as shipping and delivery errors. • Improve 5-year average energy intensity by at least 1% (based on the calculation method in the Energy Conservation Act).
Chemical Safety Initiative	Response to REACH*2	<ul style="list-style-type: none"> • Complete the registration of products being exported in annual volumes of 1 ton or more based on REACH's regulatory timeframe. 	<ul style="list-style-type: none"> • Completed registration of products being exported in annual volumes of 1 ton or more based on REACH's regulatory timeframe. 	○	<ul style="list-style-type: none"> • Ensure a consistent response to REACH

	Boundary	FY2019/3 Targets	FY2019/3 Results	Assessment	FY2020/3 Targets
Chemical Safety Initiative	Initiatives to secure compliance with other chemical regulations	<ul style="list-style-type: none"> Remain apprised of the latest developments and trends in chemical regulations and act appropriately to secure responsiveness to such regulations. 	<ul style="list-style-type: none"> Regularly researched information on the revision of chemical regulations in Japan and overseas while holding in-house meetings to share such information. 	○	<ul style="list-style-type: none"> Remain apprised of the latest developments and trends in chemical regulations and act appropriately to secure responsiveness to such regulations.
	Management of chemical substance information	<ul style="list-style-type: none"> Register new chemical products with the D-CLik^{*3} database and update product information based on additional testing results. 	<ul style="list-style-type: none"> Registered new chemical products with the D-CLik database and updated this information based on additional testing results. 	○	<ul style="list-style-type: none"> Register new chemical products with the D-CLik database and update product information based on additional testing results.
	VOC ^{*4}	<ul style="list-style-type: none"> Reduce VOC emissions by 40% or more from levels recorded in FY2001/3. 	<ul style="list-style-type: none"> Reduced VOC emissions by 50% from levels recorded in FY2001/3. 	◎	<ul style="list-style-type: none"> Maintain a reduction of VOC emissions by 40% or more from levels recorded in FY2001/3.
	PRTR ^{*5}	<ul style="list-style-type: none"> Maintain a reduction of PRTR substance emissions by 40% or more from levels recorded in FY2002/3. 	<ul style="list-style-type: none"> Reduced PRTR substance emissions by 66%. 	◎	<ul style="list-style-type: none"> Maintain a reduction of PRTR substance emissions by 40% or more from levels recorded in FY2002/3.

Assessment criteria:

- ◎→Succeeded by meeting or exceeding targets (100% or more)
- Nearly achieved targets (80% or more)
- △→Failed to meet targets (40% or more)
- ×→Results fell far short of targets (less than 40%)

Please click [here](#) for more information on the boundary of collected data.

- *1 BCPs (Business Continuity Plans) aim to minimize damage and ensure a swift restoration of operations should a business site be hit by an earthquake or other major disaster.
- *2 REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) mandate that producers must register their chemical products with the European Union and conduct safety assessments, restrict their use, and control permits for their use.
- *3 D-CLik is a unique database developed by Daicel to manage chemical substance information.
- *4 OCs (Volatile Organic Compounds) include such well-known examples as toluene, xylene, and ethyl acetate.
- *5 PRTR (Pollutant Release and Transfer Register) is a system with which business operators calculate the amount of chemical compounds emitted into the environment or transferred off-site for treatment or disposal during production, usage, or storage in Japan and also notify the government of these figures.

Environmental Management

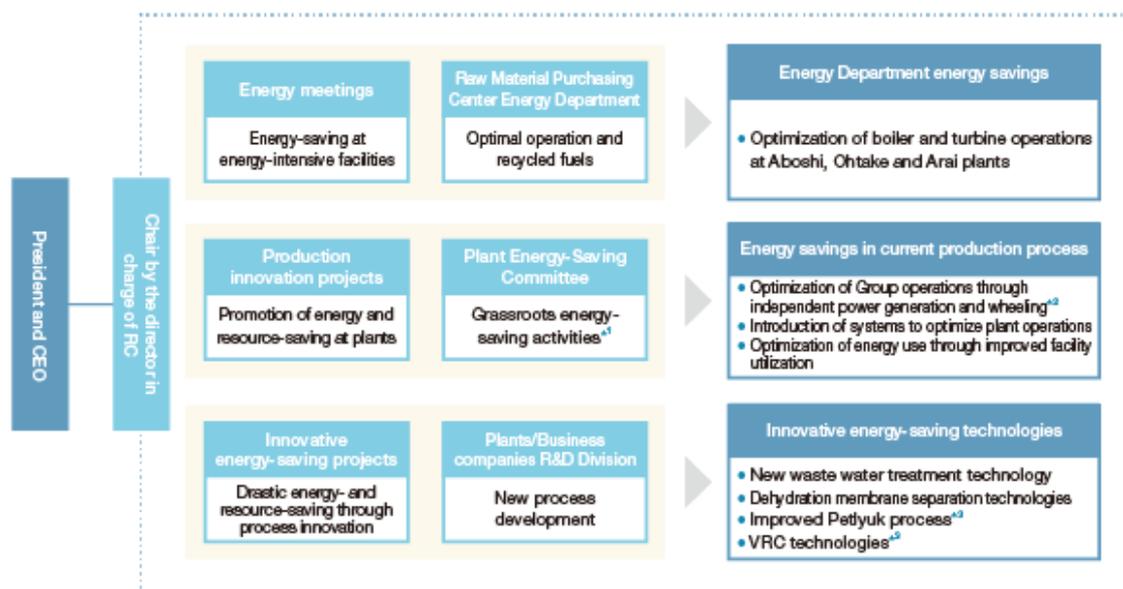
Basic Approach

In accordance with Daicel Group's environmental management policy, each Daicel's business site and Group company executes its own Environmental Management System, including setting targets, monitoring progress, and assessing results. These collective efforts help us keep in mind our corporate social responsibilities as we strive to contribute to the realization of a sustainable society.

Our Structure for Promoting Energy-Saving Initiatives

The Group's Energy Conservation Committee is chaired by the director of Responsible Care and operated directly under the president. With representatives from all relevant divisions, the committee is spearheading across-the-board environmental management efforts such as reducing energy consumption, CO2 emissions, and industrial wastes while also managing atmospheric and water pollution. The committee applies a three-dimensional strategy to manage such efforts.

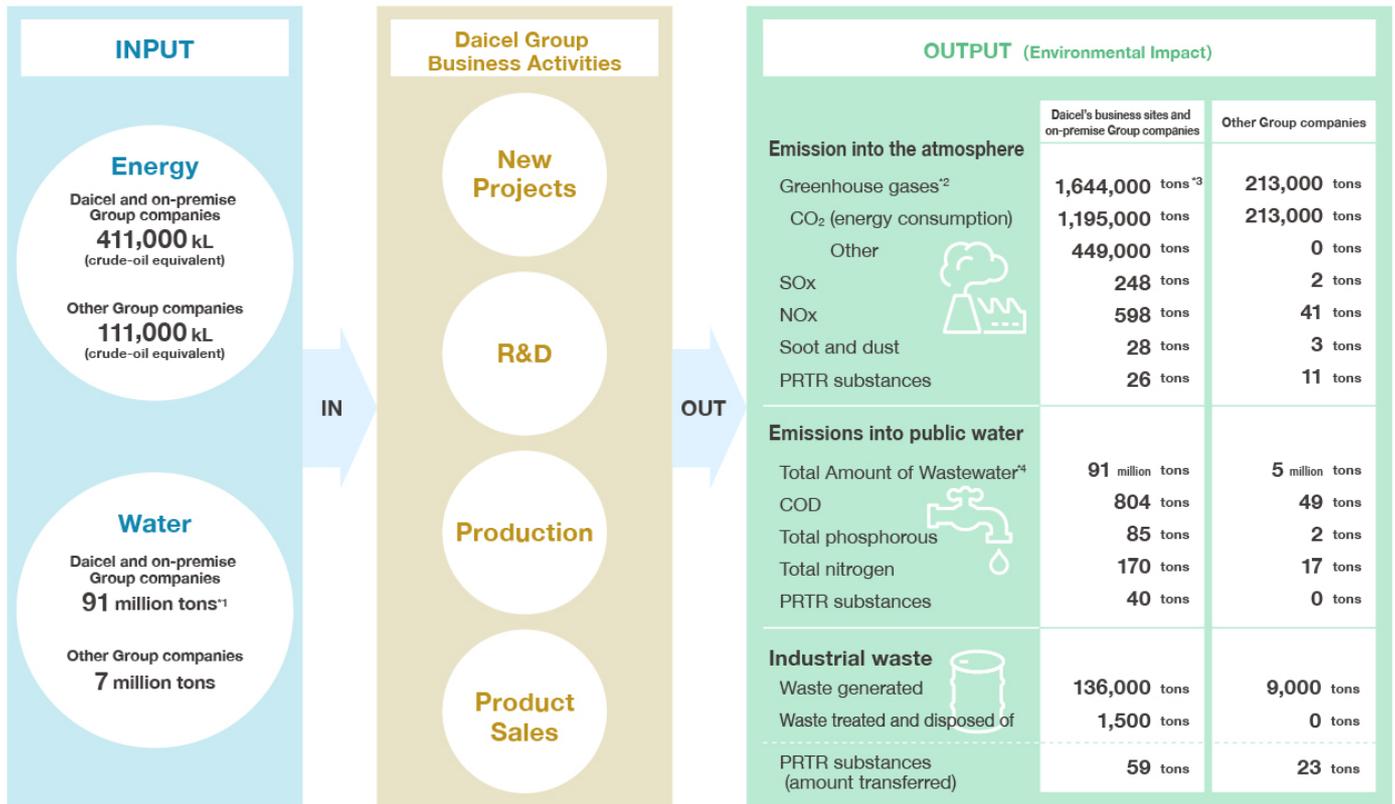
Diagram of Energy-Saving Promotion System



- *1 Grassroots energy-saving activities: Activities aimed at saving energy by, for example, stepping up steam trap management, optimizing facility operations, and adjusting the temperature settings of air conditioners, with the aim of making a significant difference through the accumulation of small actions.
- *2 Independent power generation and wheeling: The supply of electricity to our facilities in other locations with energy generated by our own facilities using the electric company's distribution network.
- *3 VRC technologies and Improved Petlyuk process :These are one of exhaust heat treatment technology. For more information, see our website:
<https://www.daicel.com/csr/environment/global-warming.html>

— Environmental Impact of Business Activities

FY2019/3 environmental impact data recorded by Daicel and other Group companies in Japan



*1 Includes 36 million tons of seawater for cooling.

*2 Includes CH₄, N₂O, HFC, PFC, SF₆, and NF₃ aside from CO₂.

*3 Includes HQ, etc.

*4 Includes byproduct water from manufacturing.

— Status of Environmental Management System Certification

Click [here](#) to review a list of certified facilities.

Global Warming Prevention

Basic Approach

The Daicel Group is striving to realize a sustainable low carbon society and is therefore participating in KEIDANREN's (Japan Business Federation) Commitment to a Low Carbon Society, which sets specific targets to be met by FY2021/3. The Group will continually work together to reduce energy use and CO₂ emissions by conducting fundamental reviews of business processes, introducing new technologies, and optimizing energy consumption across its operations.

— Initiatives to Reduce CO₂ Emissions

For Daicel and all its domestic Group companies, the target for energy usage is to improve the average change in energy intensity defined by Japan's Act on the Rational Use of Energy (Energy Saving Act) by at least 1% annually. In addition, Daicel and on-premise domestic Group companies are working to reduce CO₂ emissions to less than 1,580,000 tons by FY2021/3 in accordance with the target set by KEIDANREN's Commitment to a Low Carbon Society.

In FY2019/3, independent power generation and wheeling^{*1} was implemented between the Ohtake plant and Harima plant, Kanzaki plant, and Innovation Park. This has contributed to Daicel and all its domestic Group companies being able to reduce energy consumption by 19,000 kl (3% of the previous year in crude-oil equivalent), which translates to an improvement of 0.8% in the average change in energy intensity, based on the calculation method defined by the Energy Saving Act.

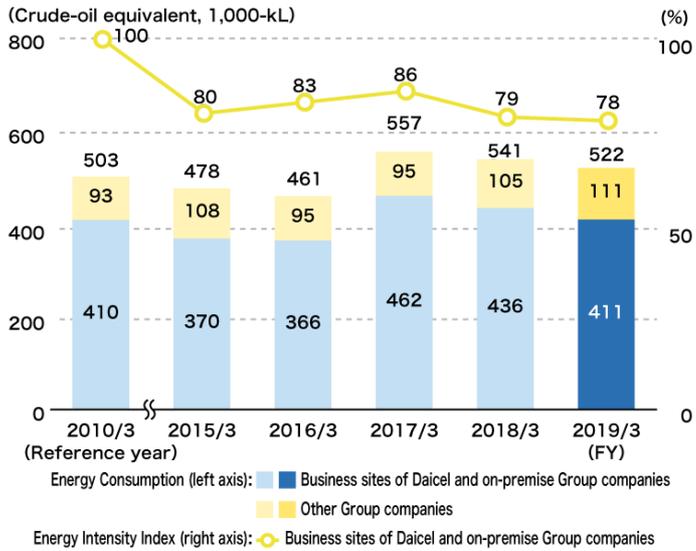
In addition, the energy intensity index^{*2} based on FY2010/3 is now 78%, a 1% point improvement from the previous year.

Daicel and on-premise Group companies have already achieved their CO₂ emissions target, at 1,200,000 tons, a 2% improvement from the previous year. The energy consumption of overseas Group companies was same as the previous year.

*1 Independent power generation and wheeling: Supplying electricity to our facilities in other locations with energy generated by our own facilities and using the electric company's distribution network.

*2 Energy intensity index : Energy intensity is measured by the quantity of energy required per unit output or activity. In an index of energy intensity, the energy intensity is the quantity of energy required per unit output and the energy intensity of a reference year is treated as 100.

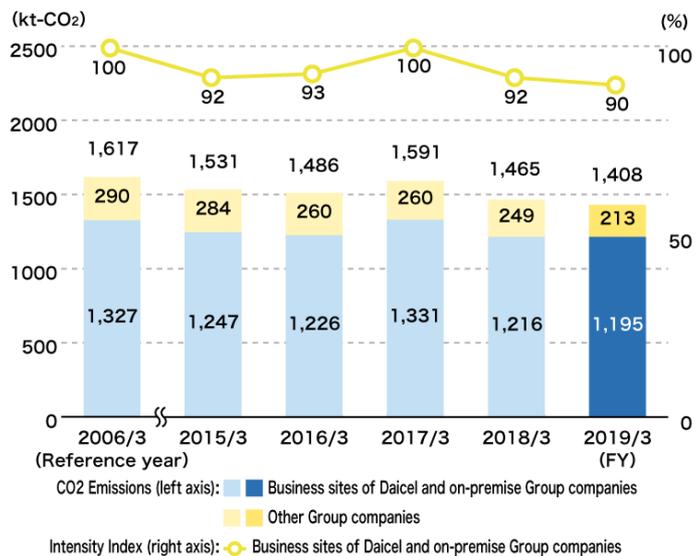
Energy Consumption and Intensity Index (Domestic)



Energy Consumption (Overseas)



CO₂ Emissions Attributable to Energy Consumption and the Intensity Index



CO₂ Emissions (Overseas)



— Innovative Energy-Saving Technologies Aimed at Reducing Energy Consumption

Daicel looks well beyond efforts to improve and refine its technologies when putting in place energy-saving measures. For example, it works to comprehensively review its production processes and develop new technologies.

Distillation processes tend to account for around 40% of general energy consumption in the chemicals industry. This is also true for Daicel's operations. As a result, uncovering new distillation process energy-saving technologies will go a long way toward reducing energy consumption. The distillation process utilizes high-temperature thermal energy while, on the other hand, generating large volumes of low-temperature exhaust heat energy, which is released unused. With this in mind, a truly beneficial energy-saving technology for the distillation process must focus not only on reducing high-temperature thermal energy use but also on the effective recovery and reuse of low-temperature exhaust heat energy.

Daicel has launched an innovative energy-saving technology project and has been promoting cross-sectional activities throughout every level of the Company. These efforts have led to the creation of an improved Petlyuk process and vapor recompression (VRC) technology to reduce the energy consumption of distillation towers. Although Petlyuk and VRC technologies have been used for other applications, Daicel is the first in the world to verify their use in chemical plants.

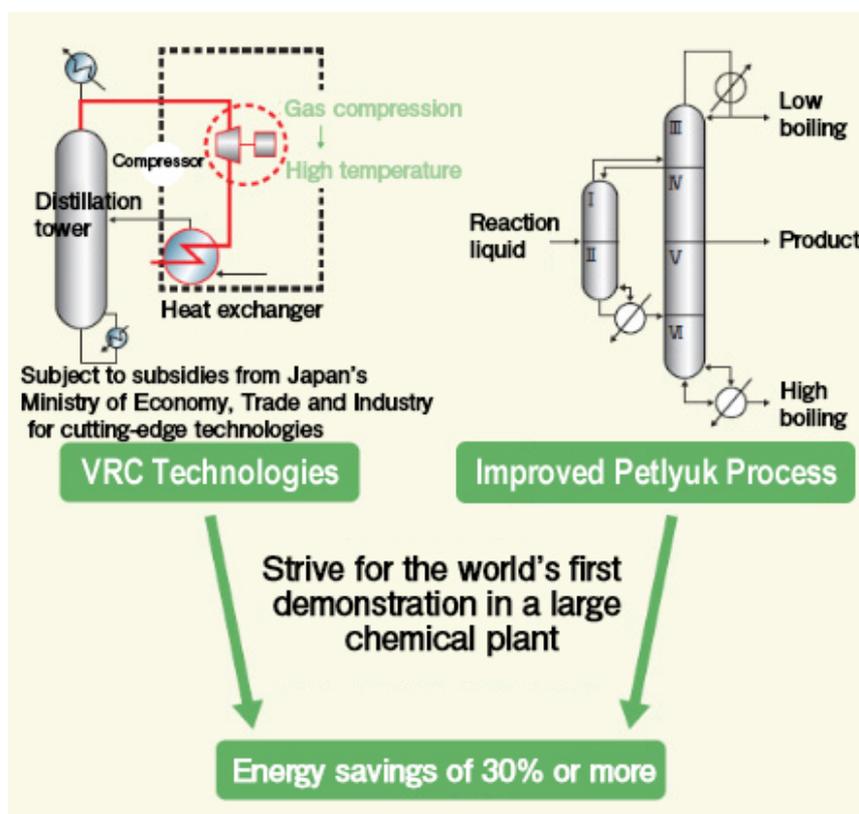
Going forward, we will push ahead with energy-saving efforts. To this end, we will leverage membrane separation technologies and novel reaction technologies to realize process innovation aimed at reducing the thermal load of distillation. Here we introduce some technological breakthroughs we have already achieved to reduce the energy consumption of distillation towers.

Case 1: Improved Petlyuk Process

Petlyuk distillation, and its practical application as a dividing-wall column (DWC), is widely recognized as an energy-saving technology. However, the introduction of a DWC has been limited to the complete replacement of distillation towers. Unable to use existing facilities, a DWC initiative entails massive amounts of capital expenditure. By refining Petlyuk technology, Daicel developed a new process technology that allows for application through improvements to distillation towers. Since 2014, the technology has been applied at the Arai Plant and the Company's acetic anhydride manufacturing facilities.

Case 2: VRC Technologies

Expectations are mounting that VRC technology will become ubiquitous to recover heat as high-temperature steam by compressing the exhaust heat inherent in low-temperature steam. While this technology has been widely used in aqueous-system simple distillation processes, there have been no examples of its application in organic solvent distillation processes. Aiming to do just this, Daicel has been working with a compressor manufacturer to develop a compressor that would enable the use of the VRC technology in organic solvent distillation processes. Verification is now underway using a prototype distillation process.

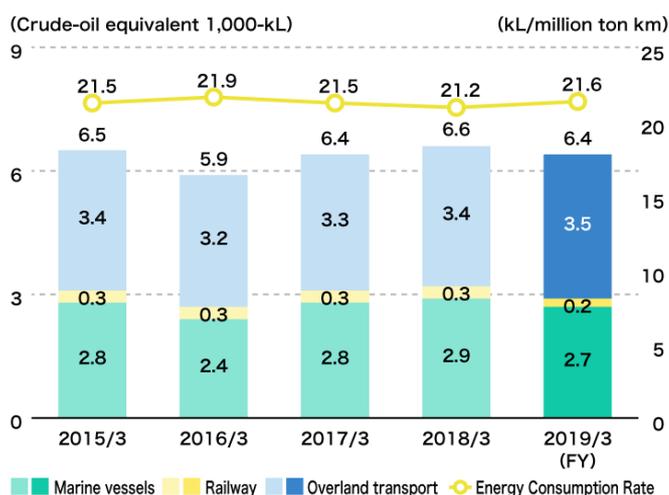


— Initiatives to Reduce the Environmental Impact of Logistics Operations

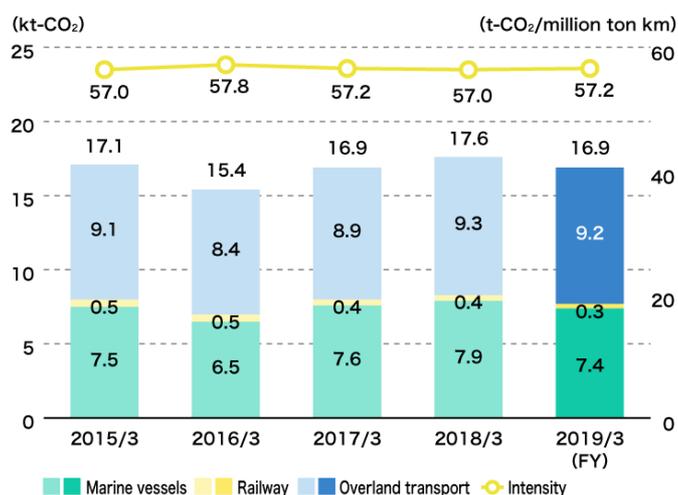
The Daicel Group is striving to step up its measures to secure distribution safety and enhance the quality of its logistics operations. Simultaneously, it is engaged in efforts to curb energy consumption associated with product transportation by, for example, promoting a modal shift^{*3} and container round use^{*4}.

As for conserving energy in logistics, the Company has improved its energy consumption associated with railway and land transportation, and CO₂ emissions intensity decreased by 0.2%.

Energy Consumption and Energy Consumption Rates in Logistics Operations (Daicel and On-premise Group Companies)



CO₂ Emissions/Intensity (Daicel and On-premise Group Companies)



*3 The shift from truck-based goods transportation to more environmentally friendly marine and railway transportation.

*4 The practice of using devanned import containers for exports without returning them to the shipping companies.

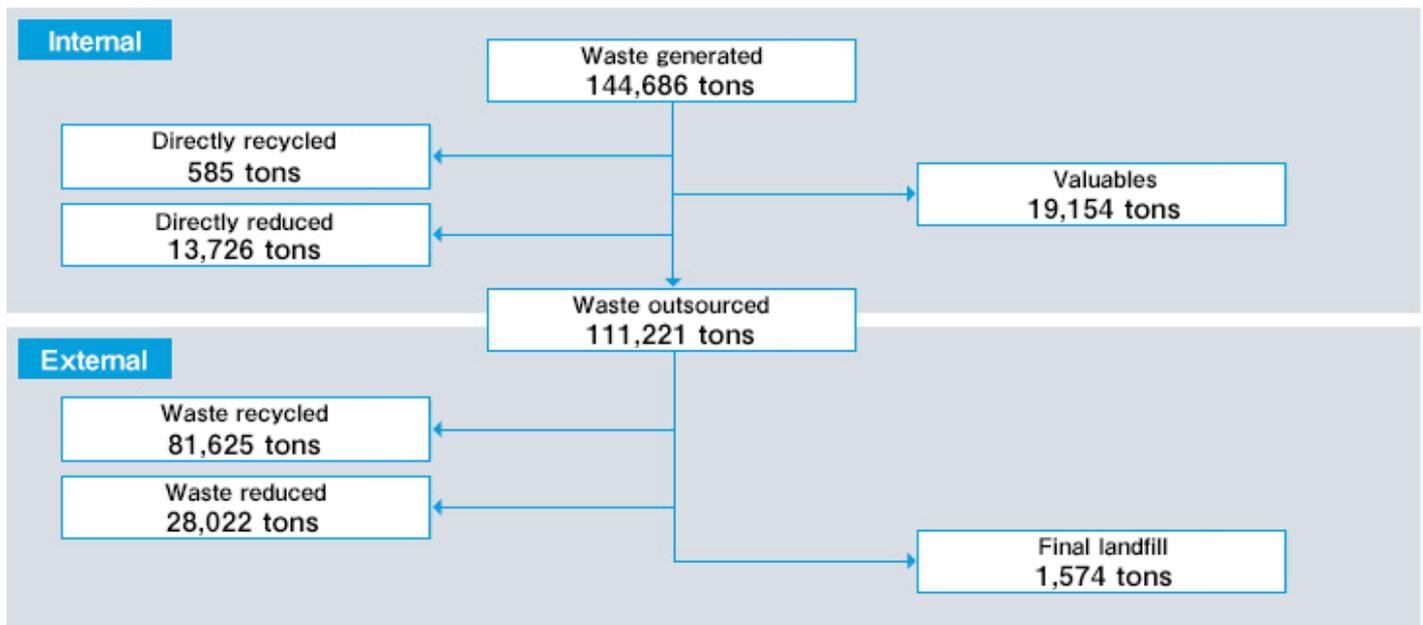
Reduction and Recycling of Industrial Waste

Basic Approach

Daicel participates in the KEIDANREN Voluntary Action Plan on the Environment for a Recycling-Oriented Society. The Group is working on initiatives in line with this plan to reduce consumption of energy and resources and also to promote the reduction and recycling of industrial waste.

Daicel's Industrial Waste Reduction and Recycling (FY2019/3)

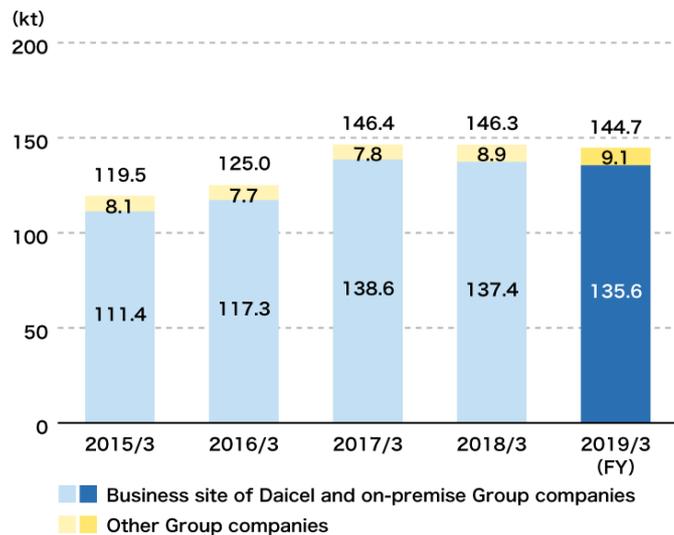
Scope of data: domestic (Daicel's business sites and Group companies)



— Initiatives to Reduce Industrial Waste

InFY2019/3, the amount of industrial waste generated by domestic Group companies, on and outside their premises, decreased by approximately 1,600 tons compared to the previous year. The land fill index was 12%, so the target of keeping it below 16% was achieved, with FY2001/3 as the reference year. In addition, amount of disposal by landfill indices improved by 2% point over the previous fiscal year. One factor was the reduction of sludge volume generated by waste water processing at the Arai plant. The Group will continue to work on reducing and recycling industrial waste in the coming year. Moreover, inFY2019/3, 5 out of 6 of the Group companies based outside of Daicel's main premises (DM Nova foam Ltd. being the exception) maintained zero-emission status.

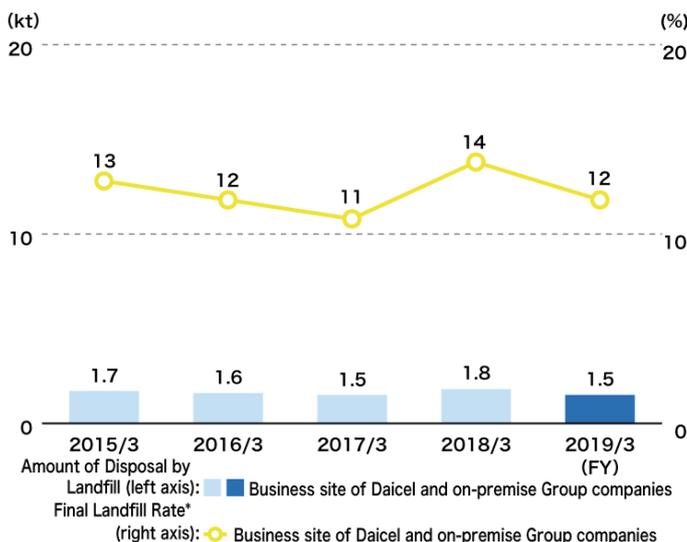
Amount of Industrial Waste Generated (Domestic)



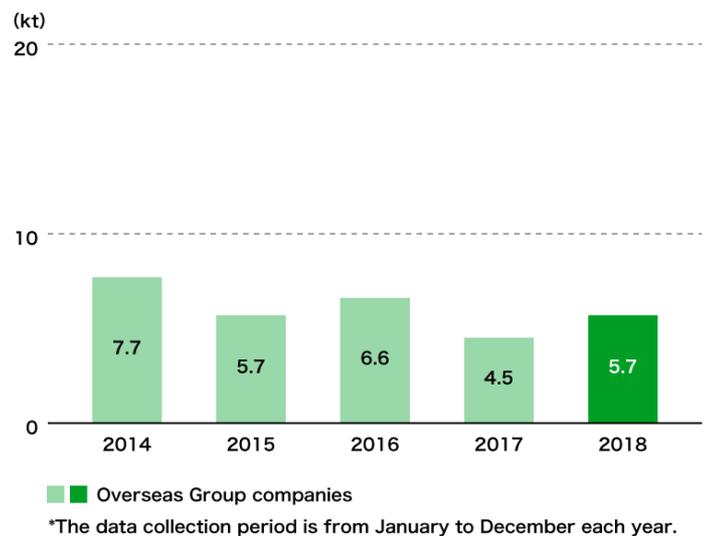
Amount of Industrial Waste Generated (Overseas)



Amount of Disposal by Landfill and Final Landfill Rate



Amount of Disposal by Landfill (Overseas)



*Final Landfill Rate: (amount of disposal by land fill / amount of industrial waste generated)x(100)

Initiatives to Reduce Emissions of Chemical Substances

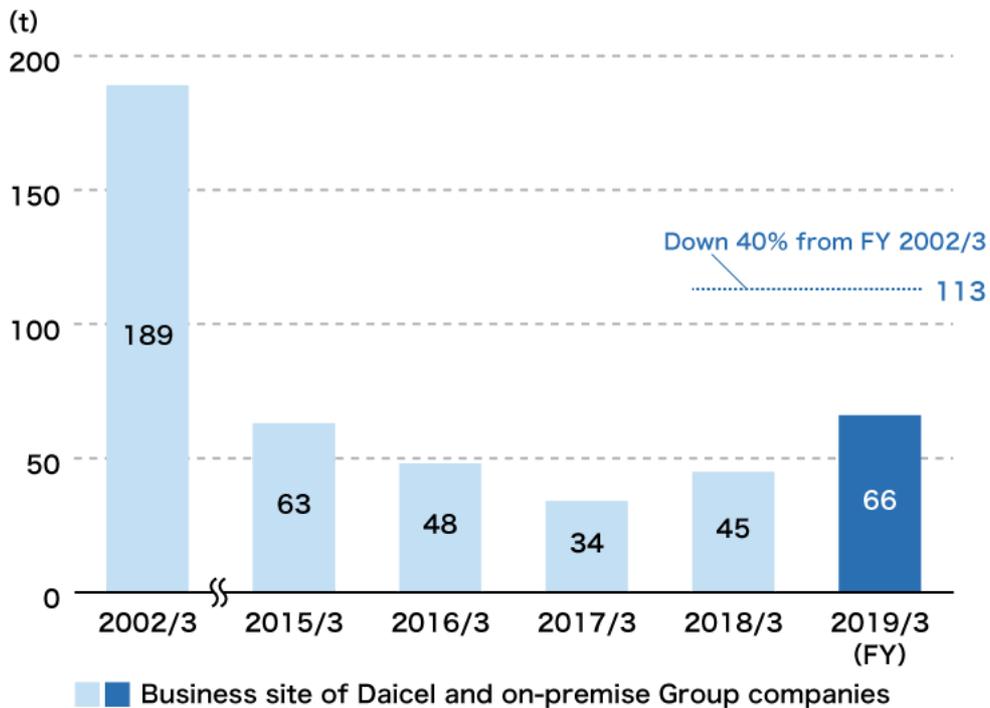
Basic Approach

The Daicel Group is striving to reduce the release and transfer of chemical substances by monitoring them and to ensure the appropriate management of chemical substances.

Reducing PRTR Substance Emissions

In FY2019/3, Daicel achieved its medium-term target of maintaining total emissions of chemical substances, specified by Japan's Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (the so-called PRTR act), at 40% of levels recorded in FY2001 or below. However, emission volume was actually up approximately 21 tons, compared to the previous fiscal year, reflecting such factors as a temporary alteration in emission methods due to production adjustments. Of 462 substances requiring mandatory registration, Daicel handled 48 substances.

Reducing PRTR Substance Emissions (Business site of Daicel and On-Premise Group Companies)



Emission and Transfer of PRTR Substances for Business site of Daicel and on-premise group companies*1

Ordinance-designated number	Substance	Total emissions	Emissions				Transferred	
			Emissions into atmosphere	Emissions into water	Emissions into land	Business site landfill disposal	Sewage	Off-side
1	Zinc compounds(water-soluble)	2.8	0.0	2.8	0.0	0.0	0.0	0.0
9	Acrylonitrile	0.3	0.3	0.0	0.0	0.0	0.0	0.0
10	Acrolein	1.6	0.0	1.6	0.0	0.0	0.0	0.0
12	Acetaldehyde	2.1	0.6	1.5	0.0	0.0	0.0	2.7
28	Allyl alcoho	1.2	0.0	1.2	0.0	0.0	0.0	0.0
31	Antimony and its compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.6
56	Ethylene oxide	0.9	0.3	0.6	0.0	0.0	0.0	0.0
67	2,3-Epoxy-1-propanol	27.5	0.0	27.5	0.0	0.0	0.0	0.0
84	Glyoxal	0.0	0.0	0.0	0.0	0.0	0.0	1.0
98	Chloroacetic acid	0.0	0.0	0.0	0.0	0.0	0.0	0.1
127	Chloroform	0.0	0.0	0.0	0.0	0.0	0.0	1.1
186	Dichloromethane	0.4	0.4	0.0	0.0	0.0	0.0	1.7
240	Styrene	5.6	5.6	0.0	0.0	0.0	0.0	0.0
243	Dioxins*2	1.1	0.1	1.0	0.0	0.0	0.0	0.1
277	Triethylamine	1.0	0.6	0.4	0.0	0.0	0.0	0.0
300	Toluene	15.2	15.2	0.0	0.0	0.0	0.0	30.0
308	Nickel	0.2	0.0	0.2	0.0	0.0	0.0	3.9
351	1,3-Butadiene	0.1	0.1	0.0	0.0	0.0	0.0	0.0
375	2-Butena	0.6	0.0	0.6	0.0	0.0	0.0	0.0
392	n-Hexane	3.7	3.2	0.5	0.0	0.0	0.0	16.7
400	Benzene	0.1	0.1	0.0	0.0	0.0	0.0	0.5
405	Boron compounds	2.5	0.0	2.5	0.0	0.0	0.0	0.0

Ordinance-designated number	Substance	Total emissions	Emissions				Transferred	
			Emissions into atmosphere	Emissions into water	Emissions into land	Business site landfill disposal	Sewage	Off-side
423	Monomethylamine	0.4	0.0	0.4	0.0	0.0	0.0	0.0
461	Triphenyl phosphate	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Others ^{*3}	0.2	0.1	0.1	0.0	0.0	0.0	0.0
	Total	66.4	26.4	39.9	0.0	0.0	0.0	58.5

*1 The threshold for amounts handled was 1 ton/year/workplace.

*2 Unit for emissions and transfer of Dioxins is mg-TEQ/year.

*3 Substances with emissions below 0.01 ton per year are consolidated under Others.

Emission and Transfer of PRTR Substances by Other Group Companies^{*4}

Ordinance-designated number	Substance	Total emissions	Emissions				Transferred	
			Emissions into atmosphere	Emissions into water	Emissions into land	Business site landfill disposal	Sewage	Off-side
4	Acrylic acid and its water-soluble salts	0.0	0.0	0.0	0.0	0.0	0.0	0.3
13	Acetonitrile	0.1	0.1	0.0	0.0	0.0	0.0	11.0
31	Antimony and its compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.7
150	1,4-Dioxane	0.0	0.0	0.0	0.0	0.0	0.0	1.2
151	1,3-Dioxolane	4.2	4.2	0.0	0.0	0.0	0.0	0.0
238	Hydrogenated terphenyl	0.0	0.0	0.0	0.0	0.0	0.0	0.2
277	Triethylamine	2.8	2.8	0.0	0.0	0.0	0.0	2.6
300	Toluene	0.0	0.0	0.0	0.0	0.0	0.0	3.0
342	Pyridine	0.0	0.0	0.0	0.0	0.0	0.0	3.9
405	Boron compounds	0.1	0.0	0.1	0.0	0.0	0.0	0.0
411	Formaldehyde	3.5	3.5	0.0	0.0	0.0	0.0	0.0
	Others ^{*5}	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Total	10.7	10.6	0.1	0.0	0.0	0.0	23.0

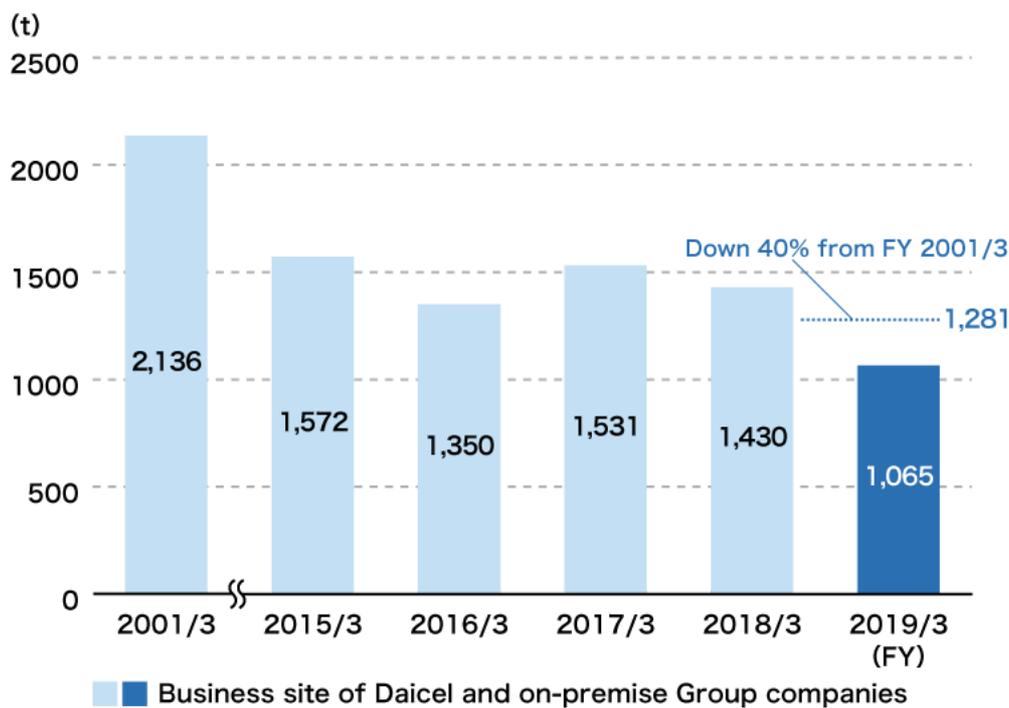
*4 The threshold for amounts handled was 1 ton/year/workplace.

*5 Substances with emissions below 0.01 ton per year are consolidated under Others.

— Reducing of VOC Emissions

In FY2019/3, acetone emissions from the Aboshi and Ohtake plants, both of which manufacture acetate tow for cigarette filters, decreased through such measures as improving the accuracy of analysis, reducing air in the spinning process, and optimizing operating conditions. The Company achieved its medium-term target of reducing emission volume in Daicel's business sites and on-premise Group companies by more than 40% over FY2001/3. The Group will work on further reductions in the coming years.

Reducing Volatile Organic Compound (VOC) Emissions



— Appropriate Control of PCBs

In compliance with the Waste Management and Public Cleansing Act and the Act on Special Measures Concerning Promotion of Proper Treatment of PCB Wastes, the Daicel Group conforms to appropriate practices for the storage and management of transformers, capacitors, stabilizers of lighting equipment and other machinery containing polychlorinated biphenyls (PCBs), and is systematically disposing of the waste.

In FY2019/3, the Company disposed of low-concentration PCB waste from transformers, previously stored at the Arai plant, and from fluorescent lamp ballasts, transformers, and capacitors that had been used at the Aboshi plant, at government-certified, pollution-free treatment facilities.

Water Resource Preservation

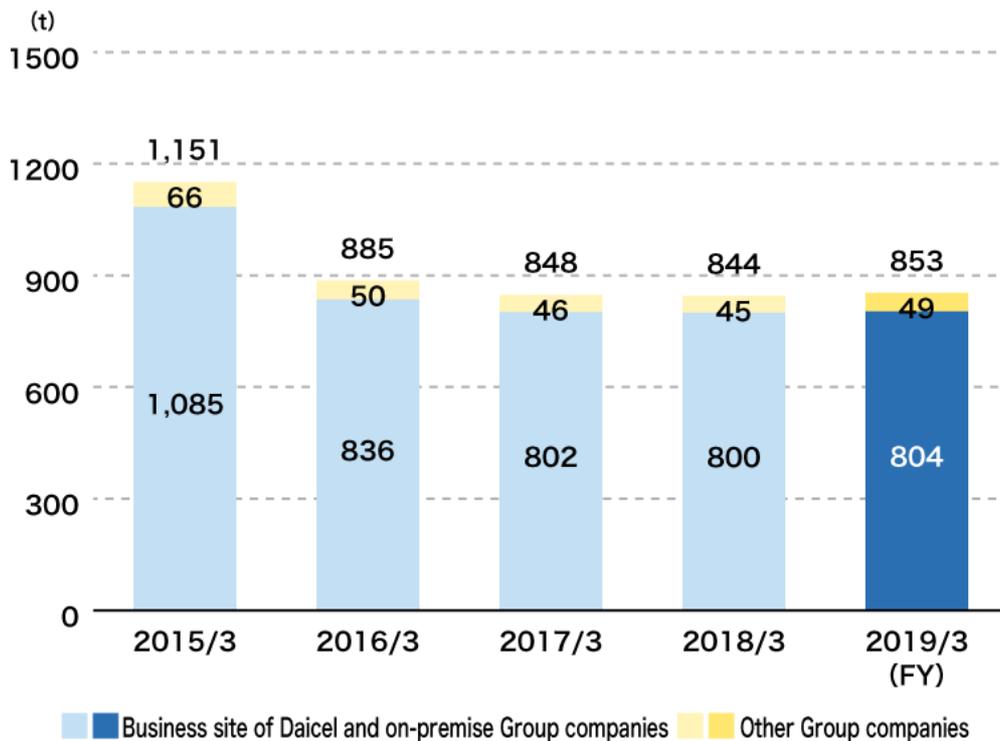
Basic Approach

Water is one of Earth's irreplaceable natural resources, and risks associated with water are on the rise across the globe. The Daicel Group is committed to protecting this resource by managing how the company uses water in its business operations and through its efforts to preserve water quality.

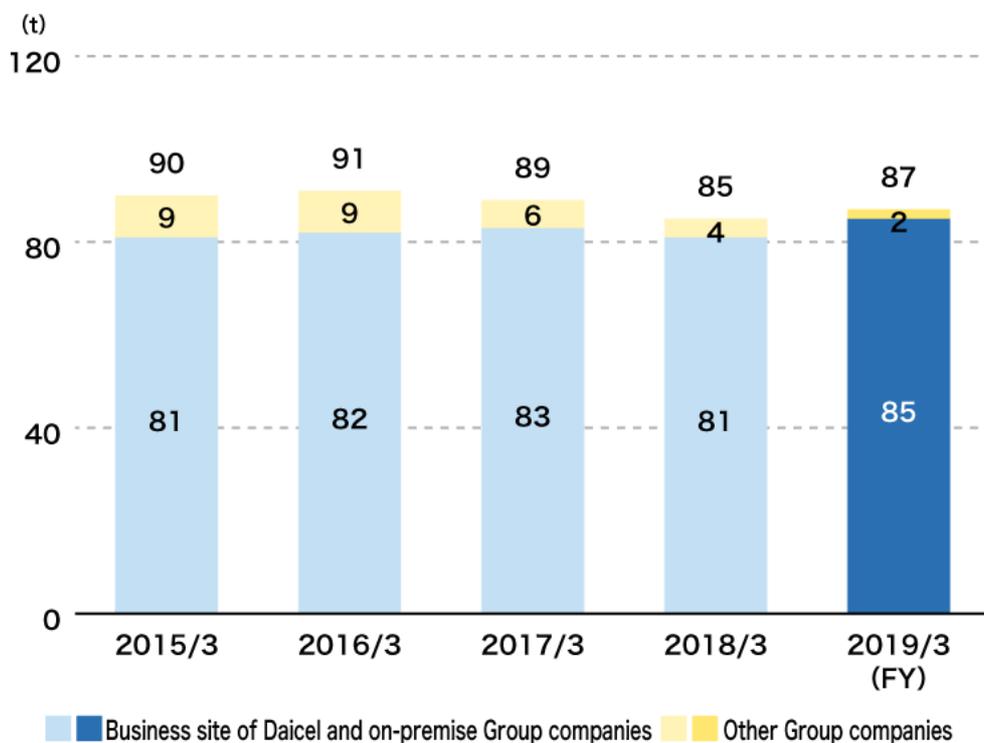
Managing Water Quality

The Group endeavors to preserve the environment by periodically assessing industrial wastewater generated by each of its plants and to ensure that emissions fall below the targeted limits. These targets are voluntarily set by each plant and based on requirements defined by and negotiated with the local governments (prefectural, city, and regional).

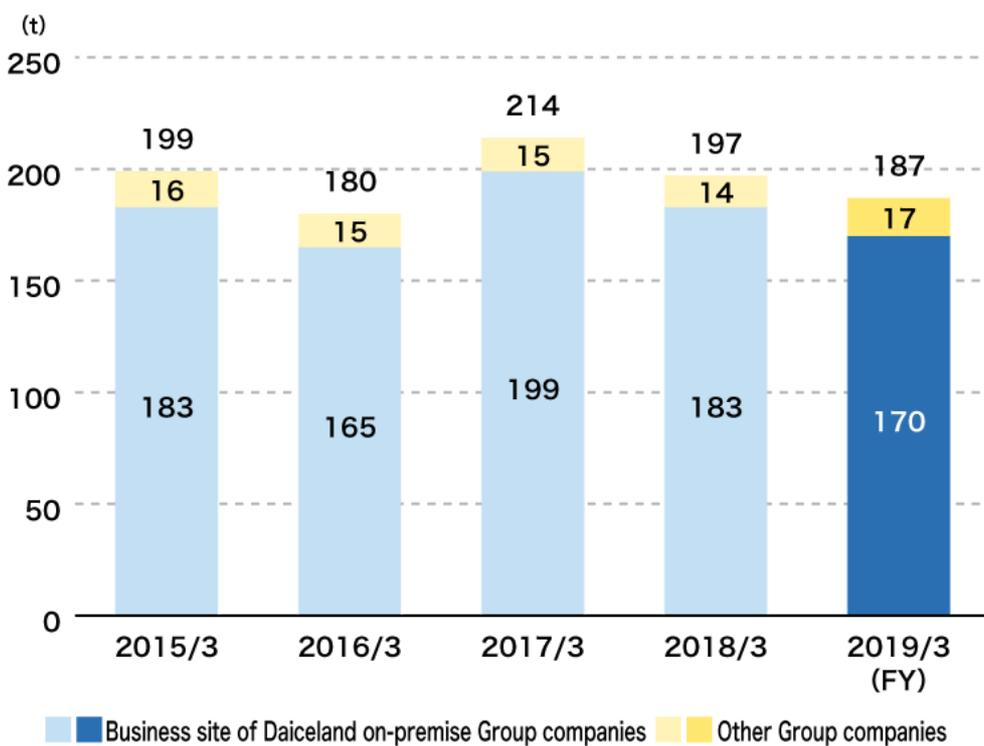
COD Emissions (Domestic)



Phosphorous Emissions (Domestic)



Nitrogen Emissions (Domestic)



Basic Approach

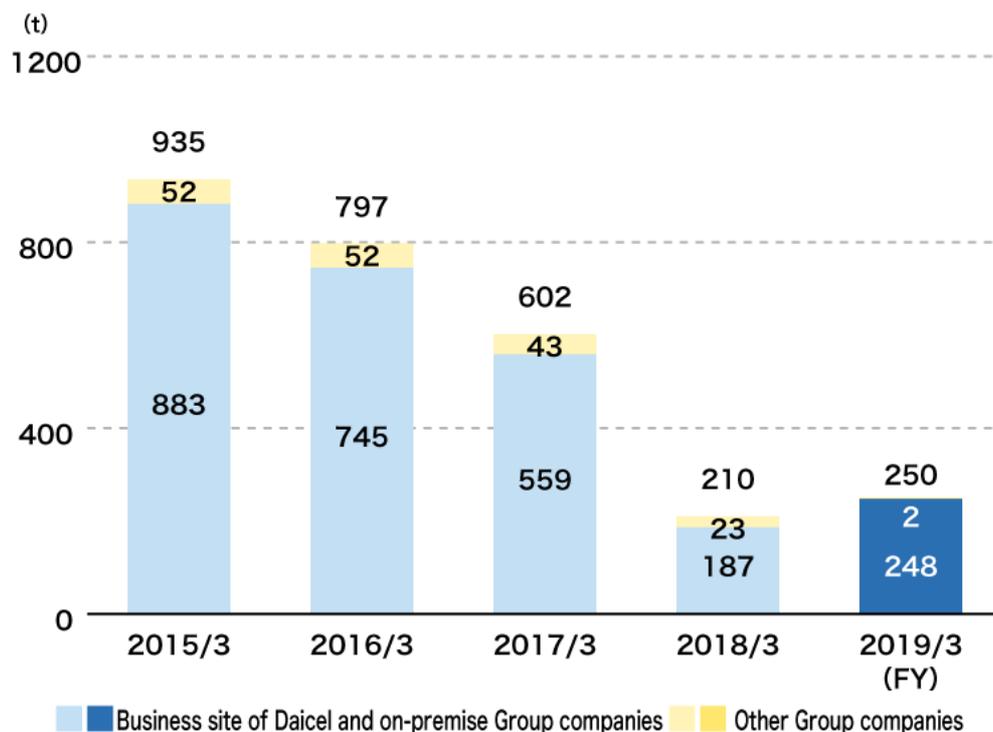
The Daicel Group's efforts to reduce emissions of atmospheric pollutants extends beyond simply adhering to relevant regulatory requirements. It continually strives to reduce its environmental impact by assessing the facilities at each of its plants and by periodically monitoring their emissions.

Prevention of Atmospheric Pollution

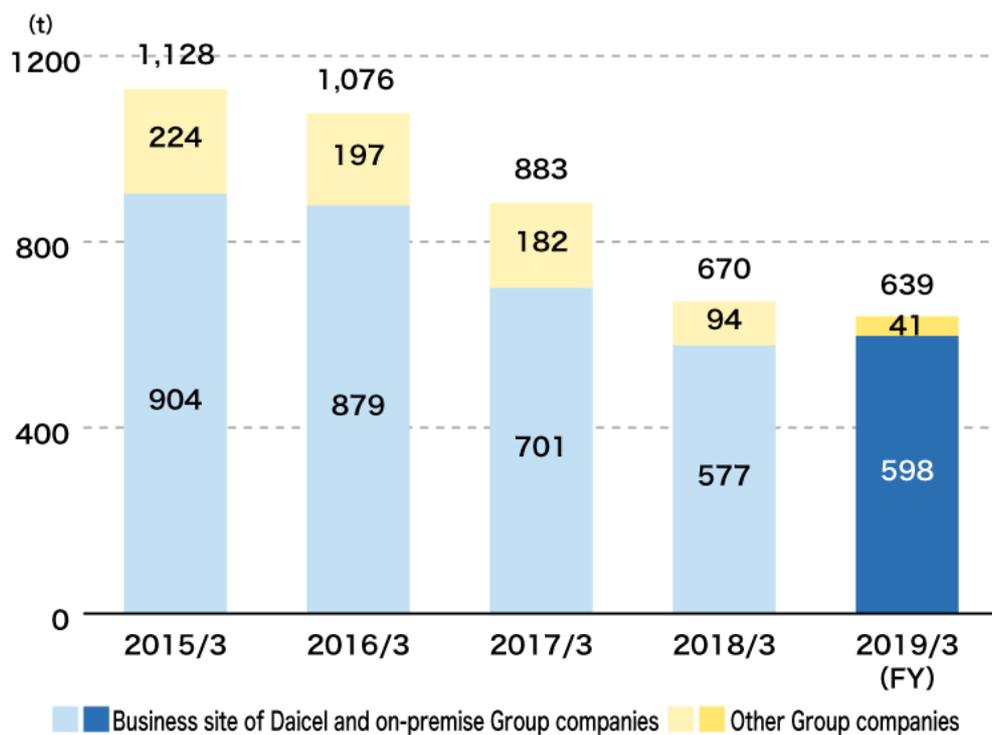
Daicel's business sites, on-premise Group companies and other Group companies in Japan strictly adhere to regulatory requirements as well as other requirements determined through negotiations with local governments and municipalities with regard to total emission volume and the density of specific substances. The Group strives to preserve the environment by voluntarily setting targets that are below these requirements.

Fuel conversion of boilers and other environmental measures successfully reduced emission volume in all categories except for SO_x, compared to the previous fiscal year.

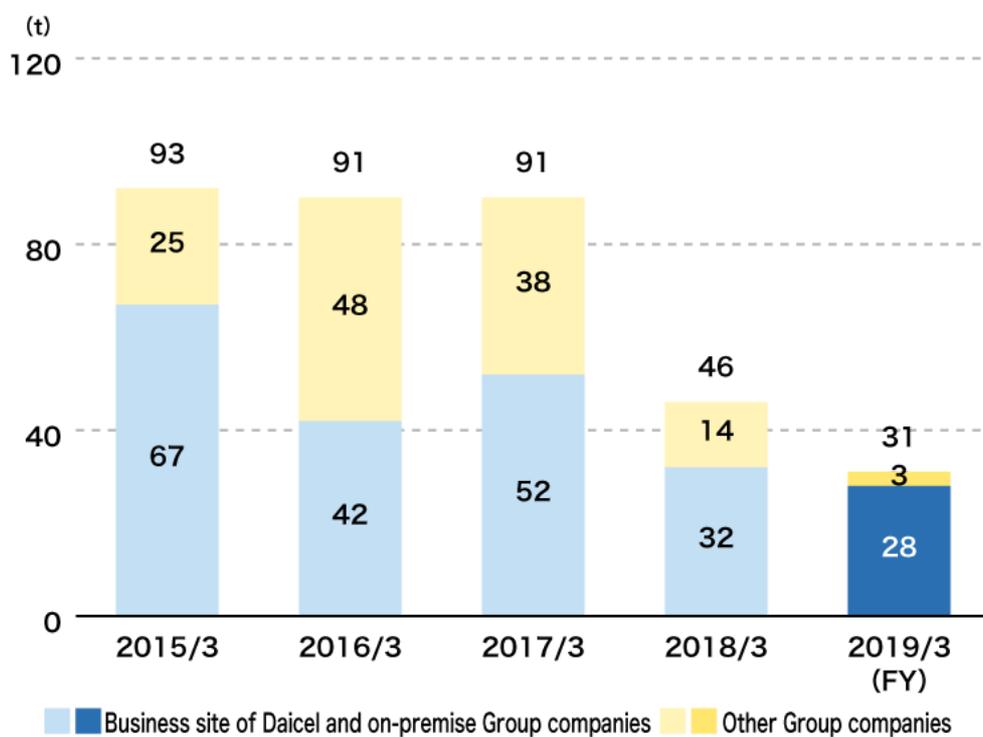
SO_x Emissions (Domestic)



NOx Emissions (Domestic)



Soot and Dust Emissions (Domestic)



Preserving Biodiversity

Basic Approach

To pass on to future generations the wonders nature has to offer, we operate our business with due consideration for the preservation of biodiversity.

— Initiatives Aimed at Preserving Biodiversity

Biodiversity provides numerous direct and indirect benefits every day, yet human activities are placing significant stress on the Earth's ecosystems. This is causing a rapid increase in endangered species and threatening biodiversity. Given these circumstances, protecting biodiversity and using biological resources in a sustainable manner is indispensable to enable future generations to benefit from nature's richness.

In FY2011/3, Daicel joined the Japan Business and Biodiversity Partnership, jointly established by KEIDANREN (Japan Business Federation), the Japan Chamber of Commerce and Industry, and KEIZAI DOYUKAI (Japan Association of Corporate Executives) in conjunction with the 10th Conference of the Parties (COP10). In FY2012/3, the Company clarified its commitment to preserving biodiversity and, to this end, incorporated initiatives for biodiversity conservation into the Daicel Group's Basic Policies for Responsible Care.

Also, Daicel's R&D divisions established in-house rules to ensure that their research and development activities are undertaken in conformity with the Law concerning the Conservation and Sustainable Use of Biological Diversity through Regulations on the Use of Living Modified Organisms (Cartagena Protocol).

— Forests for Life Initiative



In FY2017/3, Daicel launched the Forests for Life initiative as part of its efforts to preserve biodiversity, stepping up the Company's global warming countermeasures centered on curbing CO₂ emissions and energy consumption.

What are Native Forests for Life?

Dr. Akira Miyawaki is a professor emeritus of Yokohama National University and a plant ecologist who advocates for and practices revitalization of natural forests on the land where they originally stood, thus preserving ecosystems adapted to the local regions. He has planted over 40 million trees in Japan and around the world through initiatives promoting the creation of resilient forests that help mitigate the effects from earthquakes, floods, and other natural disasters. Many companies and organizations are participating in these efforts with his unique method of planting trees. Using the Miyawaki method, diverse trees are interspersed throughout the area with a focus on potential natural vegetation, which is vegetation that is adapted to each of the local natural environments.

Daicel Group's Creation of Native Forests for Life



The Miyawaki method is not just about planting different varieties of trees; another of its important characteristics is the participation of people from the local communities, including children. He believes that people grow through the creation of forests. Some grow from doing—planting and implementing the creation of native forests for life—while others grow from actively learning about ecology. Planting seeds, cultivating saplings, watering them, and nurturing them into a forest: these all help foster talent and are related to building business and societies. In addition, the method of interspersing various types of trees to closely resemble the natural makeup of forests parallels the promotion of a dynamic global workforce of diverse people.

In short order, the sapling surpasses the height of the person who planted it and goes on to surpass the life of the person as well. Similarly, the business also surpasses the abilities of the person who launched it. The creation of the Forests for Life helps foster talent, and fostering talent helps the business to grow and forge ahead into the future. This is related to the vision the Daicel Group is aiming for. More than any anything, we will be the best partner of our customers and local communities.

Reasons for the Forests for Life Initiative

① Restoring natural vegetation through mixed planting

Natural forests consist of a wide variety of wooden species. Like one of these forests, we aim to become a stronger organization, with each staff member playing a role and supporting each other through forest development activities.

② Strengthening cooperation with local communities

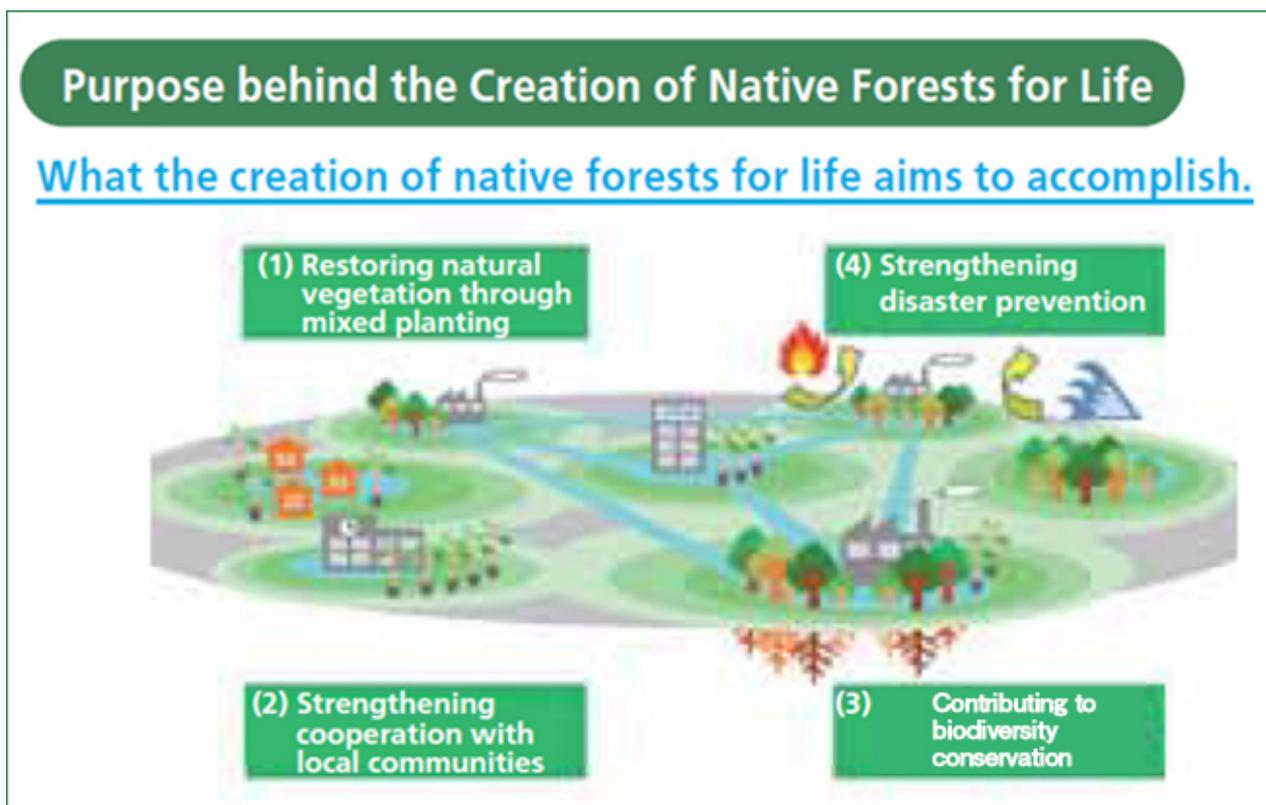
Through tree planting activities, we build ties with people in neighboring communities and help them understand our manufacturing activities and business operations by interacting with them through tree planting.

③ Contributing to biodiversity conservation

We help realize a low-carbon society while striving to preserve the global environment.

④ Strengthening disaster prevention

We create forests that will, in turn, prevent fires from spreading, mitigate the fallout of natural disasters, and reduce noise from human activity.



Recent Events Related to the Forests for Life initiative

The Creation of Native Forests for Life Committee, chaired by the president, was created in March 2016. On April 9, 2016, we hosted a tree planting ceremony at the Harima Plant as a kickoff event for the Forests for Life initiative for the entire Daicel Group. Since then, similar tree planting ceremonies have been held at various sites, including the Arai, Ohtake, and Harima plants, with the family members of employees, representatives from partner companies, and residents of neighboring communities invited to take part in the tree planting.

Business site	Date	Location of tree planting	Number of trees planted	Number of species	Number of participants
Aboshi Plant Hirohata Plant Innovation Park	November 2, 2019 (scheduled)	Shiohama (along the border of the parking lot)	10,000	36	Approx. 1,500
Harima Plant	March 29, 2019	North property border	1,399	36	138
Daicel (China)	March 10, 2019	Shanghai Changxing Island	13	1	25
Harima Plant	December 21, 2018	East property border	1,410	36	183
Ohtake Plant	April 14, 2018	Areas surrounding the office building site	2,000	36	517
Arai Plant	September 30, 2017	Areas surrounding the truck gate	1,272	30	335
Harima Plant	April 9, 2016	Areas surrounding parking lot No. 1	2,052	36	543

Tree Planting Ceremony at the Harima Plant

At the Harima Plant on December 21, 2018, a tree planting ceremony was held, the third ceremony of its kind on the premises, and 183 people, including employees and guests from partner companies, took part to help plant 1,410 seedlings.



During the tree planting ceremony

Daicel China's Tree Planting Ceremony

On March 10, 2019, Daicel China took part in tree planting on Changxing Island in Shanghai. A total of 25 people, including employees and their families, came out for the event, and a message card was placed around each planted seedling.



Employees and family members at the tree planting ceremony



During the tree planting ceremony

Forests for Life Initiative as Part of Introductory Training

Since FY2018/3, Daicel has been training new recruits on the Forests for Life initiative. The 84 new recruits for FY2020/3 received training on March 28 and April 5, 2019, and they learned about the program's background and planted trees as part of hazard prevention.



New recruits receiving training

Environmental Accounting

Daicel has introduced an environmental accounting system to quantitatively measure costs associated with environmental preservation activities and results yielded from these activities in terms of economic value or physical mass. By doing this, it strives to ensure that its environmental preservation activities are efficient and effective.

In FY2019/3, we invested approximately ¥4 billion in measures to preserve the environment. Total investment in the environment accounted for 13.6% of total investment, increased by 3.2% of that invested in the previous fiscal year.

FY2019/3 investments in the environment included approximately ¥2.5 billion for building the infrastructure for the resource recycling business. Another roughly ¥1.3 billion was invested in new facilities for the prevention of pollution.

The economic benefits resulting from environmental preservation activities grew, as the revenue from recycling efforts increased to ¥1.56 billion from ¥0.4 billion in the previous year.

We will continue to assess these impacts through environmental accounting and promote environmental preservation.

Time period for reported totals	April 2018 to March 2019
Calculation method for reported totals	Calculated according to the Environmental Accounting Guidelines, Year 2005 Edition, published by the Ministry of the Environment of Japan and the Environmental Accounting Guidelines for the Chemical Industry, published by the Japan Chemical Industry Association (JCIA)
Amounts invested	Actual sums for capital investment in environmental preservation in FY2019/3.
Cost amounts	The totals for actual expenses of equipment depreciation, maintenance, management and labor related to environmental preservation.
Economic effects resulting from environmental preservation activities	Indicated as monetary benefits only and do not include risk avoidance effects or de facto effects. Economic effects attributable to reductions in energy costs are presented as the effects of energy cost reductions over a 12-month period realized through energy-saving initiatives.

— Environmental Preservation Costs

Classifications		Amounts invested (Millions of yen)	Cost (Millions of yen)	Items
(1)Business area costs		3,906	5,372	<ul style="list-style-type: none"> • Environmental preservation costs of controlling the environmental impact of our production and service operations that occur within business areas (business area costs)
Breakdown	①Pollution prevention costs	1,288	1,781	<ul style="list-style-type: none"> • Investments and costs associated with the prevention of air and water pollution, control of harmful substances, • Levies for pollution-related health damages
	②Global environmental preservation costs	97	1,782	<ul style="list-style-type: none"> • Costs associated with the introduction of energy-saving facilities(such as new boilers and freezers), capital expenditures for fuel conversion and depreciation costs associated with these facilities • Costs associated with thermal pinch analysis and other energy-saving initiatives
	③Resource recycling costs	2,521	1,809	<ul style="list-style-type: none"> • Costs associated with resource-saving initiatives, recycling and the appropriate treatment and disposal of industrial waste, etc.
(2)Upstream and downstream costs		27	339	<ul style="list-style-type: none"> • Costs associated with initiatives to curb the environmental impact of upstream or downstream operations supporting our production and service activities (such as costs for the disposal of automobile airbag inflators)

Classifications	Amounts invested (Millions of yen)	Cost (Millions of yen)	Items
(3)Administrative costs	0	615	<ul style="list-style-type: none"> Costs for maintaining the environmental management systems, performing environmental measurements and providing environmental education in addition to costs associated with divisions in charge of environmental management , etc.
(4)R&D costs	13	368	<ul style="list-style-type: none"> Costs associated with R&D work for reducing the environmental impact of products and technologies (such as the development of eco-friendly products)
(5)Community activities costs	12	35	<ul style="list-style-type: none"> Costs attributable to environmental promotion activities, participation in community events and payments of association fees, etc.
(6)Environmental damage costs	0	4	<ul style="list-style-type: none"> Costs for environmental preservation related to environmental damage and environmental remediation costs, etc.
Total	3,958	6,733	

Items	Amount(Millions of yen)	Enviromental Rate(%)	Remarks
Capital expenditures in the applicable period	29,185	13.6%	Ratio of environmental investment
R&D expenditures in the applicable period	15,074	2.4%	Ratio of environmental protection research and development expenses

— Economic Effects (Monetary Benefits) Resulting from Environmental Preservation Activities

	Item	Amount (Millions of yen)
Economic effect	①Cost reduction through energy conservation	321
	②Cost reduction through resource conservation	60
	③Benefits obtained by recycling	1,555
	④Reduction of expenses for waste treatment or disposal	515
	Total	2,451

Enhancing Product Quality

Basic Approach

The Daicel Group aims to bring the best solutions to the global market. To this end, the Group is striving to develop a world-leading “Monozukuri*” while making the most of its creativity to accurately meet the latest needs of customers and society as a whole. As a step toward achieving these goals, the Group’s Conduct Policy states our determination to “offer safe, high-quality products and services that satisfy and earn the trust of customers.” Through our steadfast commitment to this policy as well as the following quality policy, we will remain committed to raising the level of customer satisfaction.

*“Monozukuri” : Our focus on “Monozukuri” is unshakeable. Although the literal meaning of the Japanese word “Monozukuri” is “making things,” for our purpose the meaning of the term has been broadened to encompass the creation of new value in all corporate activities, including R&D, sales and marketing and support services.

[Quality Policy for Daicel Group]

Each member of the Daicel Group promises to deliver safe and quality products which can be used with assurance by the customer. In order to realize this policy, we undertake the following actions.

- ◆ We listen to customer requirements and deliver trust and satisfaction.
- ◆ We clarify and seek to achieve the required quality.
- ◆ We obey laws and regulations.
- ◆ Each member looks at matters from the customer’s perspective and undertakes actions on their own initiative.

Quality Management System

All of the Group's plants have acquired quality management certifications under international standards such as ISO 9001, the quality standard, and IATF16949, the comparable standards for the automobile industry. Our quality management system is based on compliance with these standards.

Each internal company is responsible for the quality of their products. Relevant officials from the Company's plants and internal companies attend regular quality assurance meetings, in which they share requests and feedback from customers and discuss how to maintain and improve product quality. As such, these officials are acting in close collaboration to operate the quality management system. The Quality Management Division, operating directly under the president, audits these activities and collects and analyses product quality data. They encourage the relevant departments to make the necessary improvements and, in turn, deepen the trust of our customers.

Also, aiming to enhance customer satisfaction, each plant engages in continued efforts to improve product quality by identifying its annual quality targets. Having specified indicators for assessing the quality of each product they manufacture, these plants are operating a CAPD* cycle to achieve improvement and, at the end of each fiscal year, plant general managers carry out top management reviews with the aim of evaluating initiatives undertaken during the year and of obtaining insights into actions that should be taken in the fiscal year to follow.

*Instead of a plan, do, check, and act (PDCA) cycle, a more common methodology for making improvements, Daicel has adopted a CAPD improvement cycle to avoid the risk of overlooking crucial facts and realities that often lie in the initial planning stage.

[Quality management system certification acquired by Daicel Group companies](#)

— Initiatives to Take Product Quality to the Next Level

Visualizing Issues to Prevent Recurrence

All data related to customer complaints and inquiries, including the details, cause analysis findings, and corrective actions, are stored and managed in a database. The follow-up statuses are reviewed by a quality committee and during management review meetings at each plant. In addition, this information is shared on the monthly report and the White Paper on product quality to prevent recurrences across the board.

Any product deficiencies identified during manufacturing processes or quality assurance checks at each plant are also visualized, e.g., in a database, and the data is utilized to improve product quality, including the prevention of recurrences.

Image Analysis System that Leverages Cutting-edge IoT and AI-driven Technologies

To live up to customer expectations, Daicel is relentlessly striving to enhance product quality. To this end, Daicel is incorporating leading-edge technologies that help it earn customer trust and confidence in terms of quality. For example, with the help of our partner, Hitachi Ltd., we introduced an IoT-driven image analysis system that leverages AI to the Harima plant (Tatsuno City, Hyogo Prefecture), one of our manufacturing sites for inflators, a key component of automobile airbags.

This system is capable of consistently monitoring the status of operations, facilities and materials via images captured by multiple cameras installed along production lines. This made it possible to closely manage the quality of every product unit being manufactured, instead of inspecting samples on behalf of the entire lot. With this upgraded quality assurance structure, these production lines are now capable of "all point management" precisely controlling product quality on the basis of serial number, rather than "representative management," assuring the quality of a group of products based on lot number. Moreover, the AI-based analysis of a massive volume of image data helps us spot the types of manual operations most susceptible to mistakes (and most in need of improvement), determine optimal conditions for facility operations and enhance overall operational efficiency.

In the coming years, we plan to roll out the system to six overseas plants, all manufacturing bases for inflators, and establish a globally integrated management system. We will leverage a cloud-based database to collect and analyze the images from the system and develop plans to move toward globally standardized designs and procedures.



An example of the sensing system in action and how the image analysis system monitors the action of frontline operators

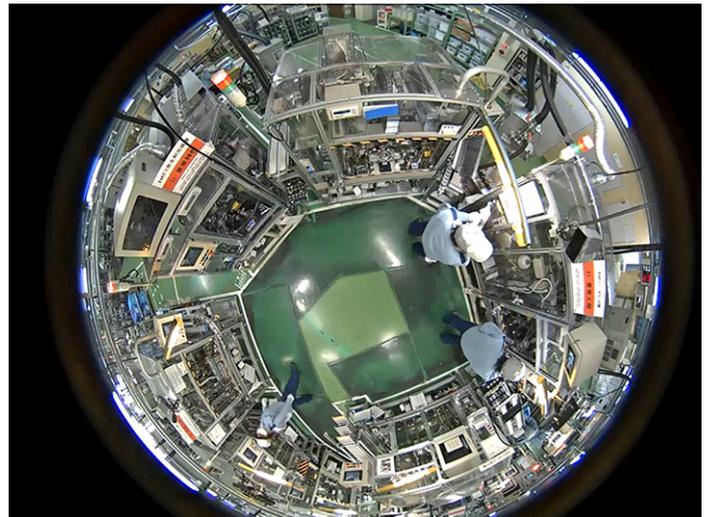


Image photographed by the 360-degree camera

Basic Approach

In line with its Basic Policies for Responsible Care, Daicel aims to ensure the safety of its chemical products in all stages of its operations, ranging from manufacture and use to disposal, and also throughout its supply chain while striving to mitigate risk associated with these products. To this end, the Company is committed to maintaining robust information disclosure with regard to its chemical products.

— Chemical Substance Management

Initiatives to Maintain Compliance with International Chemical Regulations

In addition to complying with domestic regulations with regard to the management of chemical products, Daicel maintains compliance with chemical regulations enforced in Europe, the United States, China, South Korea, and other countries by regularly acquiring the latest information on law revisions in these countries.

The Company completed all the phase 1 to 3 registrations of its products designated under the European Union's REACH ^{*1}, complying with regulatory timelines specified by the regulations based on the volume of substances being manufactured or exported.

Moreover, employees in charge of chemical management at both internal companies and Group companies meet quarterly to exchange the latest information on the law and regulatory updates with regard to chemicals and trends among industrial associations in Japan and overseas.

^{*1} REACH: Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulation mandate that producers must register their chemical products with the European Union and conduct safety assessments, restrict their use, and control permits for their use.

Provision of Chemical Information

Since Daicel aims to ensure that customers can always use its products with confidence, the Company maintains compliance with GHS^{*1} and such regulations as the Industrial Safety and Health Law, preparing mandatory SDS^{*2} for every product in the Company's lineup and making these sheets available to customers. In addition, Daicel discloses SDS for its mainstay products via its website.

Daicel is a participant in GPS/JIPS^{*3}, both of which are voluntary initiatives promoted by the Japan Chemical Industry Association (JCIA) aimed at reinforcing risk-based chemical substance management at companies. Applying the results of risk assessments on its chemical products, Daicel prepares and posts 12 Safety Summaries on the GPS Chemicals Portal Site run by the International Council of Chemical Associations (ICCA).

Furthermore, the Company declared its support for chemSHERPA^{*4}, a private-public information communication scheme developed by Japan's Ministry of Economy, Trade and Industry in an effort to promote the standardization of communications about the chemicals included in products.

- *1 GHS: Globally Harmonized System of Classification and Labelling of Chemicals that provides rules regarding the presentation of hazard information of chemical substances and precautions for their handling based on globally harmonized classification and labeling methods.
- *2 SDS: Safety Data Sheet, a document providing information on the properties of chemical substances and instructions about their handling.
- *3 GPS/JIPS: Global Product Strategy/Japan Initiative of Product Stewardship, the voluntary actions of the chemical industry promoted by JCIA and based on the chemical management strategy of ICCA. Through these actions, the industry conducts risk assessments of chemical products, creates safety summaries to easily explain results to people outside the industry, and makes these summaries publicly available.
- *4 chemSHERPA: A scheme that aims to ensure the appropriate management of content of chemical products while communicating information regarding their ingredients throughout supply chains and based on a unified list.

Consolidated Management of Chemical Information

Through Daicel's unique chemical information management data bank called D-CLik, the Company unified information on raw materials, intermediates, and finished products with regard to their physical, chemical, and hazardous properties and relevant regulations. The data bank helps the Company rigorously assess risks associated with its products and the other chemicals it handles, efficiently prepares SDS and labels for these substances, and promptly provides the relevant information to customers.

Employee Education on Chemical Substance Management

To ensure the appropriate management of chemical substances, we provide all employees who handle chemical substances with educational programs themed on risk and hazardous properties of chemical substances, appropriate methods for handling these chemicals, and the laws and regulations applied to them. Also, those working at administrative divisions are subject to periodic compliance training aimed at keeping them apprised of chemical regulations enforced in Japan and overseas.

Process Safety and Disaster Prevention

Basic Approach

Through its risk assessment process, the Daicel Group identifies risks associated with process safety and disaster prevention. We continuously strive to maintain safe and stable operations by adopting the necessary measures against these identified risks in order to achieve zero accidents.

— Initiatives on Process Safety and Disaster Prevention

In FY2019/3, the Group encountered five cases of small fires (e.g., involving lighting equipment or a vehicle) and one process-related accident. All of these incidents were minor and had little impact. Root cause analysis has been carried out and preventive measures put in place to address both physical and human errors.

After lessons were learned from a fire at the Ohtake plant in 2017, we conducted activities to identify risks that could result in accidents and developed action plans comprising preventive measures. We also made structural improvements as a response to such accidents and will accelerate our recovery efforts if any such future incidents occur. All of these action plans have been successfully completed. We also worked on strengthening security at our business sites to prevent illegal access to our grounds and to monitor our visitors. We are making progress on our plans to enforce the perimeter fence and to install access control systems at our gates. Our Group companies outside of our premises are also taking steps to strengthen security. Looking ahead, we will continue to focus on ways to reduce risks related to process safety and disaster prevention.

Earthquake, Tsunami and Liquefaction Countermeasures

Taking a systematic approach, Daicel has been pushing ahead with assessments of risk associated with earthquakes, tsunamis, and liquefaction as well as the analyses of seismic conditions at its facilities and their structural reinforcement. In FY2016/3, we completed structural reinforcement work in line with the Act for Promotion of Renovation for Earthquake-Resistant Structures. Currently, efforts are underway to equip the facilities with greater earthquake resilience in accordance with Daicel's in-house standards.

To enhance our preparedness for earthquake, tsunami, and liquefaction risks, we also erected satellite communication antennas at the Osaka Head Office, Tokyo Head Office, and Innovation Park. This is an example of our efforts to upgrade our information network infrastructure to secure communications between key business sites at times of widespread disaster. Also, all Group business sites in Japan introduced systems for safety confirmation and emergency calls.

Emergency Drills

The Daicel Group conducts emergency safety drills in accordance with the annual plans of each business site. The drills are designed to repeatedly train our employees so that, in the event of an emergency, they are well versed in lifesaving and first-aid practices, capable of preventing spillover effects from disasters, and able to efficiently collaborate with other members of communities surrounding our business sites. The drills are conducted on a regular basis in tandem with municipal fire departments. In FY2019/3, we rolled out the Disaster Information Sharing System to the Aboshi plant, Ohtake plant, and Innovation Park to respond to disasters quickly and accurately.

Complementing these efforts, Daicel also periodically conducts Groupwide disaster countermeasure exercises that address the possibility of a widespread disaster. As in the previous fiscal year, without giving participants advance warning, we conducted one such exercise in FY2019/3. The exercises are intended to simulate real disaster scenarios as closely as possible and provide opportunities to feel and experience the impact of a disaster.



Emergency drill at a petroleum complex in Hyogo Prefecture



Emergency drill with a fire department and neighboring companies

Basic Approach

As a distributor, Daicel Corporation works with Daicel Logistics Service Co., Ltd. to ensure safe distribution and quality management. Daicel Logistics Service Co., Ltd. has set its safety target as maintaining its status of zero logistics accidents and zero occupational accidents and achieving zero at-fault traffic accidents. Its quality management target is stated as: “take responsibility as a logistics contracting company by quickly and sincerely responding to complaints and accidents relating to logistics to earn the CS (customer satisfaction) of the distributors.”

— Preventing Logistics Accidents

In FY2019/3, Daicel Logistics Service and its partner companies maintained zero-accident status in the course of logistics operations. The number of logistics issues (e.g., shipping and delivery errors and customer complaints, as defined by Daicel Logistics Service’s standards) remained almost the same as in the previous fiscal year. Since most of the observed incidents were reoccurrences of past issues, we intend to improve our preventive measures and raise employee awareness. In addition, with the help of partner companies, we will identify the root causes for the observed issues to improve our prevention measures.

— Training at the Safety and Quality Education Center

In 2011, Daicel Logistics Service opened the Safety and Quality Education Center on the premises of the Kansai Logistics Center Amagasaki Sales Office. This move was intended to step up its efforts to maintain distribution safety and quality, both essential to earning customer trust. Since then, the facility provides training programs aimed at enhancing the operational skills of tank truck drivers and plant staff in charge of loading and unloading cargos, utilizing a unique curriculum prepared by Daicel Logistics Service. As of March 31, 2019, a total of approximately 1,000 trainees completed training at the facility.

In recognition of these initiatives, in FY2017/3 Daicel Logistics Service was chosen by the Japan Chemical Industry Association (JCIA) to receive an Outstanding Award under the JCIA’s 10th Annual Responsible Care Awards Program.

Technical Training



Technical Training



Awarding ceremony during the JCIA symposium

Click [here](#) (in Japanese only) for more information on training at the Safety and Quality Education Center of Daicel Logistics Service Co., Ltd.

Occupational Health and Safety

Basic Approach

The Group strives for zero occupational accidents, and to this end we pursue activities that ensure safety remains the highest priority. These activities include 3S activities, namely seiri (tidying), seiton (putting everything in order), and seisou (cleaning); crisis-identification, and hazard prediction, all fundamental activities at our production sites.

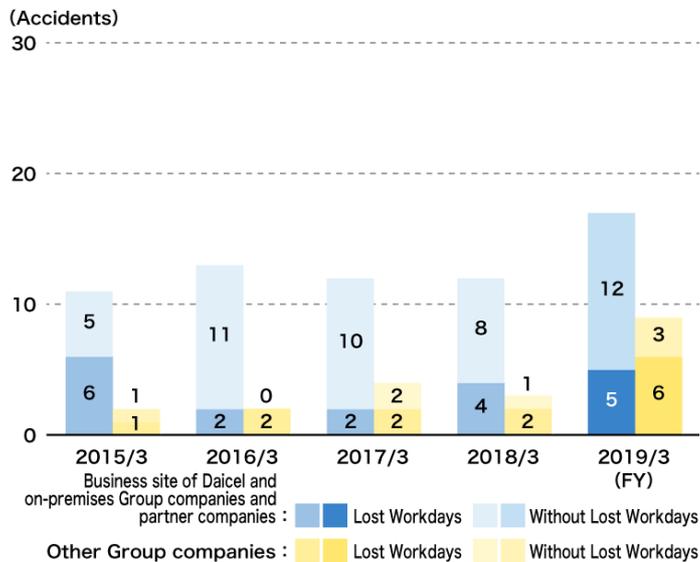
— Initiatives toward Zero Occupational Accidents

In FY2019/3, we focused on preventing serious occupational accidents such as heatstroke and injury caused by hazardous substances. At each plant, the occupational health and safety manager, health nurses, and facility manager worked hand in hand on prevention efforts, including the enforcement of patrols to ensure against heatstroke and injuries, replenishing drinking water and mineral supplies, and setting up rest areas.

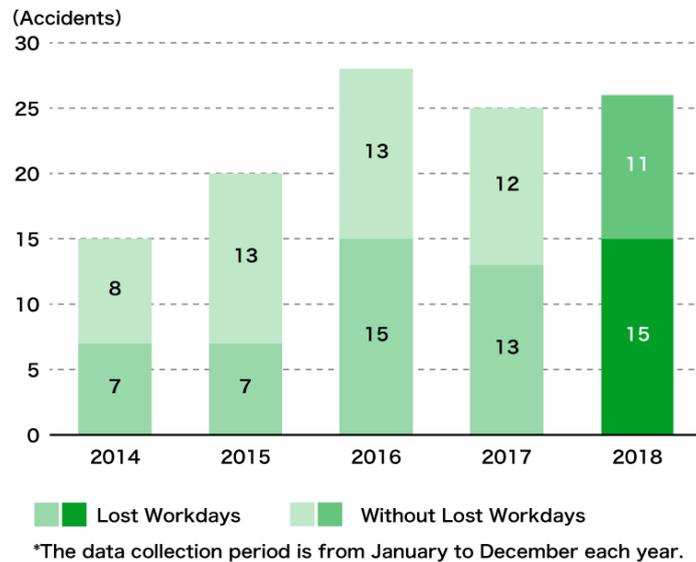
In FY2019/3, the Daicel's business sites, on-premise Group companies and partner companies, and other Group companies recorded a total of 26 occupational accidents, consisting of 11 accidents with lost workdays and 15 without lost workdays. Compared to the previous fiscal year, injuries from hazardous substances remained the same while heatstroke cases increased. Since most of the instances of heatstroke occurred during the short period of consecutive days of severe heat, we enforced preventive measures against heatstroke at each plant. In addition, after an employee from a contract company fell while performing outsourced roof repair work, we had to make sure that our safety measures for working in high places would be taken seriously.

In FY2020/3, we will continue to focus on preventing serious occupational accidents, such as heatstroke and injury from hazardous substances as well as falls, as our top priority.

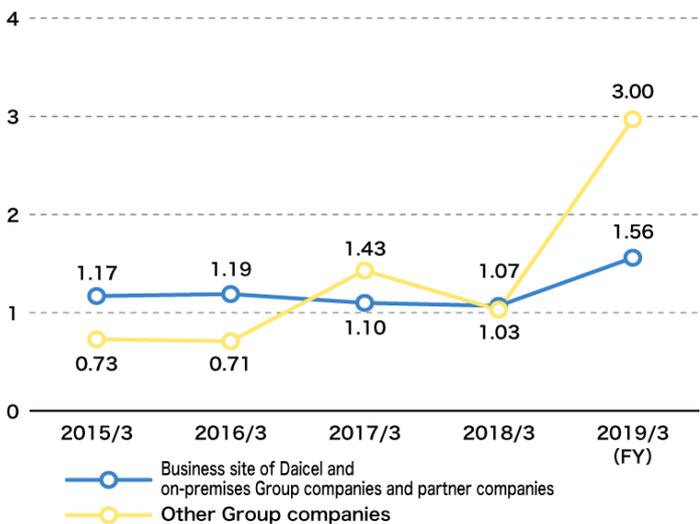
Number of Occupational Accidents (Domestic)



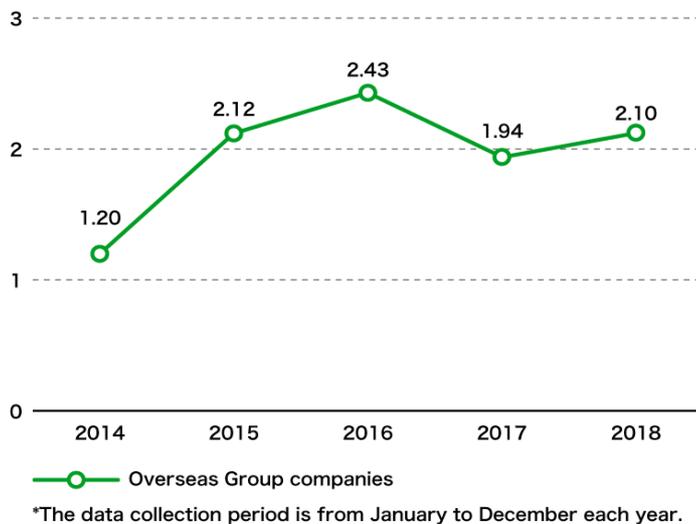
Number of Occupational Accidents (Overseas)



Occupational Accident Frequency Rate* (Domestic)



Occupational Accident Frequency Rate (Overseas)



*Occupational Accident Frequency Rate = (number of people involved in an occupational accident / total actual working hours) × 1 million hours



Patrols to ensure against heatstroke and injuries from hazardous substances

TOPICS

2018 Minister of Health, Labor and Welfare Award for Excellent Managers with High Awareness of Safety

The general manager of the FT Group of the Ohtake Cellulose Production Division, which plays a key role in supporting Daicel's Cellulose Company, received an award from the Minister of Health, Labor and Welfare, recognizing his efforts as an excellent manager who maintains high awareness of safety and provides appropriate safety guidance to his staff.



After receiving the safety award

TOPICS

Operation Training Center (TRC) Branch Office

Each Daicel Group business site conducts training sessions aimed at addressing issues specific to their operations in terms of occupational health and safety, environmental preservation, and chemical management. To increase the effectiveness of our training programs, we established multiple TRC branch offices at different production sites. Beyond covering basic principles, the programs of these branch offices are tailored to each business site, such as by employing takeaways from past onsite incidents.

In FY2019/3, and continuing from the previous year, we worked on implementing and enhancing hazard simulation training programs related to past incidents. Also, at the MSD Education Center at the Harima plant, which is our human resource development center for processing and assembly style manufacturing, programs are being enhanced to expand their scope. This expansion includes going beyond classroom training to include more hands-on and experience-based education, while we are also offering training sessions that cover the very basics of manufacturing. This starts with a greeting and moves onto training in which participants can gain the knowledge and skills required for manufacturing.



Simulating the experience of falling



Simulating the experience of being suspended

— Initiatives to Improve Occupational Health and Safety

Safety Exchange Meetings for Group Members

Since FY2015/3, we have been holding casual exchange meetings aimed at fostering a sense of unity among Group members and heightening the awareness of those who take on front line operations with regard to 3S and other safety assurance initiatives. With the labor union and management acting in collaboration, these meetings are attended by forepersons and mid-level managers from Daicel production sites and other domestic Group companies. The sessions usually involve a tour of plant facilities and small-group discussions on 3S case studies to help participants exchange their insights.

In FY2019/3, a meeting was held at the Kanzaki plant (Daicel Value Coating Ltd.), the manufacturing base for packaging films with the participation of managers, including DM Novafoam Ltd., Daicel Pack Systems Ltd., and Daicel Pyrotechnics Ltd., all of which conduct a primarily processing style of manufacturing. The group of participants also visited the Product Safety and Quality Education Center at Daicel Logistics Service Co. Ltd.'s Amagasaki site.

FY	Location	Participants
2019/3	Kanzaki Plant, Daicel Logistics Service Co., Ltd. Amagasaki site	25
2018/3	Okayama Plant, DM Novafoam Ltd.	18
2017/3	Hirohata Plant	18
2016/3	Harima Plant	19
2015/3	Aboshi Plant	21



Facility tour given by the Safety Exchange Meeting Members

— The Essence of Safe Operations

Daicel has established numerous in-house rules on manufacturing safety. To summarize the basic operational rules that should be practiced by all front line operators, we issued the first edition of the “Essence of Safe Operations” in FY2014/3. This pocket-size leaflet aims to provide Daicel Group employees in charge of manufacturing with unified guiding principles that they should be fully aware of, deeply contemplate, and use to address safety issues. It includes well-organized content designed to provide readers with quick references anytime and anywhere. In April 2018, we issued the leaflet’s third edition, which includes more diagrams and photos so as to facilitate reading and understanding.

Human Resource Management

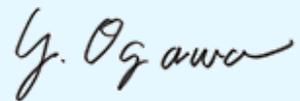
— Human Resource Policy

Having unveiled the Group's Human Resource Policy in 2013, Daicel's President delivered the following message to all employees worldwide with the aim of ensuring the spirit of this policy would be shared by every Group employee. Originally written in Japanese, the message was translated into five different languages so it would be understood by every Daicel Group member around the globe.

On behalf of the Daicel Group, I am pleased to present this human resources policy covering all employees of the Daicel Group worldwide.

Our human resources policy establishes the underpinning for various personnel practices such as recruitment, training and development, placement, and determining appropriate treatment. We, the Daicel Group, have characterized the policy with the phrase "People are the foundation for our success." To start with, no company can exist without people, and many companies emphasize the importance of their employees. The word "people" holds a special significance for us because we deeply believe that people are imbued with infinite power, and we depend on our ability to realize the full potential of this source of power. Sometimes we can expose our world to unknown potential, balancing even the very fate of the company, but our cumulative history has made us the very people we are. I am also convinced that future prosperity cannot be achieved without the contribution of our people, namely, it is people that form the foundation of our success. Herein we reiterate the firm determination of the Daicel Group under our human resources policy, and we are pleased to put these thoughts into a form that all can share.

President & CEO



As we globalize our businesses and rapidly expand overseas, we have unified our human resource management guidelines to encourage employees from diverse backgrounds to work together. We have positioned these guidelines as a base for all of these people.

The guidelines define the Group's fundamental stance on various human resource issues, ranging from recruitment, training, and development to work placement and the determination of working conditions. These guidelines are entitled, "People Are the Foundation of Our Success."

People are the Foundation for Our Success

The Three Core Principles of Our Human Resources Policy

Will

We encourage the strong will and courageous decisions of each individual.

Diversity & Inclusion

We continue to evolve through the interaction of our diverse personalities.

Integrity

We do the right thing and proudly follow the right path.

— Human Resource Management Guidelines

The Group has established unified human resource management guidelines for all Group members. Since 2013, it has been overhauling its human resource management systems to align them with these guidelines, which provide overarching human resource management policies to be adhered to by all Group constituents. More specifically, they specify the Group's fundamental stances as well as mandatory or recommended practices associated with various matters ranging from recruitment, training and development, the determination of working conditions, the evaluation of employee performance, and the maintenance of labor-management relations.

Fundamental stances stipulated in the guidelines include: "maintaining compliance with laws and regulations enforced in each country and region as well as in-house rules and corporate ethics" and "facilitating a corporate culture in which employee training is organized and conducted on a Groupwide, division and individual basis." Recommended practices include the implementation of MBO as a key component of human resource management in terms of employee evaluation. In accordance with these guidelines, some Thai and Chinese affiliates have introduced MBO-based evaluation systems, constantly implementing training to ensure that an MBO-based approach to human resource management is embedded.

Looking ahead, we will utilize the guidelines to unify the level of our human resource management practices on a global scale. We will also strive to develop a more robust human resource management system and ensure that it is embraced by all members of the Group. In this manner, we are striving to help employees enhance their competencies and raise their motivation to perform their duties.

Practices	Objectives	Basic Approach
Recruiting	<ul style="list-style-type: none"> Secure human resources who embrace the Daicel Group’s Basic Philosophy and Human Resources Policy (Will, Diversity & Inclusion, Integrity) 	<ul style="list-style-type: none"> Recruit candidates capable of creating new value with strong will and integrity. Maintain a fair and just approach in recruiting regardless of race, nationality and gender of candidates (Diversity & Inclusion)
Human Resource Development	<ul style="list-style-type: none"> Conduct systematic and effective human resource development programs in line with the Human Resource Policy “people are the foundation for our success” 	<ul style="list-style-type: none"> Nurture human resources committed to carrying out their duties while complying with rules and regulations enforced in each country and region as well as standards for safety and quality Offer higher positions and broader job functions to those who can spontaneously take on their duties with strong will and decisiveness, thereby assisting in their personal growth Provide opportunities to engage in discussions with peers who have different backgrounds and value systems, with the aim of encouraging employees to inspire each other and embrace a broader perspective Motivate employees to engage in self-directed studies and fully support their efforts to enhance their own skills, thereby helping them increase their employability Facilitate a corporate culture in which employee training is organized and conducted on a Groupwide, division and individual basis in a way that assists in the pursuit of each individual’s career goals
Determining working conditions	<ul style="list-style-type: none"> Foster a corporate culture in which efforts and achievements are rewarded 	<ul style="list-style-type: none"> Develop a personnel system that reflects both corporate performance and individual accomplishments in compensation Ensure that each individual is evaluated fairly based on their efforts to practice three core principles (Will, Diversity & Inclusion and Integrity) and their contribution to corporate performance and treated as such Secure fairness and transparency in the course of determining working conditions Regularly verify the appropriateness of the Company’s standards for compensation

Practices	Objectives	Basic Approach
Evaluation	<ul style="list-style-type: none"> Establish a robust evaluation system that ensures the Human Resource Policy and its core principles are embraced across the board and helps nurture capable human resources and maintain appropriate working conditions, thereby solidifying the Company's foundations for success 	<ul style="list-style-type: none"> Secure a framework for ensuring the fair evaluation of individual accomplishments Consider each individual's attitude in the practice of three core principles (Will, Diversity & Inclusion, and Integrity) and processes leading up to the outcomes of such pursuits Evaluate employees in a way that facilitates communication between supervisors and their staff and assists in the Company's human resource development initiatives Maintain fairness and transparency in evaluation Implement a robust evaluation system to ensure that employees are evaluated based on objective facts
Labor relations	<ul style="list-style-type: none"> Respect the personality of each employee and create a working environment in which everyone can realize their full potential, thereby improving productivity 	<ul style="list-style-type: none"> Maintain compliance with laws and regulations enforced in each country and region as well as in-house rules and corporate ethics Accept diversity and make mutual concessions to facilitate communication, thereby creating a favorable working environment Encourage every individual to contribute to the general well-being and society as a whole throughout the course of their duties, with the aim of creating a company deserving of society's trust Ensure that the labor and management are both willing to understand their counterpart's stance and engage in negotiations and discussions aimed at resolving various labor issues Focus on maintaining robust communication with employees and creating a sound working environment in which everyone can maintain physical and mental health Create a favorable working environment to enhance the productivity of the entire organization and maintain optimal staffing

— Human Resource Evaluation System

The Group has implemented an evaluation system based on Management by Objectives (MBO) to ensure the fair and accurate evaluation of our employees and motivate them toward performing at their full capacity. In addition to evaluating employee job performance, the system also evaluates their conduct and attitudes related to their specific jobs and rank. We are committed to maintaining a fair and equitable evaluation system by sharing it with the entire Group and providing evaluator training so staff can make evaluations that promote human resource growth.

Initiatives to Help Employees Maintain Mental and Physical Health

The Company recognizes that the ability of employees to perform their duties in a healthy and energetic manner goes a long way to ensuring that individual employees lead fulfilling lives. At the same time, this contributes to sustainable corporate development. Accordingly, Daicel has positioned helping employees maintain mental and physical health as an important management task. Daicel makes the following declarations to clarify its commitment to fostering a corporate culture that places the utmost priority on health and thereby pursuing sound corporate management that will, in turn, enable the Company to better contribute to people's well-being and the creation of an affluent society.

Daicel Declaration on Health Management

- The Company will strive to offer a safe and comfortable workplace based on the conviction that its business foundation relies upon the mental and physical health of each employee.
- The Company will act in collaboration with the health insurance society to help each employee as well as their families engage in autonomous and proactive efforts to maintain and improve their health conditions.

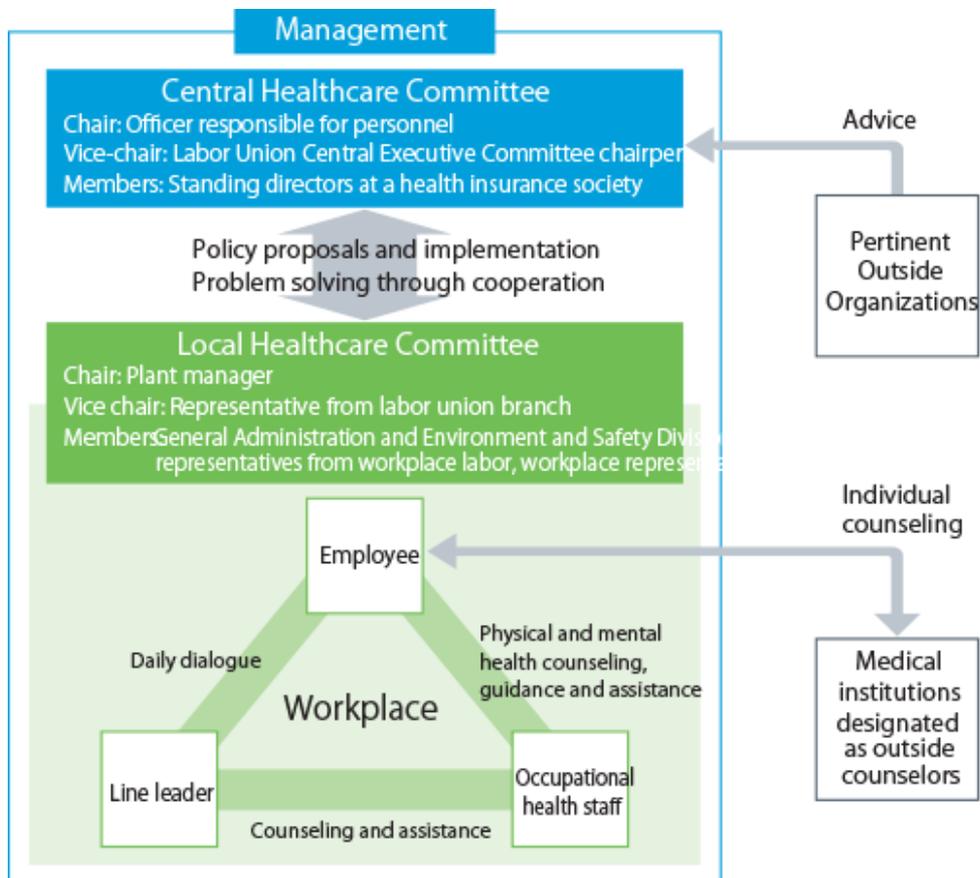
President and CEO



— Organizational Structure for Health Promotion

In 2003, the Company established Central and Local Healthcare Committees consisting of representatives from labor unions, management and Daicel's health insurance society. These committees are working to create workplaces within Daicel where individual Daicel employees can exert their individuality and capabilities and promote health throughout the Company's workplaces.

As a part of efforts to provide comprehensive support within the Group, a variety of measures are undertaken to ensure the sound health of employees. In addition to the Central Healthcare Committee, Local Healthcare Committees are set up at each site. Steps are also taken to provide everyday health guidance. Complementing these endeavors, psychiatrists are employed to help employees who have developed any mental health problems. We will continue to focus on the health of our employees, both mentally and physically, through such initiatives as programs to support those with mental health problems so they can return to work, provide training for the early detection of health problems, and build the necessary infrastructure.



— Strengthening Our Organizational Structure for Health Promotion

Initiatives Undertaken by the Health Nurse Team

Operating under the Healthcare Committee, a health nurse team is in place to help build a cooperative framework that extends beyond individual business sites and to promote the sharing of information. In addition, the health nurse team participates in discussions undertaken at each business site to formulate action plans, which are designed to improve the workplace environment based on the results of mandatory stress checks. Moreover, the team is involved in educational sessions focused on preventing physical and mental health issues, with team members sharing their insights as lecturers during position-specific training and orientation training for new graduates and lateral hires. Each team member is continuously striving to improve their ability to develop plans and teach the relevant subjects.



A health nurse discusses how to stay healthy and enthusiastic



Attendees take turns giving presentations

Utilizing Psychiatrists Employed Exclusively by Daicel

Currently, Daicel employs four psychiatrists to bolster its follow-up care system for employees who have developed mental health issues. Every psychiatrist is assigned a geographical segment for his/her oversight, thereby ensuring that employees in need receive meticulous care.

— Measures for Strengthening Prevention

Utilizing Stress Checks to Improve the Workplace Environment

Aiming to develop a vibrant workplace, Daicel has been assisting each business site in efforts to better manage their working environments by, for example, utilizing the results of stress checks. Following the previous year's trend, the stress checks carried out by Daicel and its Group companies in Japan once again achieved 99% coverage of all employees in FY2019/3. The Group is providing employees with face-to-face sessions with a psychiatrist if they suffer excessive stress and are in need of counseling. In addition, the Local Healthcare Committees conduct comprehensive analyses of stress check results and then formulate and execute plans to tackle any issues that are identified in order to improve the workplace environment.

To counter stress-related problems, Daicel conducted self-care training 20 times in FY2019/3 for all employees as well as a special training program for managers, introduced last year, which provides the basic skills for addressing potential mental health issues. More than 600 employees participated in these training programs. Attendees learned how to provide staff members with appropriate care, manage stress, and improve their mental health conditions, with external specialists serving as lecturers. The attendees also took part in a hands-on experience workshop aimed at enhancing communication skills. We plan to continue conducting these training sessions at each business site in the coming years.



Training at the Harima plant



Training at the Tokyo headquarters

Initiatives to Prevent Occupational Diseases

Daicel is proactively stepping up its measures aimed at preventing occupational diseases, with the aim of meeting goals set forth in a three-year action plan established by the Company's health insurance society based on the Data Health Plan, a government-led disease prevention initiative.

The numerical targets announced by the Japanese government call for 90% of the Company's eligible employees to receive specified health checkups and for 60% of those for whom specific health counseling is deemed necessary to receive it as well. To achieve these targets, the Company has implemented awareness-raising activities for employees and their families. In FY2019/3, 80.9% of eligible employees underwent specified health checkups and 50.6% of those who were deemed to have needed the counseling received it, compared to 79.2% and 41.2% in FY2018/3, respectively.

Health Guidance and Consultations for Employees Posted Overseas

In FY2016/3, Daicel began closely assessing the working status of employees posted overseas, with the aim of realizing more robust health management. In FY2018/3, the Company began implementing measures such as providing face-to-face health nurse counseling to employees whose working hours were deemed excessively long, aligning the treatment of employees working overseas with standards applied to domestic employees.

Moreover, health nurses have been visiting overseas affiliates, providing guidance, consultation services, and support to employees posted overseas. Through specialized and professional health guidance and advice, Daicel is helping to maintain and improve the health of these employees, who play an important role in the operations of overseas affiliates.

Human Resource Development

— Desirable Traits of Our Human Resources

Of the Daicel Group's many management resources, people are the most important. From around the globe, the Company welcomes a diversity of individuals, each contributing different backgrounds and ways of thinking, who are inspired by the Daicel Spirit. Daicel Group employees respect each other and seek collaborative work relationships. We believe that in these ways, we can maximize the collective strength of the Daicel Group.

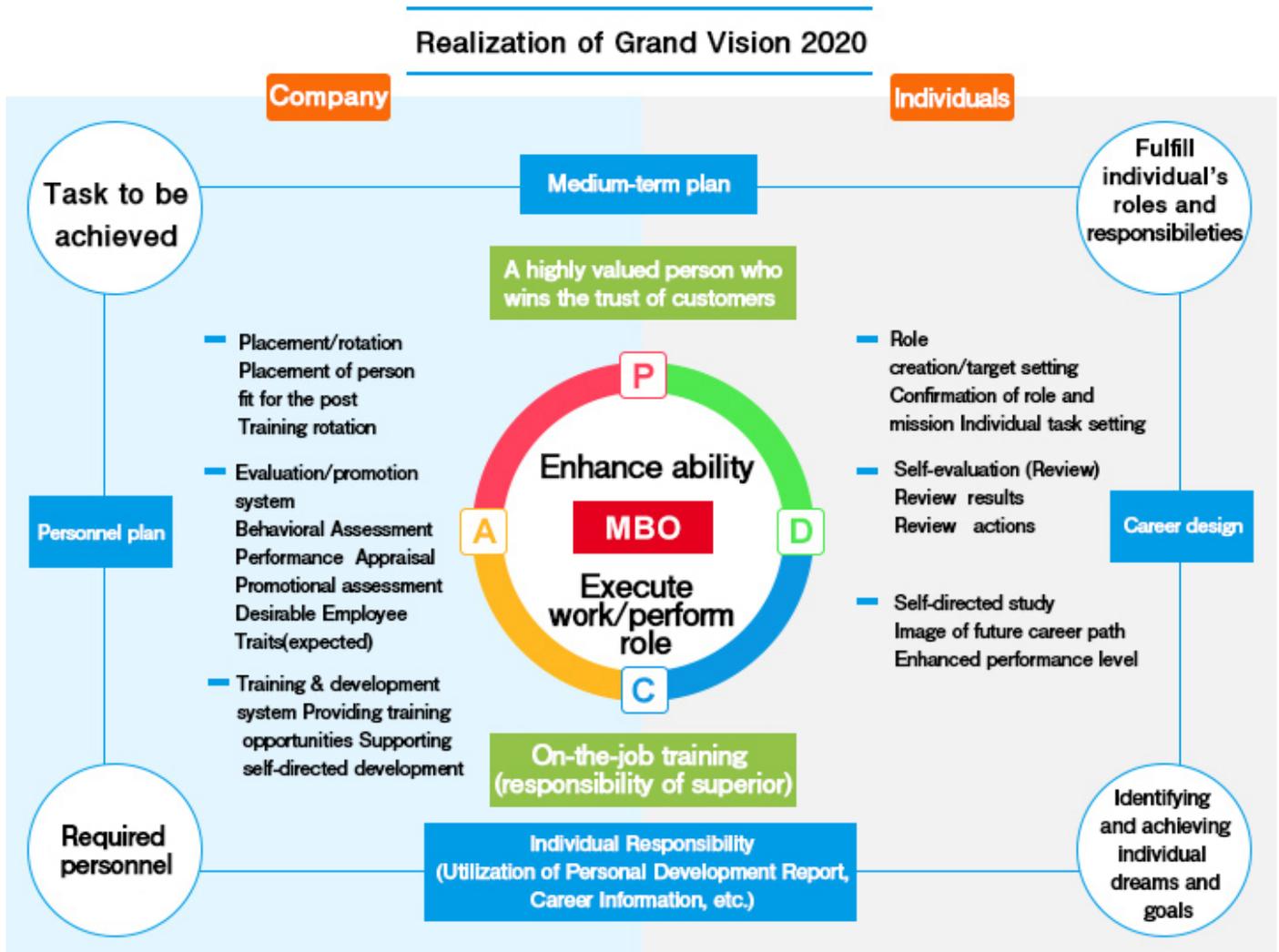
— Basic Approach

People are the foundation of our corporate activities. The Group defined its basic approach to human resource development to secure employees who respect others and appreciate new situations and perspectives while also sustaining the passion and focus to see tasks through to completion.

- Nurturing personnel will help the Company grow.
- Any attempt to achieve better results will nurture employees.
- With a corporate culture that trusts and values people, all Daicel employees shall undergo personnel training in line with their respective posts and responsibilities.

Systems Supporting Our Human Resource Development Initiatives (Overview)

Various systems and structures are in place to support Daicel's human resource development, as shown in the following diagram. We ensure that our employees understand and fully utilize each system to achieve the goals of the medium-term plan, Grand Vision 2020.



— Human Resource Development Methods

To enhance the skills of its employees, the Company utilizes a variety of human resource development methods, described below. We engage in human resource development in a way that optimally combines multiple methods based on employee job level and skills in order to maximize their effectiveness.

Method	Content
On-the-Job Training (OJT)	<ul style="list-style-type: none"> • Fundamental component of Daicel’s human resource development • Systematically conducted at workplaces in combination with MBO
Offsite Job Training (Off-JT), e.g., Group seminars	<ul style="list-style-type: none"> • Programs implemented outside workplaces • Opportunities to gain experience that cannot be acquired via OJT • Active discussions between persons with different ideas help enhance their individuality
Self-directed development	<ul style="list-style-type: none"> • A fundamental practice that must be embraced by those seeking to achieve personal growth • Continuously achieve self-innovation through individual volition
Rotation (change of roles or functions)	<ul style="list-style-type: none"> • Help employees gain a broader range of skills and experience and nurture the capabilities of those serving as leaders • Encourage employees to realize their full potential by changing workplaces and duties
Assessment (reviewing the skills of each individual)	<ul style="list-style-type: none"> • Help employees objectively review their skillsets against the standards of the division and Company • Facilitate self-directed development by helping individuals assess their own strengths and weaknesses

Human Resource Development and Training Programs

The Company has a variety of human resource development programs to enhance employees' skills.

Overview of Training Programs in Place (the number of employees who completed training during fiscal 2018)

Total 3,381		(139)	(810)	(1,022)	(1,410)												
Key Corporate Policies		Assessment	Career development	Development of special skills			Business skills essential for all career categories										
Corporate ethics and compliance education	Responsible Care and safety education	Management leaders		Technologies	Production	Sales	Legal affairs and contracts	Intellectual properties	MBO	New employee education							
		“Leaders”	Next-generation leaders’ seminar	Training for newly appointed Directors at Group companies	Engineer development program	Operation Training Center Curriculum		Legal affairs seminars	IP seminars	Training for MBO evaluators	Senior employee lectures						
		Tests for Grade M4 candidates	“Expert” development system	Training for leadership rank candidates	Patent education for mid-level technicians (R&D, engineering and production technology)	Basic Facility Management Course (machinery and electrical instrumentation)	Practical Plant Operation Course (heat transfer, evaporation, etc.)	Training to nurture instructors who teach basic operations at production sites	Information systems	Global Overseas language training (Cebu Island, and U.K.)	Overseas training tests	Self-directed development E-learning					
		Tests for Grade M3 candidates											Secondment to universities to study MOT in science departments	Specialist engineer education (R&D, engineering and production technology)	Practical training for marketing	Information security seminars	Acquisition of qualifications
		Tests for Grade M2 candidates											“Nadeshiko” seminars	Financial affairs seminars	Overseas assignments with language training	English training for new university graduates (Cebu Island)	
		Senior staff	Certification for senior staff with distinguished skills	Training for newly appointed Grade S5													
		Grade S5 test		Training for newly appointed Grade S4													
Grade S4 test		Basic training for mid-level staff															
Mid-level staff		Training for newly appointed Grade S3															
Grade S3 test		Training for newly appointed Grade S2															
Grade S2 test		Introductory tests	Follow-up training	Training in Manufacturing (basic knowledge)	Basic actions in facility operations												
New recruits (new graduates)		Training in Manufacturing undertaken by each division at their productions sites, with senior employees serving as lecturers															

For all employees
For all employees
For all employees
For all employees

* Including financial affairs, legal affairs and IP seminars

Training Programs for New Employees

Daicel provides all new employees with one year of introductory training for manufacturing operations. Through this program, conducted at the H.R. Training Center, new employees initially learn the basic knowledge required of businesspeople while also acquiring a fundamental Maintenance Dojo Overview and Initiatives grounding in Company policies and other requirements for Daicel Group members. This is followed by on-the-job training (OJT) at the Operation Training Center and production sites, where trainees are acclimated to the eight-hour-shift system. Through these activities, our new employees acquire the essential knowledge required to perform their duties in a manufacturing workplace.

Position-Specific Training

Through the Company's job rank system, Daicel is implementing position-specific training aimed at nurturing human resources capable of living up to the expectations for their positions and respective roles and responsibilities. This training encompasses such subjects as corporate ethics, basic legal literacy, and other essential knowledge and rules employees need to know while aiming to help them enhance their communication and management skills.

The training is offered to both newly promoted employees and mid-career recruits who have started their jobs within that fiscal year. It is also intended to instill motivation to do well in the Company and provide opportunities for networking with other employees. We focus on learning experiences they can put into practice on the job and improving their capabilities and conduct.

Nadeshiko Seminar

In FY2018/3, we introduced a new training program that includes the "Nadeshiko seminar," which aims to encourage ambitious female employees who aspire to achieve personal growth to take leadership roles and earn greater career success.

Click [here](#) for more information about the Nadeshiko seminar.

Developing Global Talent

Aerospace & Defense Systems /Safety Systems Company (motor vehicle safety devices) is a company that operates five manufacturing sites in the U.S., China, South Korea, Thailand, and Poland. While each site develops its own training and development programs, the Aerospace & Defense Systems/Safety Systems Company education center trains and certifies trainers specialized in critical processes and special skills to ensure the same level of quality and safety are incorporated into manufacturing practices worldwide. As of March 31, 2019, there are 16 certified trainers across the globe, and each of them trains and certifies new trainers locally at the various business sites.

Daicel Safety Systems (Jiangsu) Co., Ltd. (DSSC) in China, the largest manufacturing site, completed building their new training center in February 2019 and the four Dojos (safety, quality, maintenance, and assembly) have launched their education programs. Daicel Safety Systems Europe Sp. z o.o. (DSSE) in Poland is also planning to set up Dojos and begin training. We conduct training and development programs tailored to local cultures and the size of each business site based on the principle of safety and quality assurance with the same Daicel Spirit.



During the training program

— Engineer Development Program

Programs Aimed at Nurturing Excellent Engineers

Continuous growth is the responsibility of all companies, and product innovation and process innovation are the driving forces that provide this continuous growth. Our technicians play very important roles in promoting product innovation and process innovation. Therefore, it is indispensable that we train our technicians for individual growth to fulfill their expected role as a group of professionals.

Believing that the development of each technician is essential to pursuing innovation, we have established a robust technician training system to help young engineers enhance their skills.

Professional Career Track

In FY2016/3, we established a separate training system to nurture experts equipped with superior technological capabilities in their respective fields. It aims to secure the human resources who will help the Company surmount future challenges. We have cultivated a corporate culture that enables these experts to concentrate on their specialties. As one career option, we developed a dedicated career track for those who have the perspicacity and willingness to enhance their specialized strengths. As of March 31, 2018, 12 Daicel employees are on this career track, each playing key roles in their areas of specialty.

Desirable Traits of Professional Career Track Employees

- Those capable of taking key roles as leading authorities in specific areas
- Those determined to stay committed to acquiring specialist skills and knowledge at the early stage of their careers

In-house Certification System for Skilled Experts



In FY2017/3, we established an in-house certification system aimed at fostering a culture that respects manufacturing techniques and encourages individuals' efforts to develop their skills. Having positioned this system as a key program for nurturing technicians, as of March 31, 2018 we have certified 68 employees for their distinguished skills. The in-house certification system provides young engineers with a concrete career target and is expected to better motivate them and help them view their job as rewarding. We are thus striving to encourage employees to pursue more sophisticated manufacturing skills, with the aim of raising the overall level of their competencies and developing their know-how.

At the same time, we are committed to ensuring manufacturing safety and quality, which constitute the very foundation of the Company's business, by passing down our legacy of manufacturing skills to future generations. To this end, we will systematically nurture successive new generations.

— Passing Down the Legacy of Technologies and Skills

Safety and quality assurance are the foundation for manufacturing activities and top priorities for the sustainability of our business activities. With an eye on safety and quality assurance, the Daicel Group has focused its efforts on long-term human resource development.

In the following articles, we introduce our initiatives at the Operation Training Center, where operators and engineers who will be in charge of the manufacturing line are trained, and the Maintenance Dojo* initiative, a new training course opened in 2015.

*Dojo is a Japanese word meaning “a place of training.”

Operation Training Center (TRC)

Objective and Overview of Operation Training Center

The Operation Training Center (TRC) was set up in 2002 with the goal of establishing and maintaining “Production Innovation the Daicel Way” and as a facility responsible for the Company-wide education and training programs for all employees. Production Innovation the Daicel Way goes back to the basics and focuses on human-oriented manufacturing. By systemizing the skills and know-how of experienced workers and enabling everyone to put them to practical use, it tries to achieve a broad range of results including: (1) safe and stable operations, (2) dramatically higher productivity, (3) substantially lower manufacturing costs, (4) smoother, more uniform operations and quality stabilization, (5) the passing on of skills and techniques and human resource development, and (6) energy conservation. The center is a place where operators, through experience-based training, acquire the necessary knowledge, experience, and actions required in their specific jobs.

Safety and quality assurance are the basis for manufacturing activities and a matter of the utmost importance for our ongoing business activities. To this end, we need to develop human resources who are capable of achieving them. It is therefore important that should we not be satisfied with simply acquiring more sophisticated technologies and knowledge, then we must remain focused on the basics and diligently execute basic manufacturing activities such as greetings; 3S activities, namely seiri (tidying), seiton (putting everything in order), and seisou (cleaning); crisis-identification activities; and hazard prediction activities. We will maintain our management principle of “start with basics, and return to basics,” adopted at the time of our founding, and continue to develop the right people who support Daicel’s monozukuri activities with a focus on safety and quality assurance.



Operation Training Center (TRC) and Small-Scale Plant

During the training, trainees gain an overall understanding of the structures of the equipment used in actual production and how they work. Consequently, they learn the most effective ways to operate and control the equipment. The center therefore provides equipment for teaching purposes such as pumps and valves, distillation towers, cutaway models of instruments, training devices, and filling and packing materials. In addition, the courses are tailored to specific job types and job levels and provide hands-on experience, including the operation of distributed control systems (DCS) and work on small-scale chemical plants and training devices.

Our training programs are not only targeted at new employees but also at all levels of operators, engineers, and workplace managers, including foremen, assistant managers, and general managers.

Every year since the TRC opened, we have promoted the use of the check, act, plan, and do (CAPD*) cycle, introduced new educational and training programs, and made improvements to the curriculum and text content.

In March 2013, the TRC was revamped to raise the level of education and training. The center has enhanced its training and lab rooms to keep up with the growing demand. It also added a curriculum aimed at bolstering our safety and quality assurance by means of reviewing basic actions, and studying the history of safety and improvement through Daicel Production Innovation and lessons learned from past incidents with a particular focus on the purpose and background of subsequently adopted measures and rules. Moreover, to raise awareness of occupational safety and health and to ensure appropriate measures are being reflected in the actions of employees, hazard simulation equipment was installed (entanglement, static electricity, solvent and dust explosion, pressure, and exposure to chemicals).

*Instead of a plan, do, check, and act (PDCA) cycle, which is a more popular methodology for making improvements, Daicel has adopted a CAPD improvement cycle to avoid the risks of overlooking crucial facts and realities that often lie in the initial planning stage.

Pressure Experience

This equipment runs pressurized water through pipes of varying diameters and simulates different pressures resulting from pipes of varying diameters. Trainees develop a better understanding of pressure, which they rarely come across in their daily lives.



Pressure simulator

Entanglement Experience

This equipment simulates an artificial hand getting entangled in a roller. By demonstrating the shock of entanglement, we teach about the danger of rotating components.



Entanglement simulator

The TRC offers experience-based chemical-plant related training, not only to the Company's employees but also to university and vocational high school students every year. The number of people who have gone through the training at TRC, from the time it opened to FY2019/3, totals roughly 4,200, of which about 2,400 are operators, around 1,500 are engineers, and about 340 are managers and students. Taking into account the positive educational effects, the class size has been kept small (interactive education with about 6 students) since its inception.

The Group's Operation Training Center was awarded the Responsible Care Award at the JCIA's 9th Responsible Care Awards (RC Awards) in 2015, in recognition of its activities toward "Passing on Skills, Education, and Training in the Process Industry" since FY2003/3.



RC Award Certificate

Maintenance Dojo

The Opening of the Maintenance Dojo

In the past, Daicel has taken various initiatives in the area of maintenance of chemical plants. However, with the passing of the torch from one generation to the next in and around 2007, the Company began noting signs of declining capabilities in maintenance skills, construction management and supervision, acceptance inspections, and problem analysis. In response, we opened the Maintenance Dojo in FY2016/3 to ensure future generations fully gain the vital maintenance skills and techniques they need to improve construction quality. The targets for this training are not only Daicel employees but also workers of partner companies engaged in maintenance work.

Maintenance Dojo Overview and Initiatives

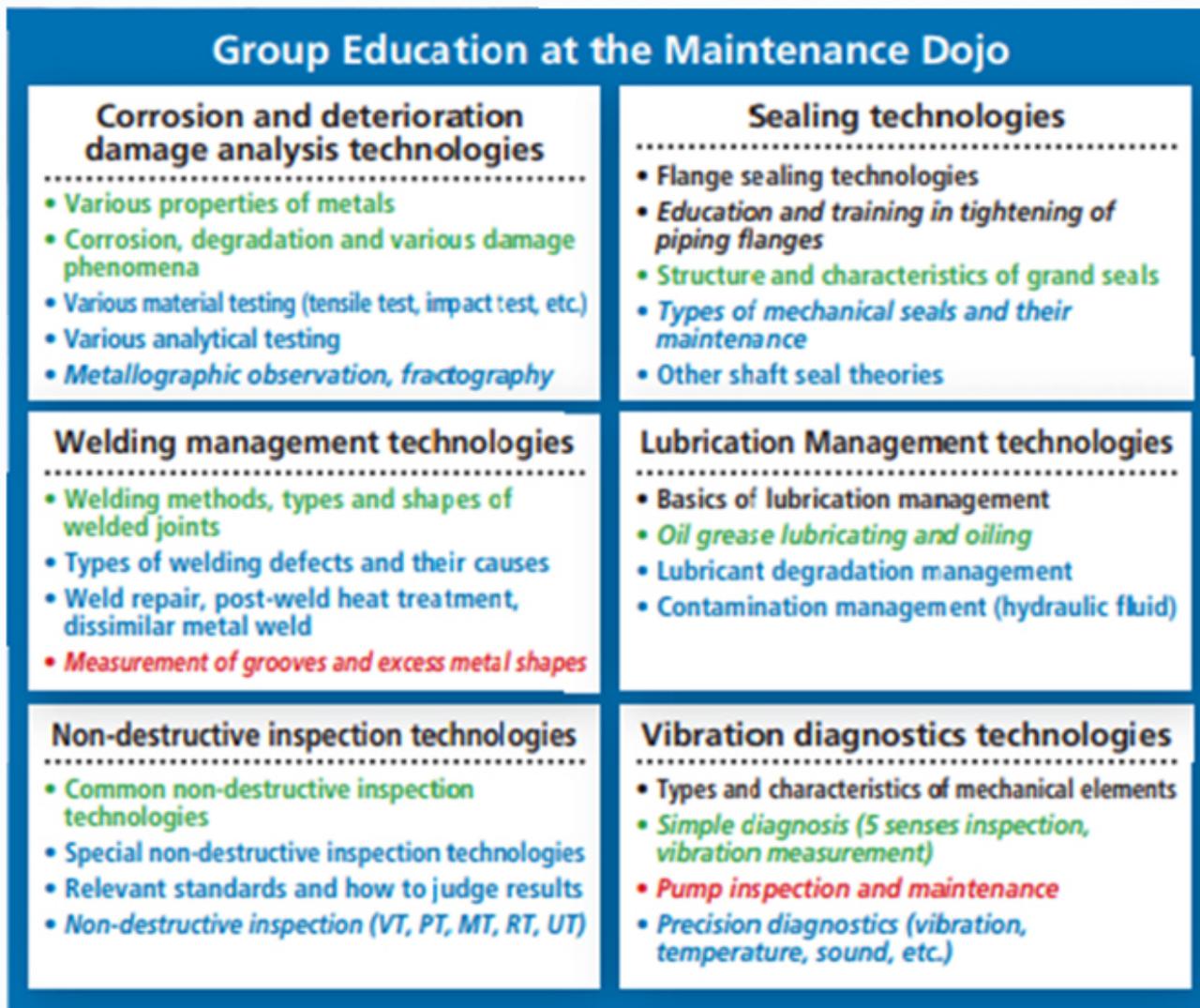
Core members of our equipment diagnostic engineering department serve as supervisors and instructors at the Maintenance Dojo where maintenance technology required for the Company is organized into the following categories.

1. Specialized maintenance education for maintenance engineers
2. Voluntary maintenance education for operators
3. Technical training for workers of partner companies

The educational curriculum offers a practical education not limited to imparting knowledge through classroom lectures and which consists of six core technologies: corrosion and deterioration damage analysis, welding management, non-destructive inspection, sealing technologies, lubrication management, and vibration diagnostics. In addition, technical skills acquired at the Maintenance Dojo

are put to practical use through inspection for construction approval during the periodic repair and construction work (SDM construction), thereby improving the level of trainee skills.

Curriculum (Six Core Areas)



Practice (on-the-job training) in shut down/maintenance (SDM) work

Black → shared Blue → specialty Green → specialty + voluntary
 Red → specialty + partner companies *Italic (bold face) training item*

Case Study Regarding Education and Training for Tightening Pipe Flanges

The Aboshi Plant has been conducting training on tightening pipe flanges since 2009. A skill certification system was also introduced, and these efforts have had a remarkable impact on preventing leakage from pipe flanges and resolving related problems. The training involves a flange tightening skill evaluation device that was developed in-house. It is part of an evaluation system that enables the visualization of a user's skills by displaying on a computer screen in real time the axial force of a bolt at the time of flange tightening and the surface force of a tightened gasket. In 2015, the training was incorporated into the Maintenance Dojo and rolled out full-scale at other plants.

TOPIC: Maintenance Dojo: Transcending Traditional Personnel Training

To assure safety and quality in chemical plants, it is important to properly maintain and manage equipment on a daily basis. To this end, it is necessary to accurately identify and evaluate equipment conditions and take the necessary measures at a stage when defects are small. Of course, these actions are performed by people. We believed that traditional knowledge- and experience-based human resource development was inadequate for developing these human resources, and so we opened a new Maintenance Dojo as a place for practical education in techniques and skills. At this site, we are nurturing human resources who can take ownership of the maintenance and management of Daicel equipment and perform these tasks with confidence and pride.



Practical training at the Maintenance Dojo

— Mechanism for Receiving Employee Feedback (Self-Assessment System)

This system enables employees to communicate to the Company their vision for their future career development. Once a year, every employee tells their supervisor how they feel about their job type, job location, and career. Supervisors take these conversations into consideration along with other factors, such as work preferences and job suitability, when creating a future placement recommendation or training and development plan.

— Initiatives to Develop Engineers

Capable engineers at a manufacturing company are the foundation of its business and developing them is a top priority. We maintain an extensive training curriculum, starting with Monozukuri Training, offered to new employees, and extend it to instruction on specialized skills and conduct required for promotion to managerial positions.

— Professional Career Track

We have a separate training system to nurture experts equipped with superior technological capabilities in their respective fields. The program aims to secure the human resources who will help the Company surmount future challenges. We have cultivated a corporate culture that enables these experts to concentrate on their specialties. For one career option, we developed a dedicated career track for those who have the perspicacity and willingness to enhance their specialized strengths.

— Career Development

For the Company, employee career development is an ongoing process, and as part of it we create a human resource development plan every year. The plan's objective is to encourage the mid- to long-term growth of each employee and link their career objectives to the Company's goals.

One aspect of career development is succession planning. We are continuously identifying candidate successors for various positions and providing training for their next steps. These activities secure capable resources with the potential of taking on key management positions as leaders in the years to come.

We have currently taken the first step to sharing this successor planning process overseas. To get started, our Aerospace & Defense Systems/Safety Systems Company business sites are preparing their successor planning drafts for submission to headquarters.

We will continue to expand such programs to other countries such as China and across business divisions. In turn, we hope to establish a strong pipeline of leaders globally and realize the continuous, stable management of our business.

Basic Approach

In line with the Daicel Group Conduct Policy, the Group is actively developing a working environment that respects diversity, personality, and the uniqueness of everyone working for our Group companies. It is also assiduously working to eradicate any form of discrimination and harassment from its workplaces as part of efforts to ensure employee health and promote inclusiveness.

In addition, recruiting activities undertaken at overseas subsidiaries are free of any form of discrimination. We are focused solely on nurturing human resources equipped with the Daicel Spirit, no matter what country they come from. In this way, we will incorporate increasingly diverse people into our workforce. Believing that the interactions of a diverse workforce will help spark the creation of new value, we will also encourage employees to respect and inspire each other.

— Initiatives to Promote Diversity

Helping Women Earn Career Success

In April 2016, we established an action plan for the Daicel Corporation to ensure that women willing to develop high-profile careers are not encumbered by barriers at Daicel and are free to pursue their ambitions. Since the goals outlined in the plan were achieved ahead of schedule, new goals were established in December 2018. This five-year action plan is intended to achieve the following three targets by 2021 (in comparison with figures recorded in 2016).

Target 1: Increase the number of women who take managerial positions by 2.5 times to a ratio of 4%^{*1}

Target 2: Increase the number of females in senior roles (candidates for managerial positions) by 1.3 times to a ratio of 8%^{*2}

Target 3: Raise the annual paid leave acquisition ratio from 62% to 70% or greater

*1 The original target, doubling the number of women who take managerial positions, was achieved in July 2018, and therefore a new target was established. The target also includes the ratio of women in managerial positions.

*2 To clarify the target, it now includes the ratio of women in senior roles (1st and 2nd level).

Progress

		April 2016 (Plan Start Time)	April 2017	April 2018	April 2019
Target 1 Women in Managerial Positions	Number of Women	12	15	17	26
	(Ratio)	(1.6%)	(2.0%)	(2.0%)	(3.3%)
Target 2 Women in Senior Roles	Number of Women	84	93	105	108
	(Ratio)	(9.3%)	(9.2%)	(9.2%)	(9.2%)
Target 3 Annual Paid Leave Acquisition	Ratio	62.2%	63.2%	64.4%	70.0% (as of March 31, 2019)

Click [here](#) for additional information about our initiatives to create a more inclusive workplace that encourages a diverse workforce to pursue success.

Raising Awareness in Work Style Reform

Seminar on Diversity and Work Style Reform for Senior Managers

In October 2018, the Company held a special seminar for senior managers, entitled “Diversity and Work Style Reform as Management Strategy.” It was attended by 65 directors, executive officers, presidents of Group companies, and Trade Union executives and led by guest speaker Hisano Ueda, who is renowned for her role in promoting diversity and work style reform activities. She talked about various topics, including the importance of stepping away from the classic style in the Showa era corporate culture, helping women earn career success, which equals work style reform and also equals corporate culture reform, and raising the awareness of all employees in order to trigger corporate culture reform.

The audience listened to her with enthusiasm and actively exchanged ideas and opinions during the group discussion.

A similar event was held in July 2018 at the Innovation Park (Himeji City, Hyogo Prefecture), our core facility in research and development, with 40 employees in managerial positions in attendance. Both events were very successful, with over 90% of participants indicating: “It changed how I feel about diversity and work style reform.” The events also offered significant opportunities for participants to rethink the importance of diversity and the diverse values associated with different genders, age groups, and so forth.

We will continue to work on raising awareness across all parts of our Group by holding similar events for women and other employees in managerial positions, and in turn promote diversity and work style reform across our organization.



During the group discussion



At the seminar

Creating an Organization that Encourages Women to Earn Success

In FY2018/3, we introduced a new training program which included what we call a “Nadeshiko seminar,” which aims to encourage ambitious female employees aspiring to achieve personal growth to take leadership roles and earn greater career success.

In FY2019/3, seven employees and their supervisors enrolled in the program. As part of it, the enrollees are taking on issues identified in their respective workplaces. To this end, they have formulated action plans while playing leadership roles in an effort to resolve such issues, with their colleagues acting in collaboration.

Looking ahead, we will continue to encourage women to have a clear vision of their future career paths and to develop their leadership capabilities. And in these ways, we will assist women in their efforts to earn promotions.



Participants at the final presentation meeting of the second Nadeshiko seminar



Training session

Employment of Persons with Disabilities

As part of its initiatives to fulfill its social responsibilities as a corporate citizen, Daicel maintains the ratio of persons with disabilities in the total workforce above the statutory employment rate. In addition, Daicel systematically recruits persons with disabilities to support the aspirations of these individuals to participate in social activities and provide motivation in life. As a result, the ratio of persons with disabilities in the total workforce amounted to 2.02% (non-consolidated) as of March 31, 2019. Furthermore, to help each individual achieve their best, we pay the utmost attention to assigning suitable jobs according to the degree of disability.

Ratio of persons with disabilities in the total workforce (non-consolidated)

Fiscal Year	FY2017/3	FY2018/3	FY2019/3
Ratio of persons with disabilities in the total workforce	2.07%	2.16%	2.02%

- Statutory employment ratio: 2.0% until March 31, 2018 and 2.2% from April 1, 2018
- Above ratios are as of March 1 of each year

Encouraging Senior Employees to Remain Active in the Workforce

Daicel has introduced a system through which retired employees can continue employment so that senior human resources, age 60 and older, can remain active and the Company can make the most use of their knowledge and experience in the workforce. In FY2019/3, 32 out of 35 employees who reached the retirement age were reemployed under the system, with a total of 188 senior employees (as of March 31, 2019) currently working at the Company after passing their retirement age. In accordance with the revised Law concerning Stabilization of Employment of Older Persons, applying the system to employees seeking to continue to work through age 65, Daicel will keep providing a work environment where veteran employees can make use of their careers, knowledge, and experience.

Work-Life Balance Promotion

Basic Approach

Daicel is striving to develop an environment in which all employees can work vibrantly with confidence, and the Company therefore supports a work-life balance. It is also promoting flexible working styles while improving working conditions in order to establish an environment that helps diverse human resources pursue success. Furthermore, we are taking on work style reforms and, to this end, proactively making changes in the ways we process our tasks, with the aim of securing greater productivity.

— Initiatives to Shorten Working Hours

As part of its initiatives to create an inclusive working environment in which every employee can strike an optimal work-life balance, Daicel is proactively pursuing three targets: 1) shortening mandatory working hours, 2) increasing the number of holidays; and 3) reducing overtime hours.

To achieve these targets, Daicel's management signed an agreement with the labor union in April 2017 with regard to shortening mandatory working hours and increasing the number of holidays. In April 2018, the mandatory working hours for full-time employees, other than shift workers, was reduced from 8 hours to 7.5 hours per business day, resulting in a decrease of approximately 120 hours or about 6.2% in mandatory annual working hours. In addition, the Company is proceeding with its plan to increase the annual holidays for shift workers by 10 days in April 2020.

Initiative to Improve the Annual Paid Leave Acquisition Ratio

The Group's target annual paid leave acquisition ratio is 70% or more by FY2021/3. To achieve that, the Group requires each workplace to designate a few days in their annual operational calendar for which employees are encouraged to take annual paid leave. The number of designated days for annual leave increased from 3 to 4 days in FY2019/3 and will be further increased to 5 days starting in FY2020/3.

— Initiatives to Help Realize a Flexible Working Style

Promoting Teleworking

The Company promotes teleworking as a flexible, efficient working style that eliminates the limitations associated with specific working time or sites. In April 2017, it implemented a program for eligible employees to work from home, such as for those engaging in child or nursing care. In October 2018, the program was enhanced with the opening of eligibility to all employees and also the elimination of limitations on the number of days per month employees are allowed to work from home. As of March 2019, a total of 146 employees are using the program.

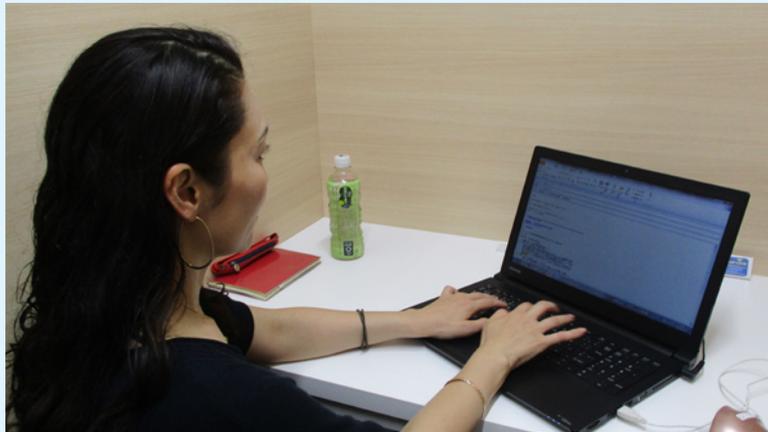
Furthermore, the Company has established about 30 satellite offices, mainly within the Tokyo metropolitan region. These offices have the necessary equipment and Internet/intranet access and provide working environments for employees on business trips or in transit so they can work without having to return to their offices.

We have confirmed multiple benefits resulting from these initiatives, including less time spent in transit or commuting and increased productivity. Looking ahead, we will continue to review our current working styles and seek ways to improve efficiency. We hope to further increase productivity and achieve a better work-life balance by offering employees diverse, flexible working styles.



The Company participated in the Japanese government's national campaign "TELEWORK DAYS 2018." During the campaign, 93 employees worked from home or from satellite offices. They provided positive feedback, some mentioning that they felt better mentally and physically because they had avoided the rush hour commute and were able to concentrate better.

Our goal is for every employee to feel they can choose how they work, and we will continue to improve our working environment and support more diverse and flexible working styles.



Employee working at our satellite office

Introduction of the Free-Address System

Daicel's Tokyo and Osaka head offices as well as the Nagoya sales office boast non-territorial office layouts. Recently, the Company introduced the "free-address" (free-seating) work platform at these offices to facilitate worksite communication and in-house collaboration, stepping up its efforts to promote work style reforms.

In addition, iCube, a part of the Innovation Park, which is an R&D powerhouse that opened in April 2017, is equipped with a large, non-territorial office space designed to spark formal and informal communication between workers. It thus provides an innovative working environment for those specializing in such fields as exploratory research, product development, production innovation, process innovation, and engineering. The setting helps them to inspire each other, boosting motivation as they work together to push forward with the development of new products and innovative mass-production technologies as well as the creation and commercialization of new businesses.



Office atmosphere

Encouraging Child-Rearing Leave for Male Employees

As part of “Improving the Work-Life Balance” and creating a workplace that encourages male employees to take child-rearing leave, the Company made a small portion of this type of leave (5 days) a paid leave in FY2018/3. The percentage of eligible male employees taking the leave in FY2018/3 was 29.8%.

VOICE Child-rearing leave has helped me to grow as a parent (Mototsune Abe, General Affairs, Ohtake Plant)

I took eight months of child-rearing leave beginning in October 2017. During that time, I divided and undertook housework and child-rearing duties with my wife. We each focused on tasks we are good at. I communicated my intention with my supervisor well in advance to taking the leave, and during the period my colleagues kept me informed of social gatherings, which I attended to keep abreast of what was going on at work. I felt anxious before taking the leave, but I am grateful for the opportunity it gave me to grow as a parent.



Daicel's Programs to Help Employees Adopt Flexible Working Styles

We ensure that our programs and policies all exceed statutory requirements.

Program/Policy		Fulltime Employee	Contract Employee	
			Extended Employee	Contract Employee
Support for Child-rearing and Nursing Care	Child-rearing leave <ul style="list-style-type: none"> • Until the day before a child has reached the age of one • In certain cases, until the day before a child has reached the age of two 	○	○	○
	Nursing care leave <ul style="list-style-type: none"> • Up to 5 days per year • In cases where employees need to engage in the nursing care of two or more family members whose conditions meet such criteria, up to 10 days per year 	○	○	○
	Extended nursing-care leave <ul style="list-style-type: none"> • Up to 365 calendar days 	○	○	○
	Family care leave <ul style="list-style-type: none"> • In case employees need to care for their preschool-age children, they are entitled to special leave of up to 5 days per year aside from their annual paid leave (if raising more than two preschool-age children, up to 10 days per year) 	○	○	○
	Special leave due to non-work accidents or illness <ul style="list-style-type: none"> • Employees are entitled to take special leave of up to 20 days per year aside from their annual paid leave, in the event they have a non-work accident or are sick and must be absent from work for over 3 consecutive working days. 	○	○	○
	Special paid leave for employees whose spouse gives birth <ul style="list-style-type: none"> • Male employees are entitled to special paid leave of up to 3 days when their wife gives birth. 	○	○	○

Program/Policy		Fulltime Employee	Contract Employee	
			Extended Employee	Contract Employee
Mental and Physical Health	<p>Annual paid leave</p> <ul style="list-style-type: none"> Employees are entitled to a fixed number of annual paid leave days based on years of service from the first day of their employment. 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<p>Promotion of annual paid leave acquisition</p> <ul style="list-style-type: none"> In conjunction with the formulation of annual operational schedules, each worksite designates multiple dates on which employees are encouraged to take annual paid leave. 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<p>Health Day</p> <ul style="list-style-type: none"> Employees are entitled to special paid leave for the purpose of health management during the month of their birthday or the previous or following month. 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work-Life Balance	<p>Reduced work hour system</p> <ul style="list-style-type: none"> Employees who meet the criteria (pregnant, child birth, child rearing, nursing care) are allowed to reduce their working hours by up to 135 minutes per day. They can also use flextime in combination with this program. 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<p>Flextime</p> <ul style="list-style-type: none"> Employees are allowed to work under a flexible work schedule that meets a set of criteria without defining the core hours. 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<p>Work from home</p> <ul style="list-style-type: none"> All employees are entitled to work from home on an as-needed basis (no limitations on frequency per month). 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<p>Work from a satellite office</p> <ul style="list-style-type: none"> For the purpose of work efficiency and higher productivity, employees can work at locations that are not their designated business sites. 	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Click [here](#) for employee data.

— Daicel’s Stipend Systems (Yu Ai Kai Mutual Aid Association)

This fraternal association was created to leverage the mutual aid of members for their improved well-being and to nurture self-motivation and a spirit of friendship.

Item	Description
Congratulatory stipend for weddings	The stipend is paid when a member gets married.
Congratulatory stipend for childbirth	The stipend is paid when a member or their spouse gives birth to a child.
Congratulatory gifts when a member’s child enters school	A gift is presented when a member’s child has entered elementary, junior high, or high school (recipients choose a gift from a catalogue).
Stipend for members at the passing of a family member	The stipend is paid when a family member of a member has passed away. The amount varies by the degree of kinship.
Consolatory stipend for injuries and illness	The stipend is paid when a member takes a leave of absence due to a work-related injury or illness. The amount varies by the required days of leave.
Consolatory stipend for damage attributable to disasters	The stipend is paid when a member’s dwelling is damaged by a fire, storm, flood, earthquake, or other disaster. The amount varies by the degree of damage.
Stipend for members on leave of absence	The stipend is paid when a member takes a leave of absence due to a non-work accident or illness, provided that the reasons for such leave meet the in-house criteria stipulated by the entities for which they work. The stipend is paid based on the required days of leave.
Stipend for subsidizing hospitalization expenses	The stipend is paid when a member or family member is hospitalized at medical institutions where health insurance is applied due to non-work accidents or illness. The stipend is paid per day of hospitalization and the amount varies by the type of injury or illness.

Item	Description
Nursing care support stipend	The stipend is paid when a member applies for a nursing care leave program in place at their respective entity. The amount varies by the length of nursing care leave applied for.
Orphanage education annuity	Following a death, an annuity is paid to a member's dependent child or children. The annuity is paid monthly for each child attending elementary, junior high, or high school.
Refund upon withdrawal from membership	A refund is paid to members withdrawing from the association, with the sliding amount determined based on the period of membership.
Survivor's benefits	Benefits are paid to the survivor when either the member or registered spouse passes away.
Social contribution activity awards	A cash award is given to commend individual (or a group of) members deemed to have made a significant contribution to society.
GLTD insurance	Long-term disability insurance is in place to provide coverage for members who are unable to work for an extended period of time due to disability resulting from an injury or illness and who are not fully insured by the public insurance system or conventional disability income insurance.

— Sound Labor-Management Relations

Daicel considers its employees to be an important stakeholder and, accordingly, has established the Labor and Management Charter, which has been signed by representatives of labor unions and management. Both parties respect each other's standpoints and discuss issues in good faith in order to best develop the Company's business. Through these efforts, we are maintaining and reinforcing a healthy relationship between labor and management. In addition, labor and management committees are set up at each workplace. The Daicel Group undertakes a variety of measures covering a wide range of areas. This includes discussions between labor and management regarding such issues as working conditions, productivity improvement, personnel systems, work hours, and health management.

Summary of the Labor and Management Charter

- The Company and the Union shall understand each other's position and make decisions through negotiations and discussions based on respect for human life and dignity.
- The Company shall give latitude to Union activities and will not discriminate against its employees due to such Union activities.
- The Company and the Union shall eliminate managerialism and respect the humanity of employees. Employees shall contribute to the Company's business on their own will through efforts to enhance productivity.
- The Company shall treat employees in a fair and appropriate manner with the aim of making the maximum use of the capabilities of each employee.

Respect for Human Rights

Basic Approach

Respect for human rights is an integral part of all business activities undertaken by the Daicel Group. The Daicel Group's Basic Philosophy, Daicel Group Conduct Policy, and each Group company's Code of Conduct all declare our determination to maintain legal compliance, high ethical standards, and sound judgment in the course of our business conduct. These documents also make clear that all workplaces of the Daicel Group must be healthy, inclusive, and free of discrimination and harassment, with due respect being paid to the diversity, personality, and individuality of every employee. In addition, the Group does not condone any form of forced labor or child labor, regardless of the country or region in which it operates. We foster a corporate culture that respects human rights, and therefore our Code of Conduct states our basic commitment to respect human rights and to never violate them through such acts as discrimination based on ethnicity, nationality, creed, religion, or gender, or through harassment. All Daicel Group employees are well-versed in these precepts. Moreover, they are encouraged to proactively make their own judgments in line with these precepts and put them into practice throughout the course of day-to-day business activities.

Click [here](#) for The Daicel Group's Basic Philosophy

Click [here](#) for the Daicel Group Conduct Policy

Click [here](#) for the Daicel Code of Conduct

— Human Rights Trainings

The Group provides human rights trainings to employees. In FY2019/3, we conducted a special training focused on diversity which led by an external specialist for the executive officers of Daicel and the presidents of domestic Group companies. In addition, our e-learning program on corporate ethics for the executives and employees of the Daicel Group in Japan also covers human rights issues. The Corporate Compliance Program Division conducts department-level and Group company-level human rights trainings upon request, and similar training programs are undertaken at our overseas sites according to their situations.

— Reporting and Consultation

The Group has established the Compliance Help Line System (Whistleblowing System) to receive reports and provide consultation on issues that include human rights. Issues can be raised anonymously to protect the identity and privacy of the reporter, and rules are in place that prohibit any adverse treatment of the individual.

Click [here](#) for details on the Reporting and Consultation System(Compliance Help Line System).

Supply Chain Management

In its purchasing activities, the Daicel Group carefully evaluates quality, pricing, and delivery dates while also considering social impact, in such areas as the environment, human rights, and the labor force. We established Basic Purchasing Policy and the Daicel Group CSR Purchasing Guidelines to encourage suppliers to gain an understanding of our policies and to fulfill our corporate social responsibilities in tandem with all of its supply chain constituents toward realizing a sustainable society.

— Basic Purchasing Policy

1. Fairness and Rationality of Transactions

- We shall be fair in providing prospective suppliers with opportunities for participating in business transactions. Also we shall conduct our purchasing activities in an open manner with no regard for previous dealings and with no preference for companies domiciled in Japan.
- Our overall considerations shall be limited to matters of quality, price, stability of supply, state of technological development, environmental considerations, and the assurance of safety. We shall consider these aspects in a comprehensive manner.

2. Legal Compliance and Confidentiality

- We shall comply with laws and corporate ethics in our business operations.
- We shall strictly protect confidential information obtained through businesses and shall never infringe the intellectual property rights of third parties.

3. Establishing Relationships of Trust

- We shall strive to establish better partnerships with our suppliers in consideration of mutual benefit and trust as well as good faith.

4. Adherence to CSR Initiatives

- We shall promote sustainable development with our suppliers through our activities for corporate social responsibility and value improvement.

— Daicel Group CSR Purchasing Guidelines

To help realize a sustainable society, the Daicel Group aims to fulfill its corporate social responsibilities in tandem with all of its supply chain constituents. To this end, we established the Daicel Group CSR Purchasing Guidelines in line with our Basic Purchasing Policy, specifying CSR issues where we encourage our suppliers to adopt a proactive stance. The support of suppliers and their cooperation with these guidelines are prerequisites for business transactions with the Daicel Group. The Daicel Group CSR Purchasing Guidelines encompass the following items.

1. Compliance with laws, regulations, and social norms

- In the course of business activities, we shall comply with laws, regulations, and social norms with regard to such matters as business transactions, labor management, environmental preservation, safe operations, and intellectual property, thereby living up to higher standards of corporate ethics and fair business conduct.
- In addition to complying with laws and regulations enforced in the countries and regions where we operate, we shall respect the cultures and customs of these local communities.
- We shall not provide or receive entertainment or gifts that can be deemed to exceed the scope of sound commercial practice and social norms.

2. Respect for human rights and the working environment

- We shall not condone forced labor, child labor, underpaid labor, or any other inhuman labor practices.
- We shall eliminate discrimination within our workforce and strive to offer equal opportunity and realize the fair treatment of employees.
- We shall prevent workplace harassment, bullying, and violence.
- We shall respect the rights of our employees and, to this end, provide adequate wages while appropriately managing their working hours.

3. Occupational safety and health

- We shall prevent occupational accidents and diseases by offering a safe and sanitized working environment and by paying close attention to the management of employee health.
- We shall formulate emergency countermeasures by anticipating possible accidents and disasters with the aim of protecting employee safety.

4. Environmental consideration

- We shall strive to reduce the environmental impact of our operations by, for example, reducing resource and energy consumption in the course of production, packaging, and distribution and by curbing emissions of CO₂ and industrial waste.
- We shall pursue business operations that give due consideration to the protection of the global environment and the conservation of biodiversity.

5. Sound business management

- We shall strive to engage in sound and transparent business management and appropriately disclose corporate information with stakeholders with the aim of establishing sincere relationships based on a spirit of mutual interest, respect, and trust.
- We shall not provide any benefit to antisocial forces while also strictly prohibiting the provision or receipt of undue gain attributable to such fraudulent activities as insider trading.

6. The pursuit of product quality and product safety as well as improvement in technologies

- We shall strive to meet customer requirements with regard to product quality and safety in addition to providing accurate information about our products and services.
- We shall strive to develop products and solutions through the pursuit of new technologies and better quality.

7. Stable supply and flexibility to remain responsive to changes

- We shall deliver our products on time and strive to maintain stable supply.
- We shall formulate business continuity plans to secure our preparedness for emergencies, including natural disasters and operational accidents.

8. Information security

- We shall put in place security measures to combat network threats with the aim of ensuring that none of our systems are damaged by such threats or exploited by hackers to harm the systems of others.
- We shall appropriately protect the personal information we handle whether it pertains to customers, employees, or other third parties.
- We shall maintain the appropriate management of confidential information we receive from customers or other third parties, striving to prevent the leakage of such information.

9. Contribution to communities and society

- We shall develop collaborative relationships with local communities and strive to contribute to the development of society.

10. Promotion of CSR initiatives in which all supply chain constituents play their roles

- We shall proactively push ahead with CSR initiatives while also disclosing the status of such initiatives.
- We shall ask our business partners to join our efforts to promote CSR with the aim of encouraging our entire supply chain to engage in CSR.
- We shall engage in responsible purchasing practices, observing purchasing regulations that are in place to address social issues related to specific materials such as conflict minerals regulations.

Click [here](#) for more information on the procurement of raw materials, fuels, and components.

Click [here](#) for more information on equipment procurement.

— Communication with Society

As part of its Responsible Care initiative, the Group maintains active communication with local communities. In order to build good relationships and contribute to local community development, we also participate in an extensive range of activities such as those for nurturing children as the future generation and for disaster relief.

Participating in the 2018 Children's Chemistry Experiment Show (Japan)

In October 2018, the Children's Chemistry Experiment Show was held at the Kobe International Exhibition Hall, attracting approximately 3,200 visitors, including children and their families. The Company's booth, under the name of "Let's make colorful beads," was visited by about 500 children over the two days. Children enjoyed feeling the shapes of the beads they created with their own hands and observing how the colors are illuminated under black light. This was a great opportunity for them to experience real chemistry.



Children's Chemistry Experiment Show

Donating Emergency Supplies to a Local Community-Building Center (Japan)

Polyplastics Co., Ltd. donated power generators and rice cookers as emergency disaster supplies to the recently constructed Fuji-Minami Community-Building Center in August 2018. The center was built on the former site of the company's dormitory, and many employees still live in the area. The facility provides a meeting place for the local community and serves as a gathering site in times of disaster. After hearing from the Fuji City government that the center was not completely equipped, the company donated the needed emergency supplies and in turn received a letter of appreciation from the city's mayor.



Polyplastics Co., Ltd. donated emergency power generators and other goods.

Visit to a Child Welfare Facility (China)

In May 2018, employees from Daicel Safety Systems (Jiangsu) Co., Ltd. visited the child welfare facility and the center for self-support assistance for homeless people in Danyang City, Jiangsu, and donated various items such as books and clothes. Through this charitable contribution, the company is striving to raise public awareness of the children in these facilities with the hope that these young people will feel the warmth of community support.



DSSC visited the Child Welfare Facility

Donation of Clothes and Shoes to Schools that Suffered Flood Damage (China)

The Nantong factory of Polyplastics Co., Ltd. donated old clothes and shoes to schools in the Hunan region, which suffered flood damage in the summer of 2017 following heavy rain and thus needed such items. A local employee who participated in voluntary disaster relief activities in the region witnessed the devastation and turned to his colleagues for help, which led to almost 40 employees collectively donating 157 items of clothing, 82 pairs of shoes, and 93 books. Participating employees provided positive feedback and noted, for example, that seeing old clothes become useful was touching.



The Nantong factory (China) of Polyplastics Co., Ltd. donated clothes and shoes to schools affected by flood damage.

Support for Educational Opportunities (Poland and Japan)

In April 2018, Daicel Safety Systems Europe Sp. z o.o. (DSSE) in Poland conducted many projects with vocational schools and universities and contributed to raising student awareness and capabilities. Specifically, the company provided their latest educational facility and trained vocational school teachers as an event of "Science Festival 2018". In the "Top Mechanics 2018" competition, DSSE employees took part in an evaluation committee and provided feedback and suggestions to participants. The company also participated by offering a workshop in "LEAN DAYS", held at the Wroclaw University of Science and Technology.



Educational project by DSSE

Ohtake City in Japan, the site of the Company's Ohtake plant, hosts an annual "Ran-Ran College" event every year for elementary school children. The company regularly participates, and in August 2018 offered a chemistry experiment class called "You, too, can be a wizard today!?" for approximately 20 children. This class was a success in that it sparked the children's interest in chemistry.



"Ran-Ran" College

Industrial Physician Training (Japan)

In November 2018, an on-site training seminar for industrial physicians, certified by the Japan Medical Association, was held at the Company's Harima plant. A total of 31 doctors took part in the training, which included a tour of the manufacturing processes for our main products and lectures on our safety initiatives toward achieving "zero workplace accidents" as well as examples of how explosive technology can be applied to medical science. The plant's industrial physician and health nurse also took part as lecturers and shared an overview of our industrial healthcare programs. Participants actively engaged in these activities and the training was very well received.



Visitors tour in the Safety Dojo, a safety training facility

Basic Approach

Strengthening corporate governance is a key management initiative that enables us to enhance corporate value and achieve our social mission and responsibilities as a listed company.

Daicel maintains its agility by clarifying the responsibilities of each part of its organization and by adopting a management system that supports timely decision-making and implementation. Moreover, by actively soliciting external opinions to improve management transparency and fairness, Daicel will strive to maintain the soundness of its corporate management.

— Corporate Governance Framework

The Company has established a corporate framework under which its Board of Directors makes management decisions in an efficient manner and fulfills its supervisory functions, and its Audit & Supervisory Board accomplishes its auditing and supervisory functions. Such a framework has enabled us to keep reinforcing our corporate governance. Specifically, by welcoming External Directors and allowing them to provide opinions and advice based on their expertise, Daicel is working to ensure that the decisions made by its Board of Directors are appropriate and the execution of director duties is effectively supervised. Daicel has also adopted an in-house company system to promote various initiatives aimed at strengthening collaboration among its production, sales, and R&D functions, improve productivity and strategic functions within its corporate departments, and reestablish its R&D structure. Moreover, we have adopted an Executive Officer System that has enabled us to clearly separate our decision-making, supervisory, and business execution functions. Such a clear division of roles has allowed us to bolster our business management structure and, consequently, corporate activities.

[Corporate Governance Report\(June 26, 2019\)](#)

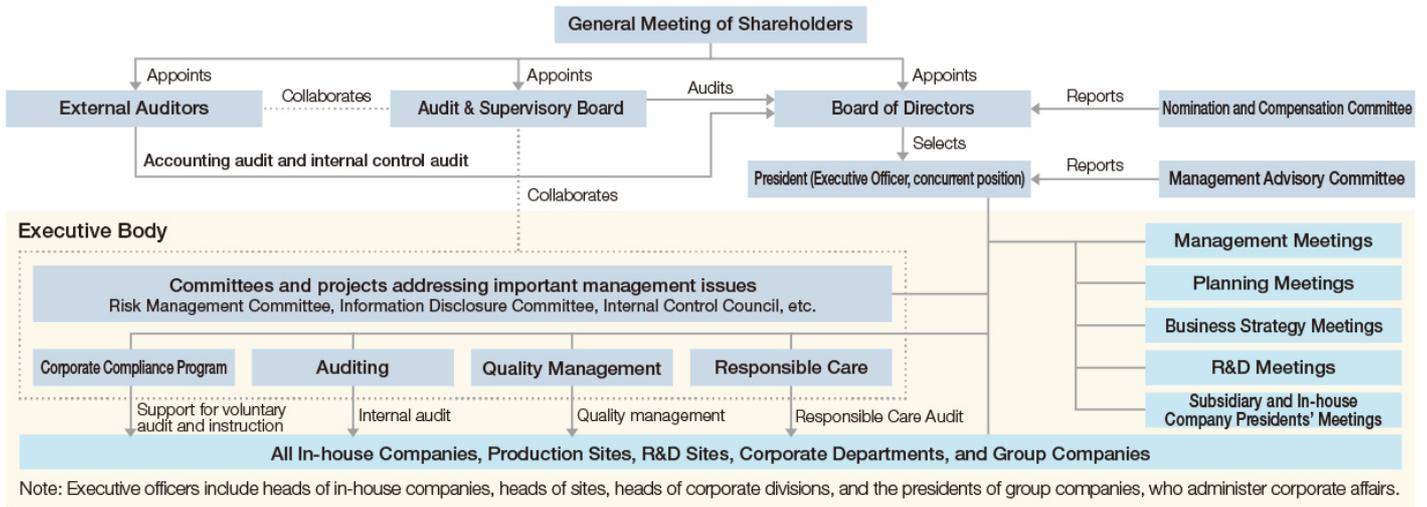
Outline of the Corporate Governance Framework (as of June 21, 2019)

Item	Content
Type of organizational structure	Company with Audit & Supervisory Board
Chairperson of the Board	Chairman
Number of Directors	10
Number of External Directors (number of independent directors)	5(5)
Number of Audit & Supervisory Board Members	5
Number of outside Audit & Supervisory Board Members (number of independent members)	3(3)
Number of Executive Officers (number of officers concurrently serving as directors)	21(4)
Number of female directors	1
Number of Board of Director meetings held (average attendance rate of External Directors / Outside Audit & Supervisory Board Members)	15 in FY2019/3 (96.7% / 95.6%)
Term of Directors	1 year
Voluntary advisory body to the Board of Directors	Nomination and Compensation Committee is composed of 8 Directors (including 5 External Directors) and chaired by an External Director
Body that deliberates important corporate matters and reports to the president	Management Advisory Committee
Compensation system for Directors and Audit & Supervisory Board Members*	<ol style="list-style-type: none"> 1. Monthly compensation 2. Performance-linked remuneration (excluding external directors and outside Audit & Supervisory Board members) 3. Restricted Stock Compensation (excluding External Directors and Outside Audit & Supervisory Board Members)
Auditor	Deloitte Touche Tohmatsu LLC

*The compensation system also applies to Executive Officers and others.

The ratio between the three types of compensations (1, 2, and 3) is roughly maintained at 65:20:15.

Corporate Governance Framework (as of June 21, 2019)



[Directors & Senior Management](#)

[Standards for independence of outside officers \(PDF\)](#)

Effectiveness Evaluation of the Board of Directors

To maintain or improve the effectiveness of the Board of Directors, since FY2016/3 Daicel has been evaluating the performance of the Board of Directors once a year by asking Directors and Audit & Supervisory Board Members to complete a questionnaire. In FY2019/3, we implemented measures in response to the results of the previous year's effectiveness evaluation to enhance discussions on management strategy, provide External Directors with necessary information for management decisions and supervision, and simplify terminology to ensure an adequate understanding of the issues.

We will conduct the following effectiveness evaluation for FY2019/3 and implement improvements based on the results to further enhance the effectiveness of the Board of Directors in FY2020/3.

①Evaluation Method

Questionnaires completed by Directors and Audit & Supervisory Board Members

②Outline of the Results

The Board of Directors engaged in productive discussions with external officers actively offering their opinions, and we were able to confirm that the Directors and the Audit & Supervisory Board Members gave a high rating to the board's effectiveness. On the other hand, new issues have emerged, and we will continue to pursue efforts to further strengthen the effectiveness of the Board of Directors.

③Major Initiatives for FY2020/3

- Further enhance discussions on mid- to long-term issues (discussions on management strategy, ESG, or SDGs)
- Maintain and improve the appropriate board composition to enhance discussion
- Provide sufficient and timely information necessary for productive discussions (prepare reference materials that are easy to understand, and create opportunities for external directors to understand business content)

④The Future of Effectiveness Evaluations

We would like to establish an effectiveness evaluation method that is appropriate for Daicel by considering a variety of options such as conducting individual interviews and introducing third-party evaluation.

Training for Directors

Directors and Audit & Supervisory Board Members attend external seminars and training sessions in order to acquire the knowledge necessary for the performance of their duties and work tasks in addition to updating their skills. The Company bears the costs of these activities. It also provides annual compliance training for Directors, Audit & Supervisory Board Members, Executive Officers, and other senior employees (excluding external officers).

In addition, we provide opportunities for External Directors to tour our manufacturing sites and receive an explanation of Daicel's business activities during the Board of Directors' meetings so they can better understand our business and utilize their knowledge in discussions with in Board of Director's meeting.

Appointment and Compensation of Directors

Appointment and Nomination Procedures for Directors and Senior Management

In nominating candidates for Directors and Audit & Supervisory Board Members and appointing senior management, Daicel in principle requires the individuals to agree with and inherit the Daicel Group's Basic Philosophy, Conduct Policy, and Daicel Code of Conduct and to possess the necessary credentials and experience to realize mid- and long-term enhancement of the Company's corporate value. The Company also nominates and appoints individuals with adequate personality, knowledge, motivation, ethical views, and management perspective to lead the Company. Decisions on nominations and appointments are made by the Board of Directors based on the advice of the Nomination and Compensation Committee.

Nomination and Compensation Committee

The Nomination and Compensation Committee was established as an advisory body on the nomination of Directors and executive officers and make recommendations on their compensation in response to consultation by either the chairperson of the Board of Directors or the Audit & Supervisory Board. To ensure transparency, validity, and objectivity regarding decisions on personnel and compensation, the committee is chaired by an External Director, and five external directors represent the majority of the committee's eight members.

1. Basic Policy

- (1) Compensation of Directors and Audit & Supervisory Board Members shall be determined by Board of Directors' resolution for Directors, and Audit & Supervisory Board members' discussion for Audit & Supervisory Board Members within the scope of the total amount of compensation, etc., approved by the General Meeting of Shareholders.
- (2) Compensation of Directors shall consist of monthly compensation, performance-based bonuses, and stock compensation, which will generally be paid according at a 65:20:15 ratio. This rule does not apply to External Directors, who shall be paid only a monthly compensation. The compensation of Audit & Supervisory Board Members shall consist solely of monthly compensation.
- (3) To ensure objectivity, transparency, and validity regarding compensation, the Board of Directors makes its decision following deliberations based on recommendations made by the Nomination and Compensation Committee.

2. Basic Policy on Compensation

(1) Monthly Compensation

In principle, the monthly compensation of Directors and Audit & Supervisory Board Members is a fixed amount paid in accordance with internal rules that are determined by the Directors' duties and job titles in business execution and as to whether or not the Audit & Supervisory Board Members are full-time.

Regarding monthly compensation, the Company has revised the compensation to an appropriate and fair level reflective of its business performance, accomplishment of medium- and long-term business plans, and social situation, among other factors.

(2) Performance-based Bonuses

Performance-based bonuses of Directors are paid in accordance with the accomplishment of performance indicators designated by the Board of Directors. Currently, net sales and operating income are used as the indicators to emphasize business growth, market expansion, and improvements in the earning power of our core business. These indicators are given a 50-50 weighting, and the bonus amount is calculated by multiplying the rank-based amount with a payout rate that fluctuates between 0% and 200% depending on the level of accomplishment of the performance indicators. The payout rates linked to the indicators are calculated as follows.

- Calculate the standard deviation (Σ , sigma) based on the average value of net sales over the past 5 years.
- Draw a line based on 3 points: the value of net sales for the relevant fiscal year, which serves as an indicator; the value that is 1Σ higher than the first figure and the value that is 1Σ lower than the first figure.
- The payout ratio is determined by plotting the actual net sales of the relevant fiscal year on that line.

(The same calculation is used to determine the payout ratio based on operating income.)

(3) Restricted Stock Compensation System

Daicel introduced Restricted Stock Compensation System to step up value-sharing with shareholders and motivate directors to contribute more to medium- to long-term improvement in corporate value. The stocks cannot be transferred for a period of 30 years, and the Board of Directors decides on an amount for each eligible individual, which is then divided by the stock price at a certain point to calculate the number of shares to be awarded.

Category	Number of Recipients	Amount (Annual)			
		Cash Compensation		Stock-based Compensation	Total
		Monthly Compensation	Performance-based Bonus		
Directors (External Directors)	10 (6)	238 million yen (49 million yen)	48 million yen (-)	52 million yen (-)	339 million yen (49 million yen)
Audit & Supervisory Board Members (Outside Members)	6 (4)	96 million yen (37 million yen)	- (-)	- (-)	96 million yen (37 million yen)
Total	16	335 million yen	48 million yen	52 million yen	435 million yen

Note: The above figures for the number of recipients and amount include 2 Directors and 1 Audit & Supervisory Board Member who retired as of the 152nd General Meeting of Shareholders, held on June 22, 2018.

Management Advisory Committee

The Management Advisory Committee is in charge of deliberating on such important corporate matters as the formulation of Group strategies and business restructuring based on such strategies. By doing so, the committee serves as an advisory body for the President. The committee comprises the President, Directors (excluding External Directors), and Executive Officers designated by the President, and the committee convenes these members on an as-needed basis.

Internal Control Systems

In accordance with basic policy for structuring internal control systems, the Daicel Group works to administer and enhance its internal control systems. Furthermore, Daicel has established the Internal Control Council as a body charged with grasping accurately the status of the establishment and management of these systems in an effort to ensure the effectiveness of internal controls throughout the Group.

[Basic Policy for Structuring Internal Control Systems](#)

— Communication with Shareholders and Investors

Appropriate Information Disclosure and Constructive Dialogue

Daicel encourages fair evaluation of its corporate value by following its disclosure policy to foster accurate understanding of the Company among its stakeholders, including shareholders and investors. With the aim of building relationships of trust with all its stakeholders, Daicel has opted for a basic policy of disclosing corporate information in a timely, impartial, accurate, and proactive manner on an ongoing basis. We also carry out IR activities to engage in dialogue with our shareholders and investors to further enhance the company's value.

[Our disclosure policy, including our basic policy on information disclosure, is available on our website.](#)

General Meeting of Shareholders

We have considered the Annual General Meeting of Shareholders as a valuable opportunity to engage with our shareholders. Daicel posts the convocation notice for its Annual General Meeting of Shareholders on its website prior to distributing it by postal mail, aiming to provide shareholders with sufficient time to examine the agenda items. Moreover, as we would like as many shareholders as possible to exercise their voting rights, we offer voting alternatives via postal mail or the Internet for those who are unable to attend the meeting. To facilitate their further understanding of initiatives of the Daicel Group, we are striving to provide easy-to-understand answers to questions voiced by shareholders.

At the Annual General Meeting of Shareholders held on June 22, 2018, we set up an exhibition booth outside the venue with the aim of showcasing the Daicel Group's products and technologies.

After the closure of the meeting, we invited attendees to join a casual gathering aimed at facilitating interaction between shareholders and Daicel's officers and Directors. This enabled Daicel's officers to engage in in-depth dialogue with attendees.

IR Activities

In line with the aforementioned basic policy on Information disclosure, Daicel adopts a proactive approach toward its IR activities. By holding quarterly results briefings as well as individual interviews, small meetings, and facility tours, the Company actively strives to promote communication, aspiring to foster better understanding of the organization among institutional investors. We also reach out to individual investors by participating in investment events hosted by securities companies to offer business briefing for individual investors and by organizing facility tours for individual shareholders as an opportunity for dialogue. In FY2019/3, we conducted a web-based questionnaire of 2,000 individual investors to develop a better understanding of our operations and obtain their feedback on the Daicel Group.

Events	Occasions (FY2019/3)	Content
Financial briefing sessions for analysts and institutional investors	4	Held on a quarterly basis; the interim and period-end results were presented by the president, while the first and third quarter results were explained via conference calls hosted by the Investor Relations Department
Facility tours for analysts and institutional investors	1	Held a business briefing together with a facility tour (FY2019/3 tour took place at the Daicel Harima Plant)
Individual interviews with analysts and institutional investors	Approx. 200	Conducted individual interviews and conference calls with analysts and institutional investors
Small meetings with domestic institutional investors	2	President attended these meetings to exchange opinions with domestic institutional investors
Participation in conferences for overseas investors	4	Participated in domestic conferences for overseas investors, with the officer in charge of IR conducting individual interviews
Individual visits to overseas investors	3	Either the president or the officer in charge of IR visited overseas shareholders and investors (in North America, Europe, and Asia)
Business briefings for individual investors	4	Participated in investment events for individual investors hosted by the head office or branch offices of securities companies and offered business briefings
Facility tour for individual shareholders	1	Held business briefing and facility tour (FY2019/3 tour took place at the Daicel Innovation Park)



Facility tour for domestic institutional investors (Harima Plant)



Facility tour for individual shareholders (Innovation Park)

Compliance

The Daicel Group promotes compliance through a system centered on adherence to laws and regulations. We provide educational programs and operate a reporting and consultation system designed to address broad areas, including laws and regulations in Japan and overseas, social norms, and international guidelines as well as rules unique to the chemical industry to increase trust from society at large.

— System for Promoting Compliance

We have established the Legal Compliance System, in which corporate departments are designated as organizations in charge of ensuring compliance with laws and regulations relating to their respective operations and managing information on the latest legal developments. Under this system, 11 corporate departments, including the Legal Group, are responsible for providing the relevant departments with information on revisions to laws, regulations, and guidelines as well as educational materials. Furthermore, every department and Group company in Japan conducts an annual self-evaluation checklist to review the status of compliance at each workplace and clarify any issues.

— Initiatives Pursued by Daicel’s Committees

To address specific compliance issues, such as export management and the protection of personal information, individual committees are established in accordance with each set of relevant rules and regulations. These committees consider pertinent issues and help resolve them in an effort to ensure robust compliance.

Committees

Regulation	Committee	Goals
Regulations on Export Controls	Export Controls Committee	To ensure that the Company and its Group companies do not engage in illegal export activities or the provision of goods and technologies prohibited under security trade-related laws and regulations for the purpose of maintaining international peace and security
Regulations on Personal Information Protection	Personal Information Protection Committee	To acquire, manage, and use personal information appropriately
Regulations on Information Disclosure	Information Disclosure Committee	To disclose corporate information appropriately

— Fair Business Practices

The Daicel Group Conduct Policy clearly expresses our determination to conduct honest trade in accordance with the basic principles of fair and free competition. Moreover, the Daicel Code of Conduct mandates adherence to compliance with antitrust laws and highly transparent political and governmental relationships. In the course of procurement, the code states that we shall conduct business fairly and honestly based on economically rational measures and, with respect to entertainment and gifts, we will act with a clear distinction between public and private matters within the scope of sound commercial practice and judgment. All Daicel Group employees are determined to act in line with the spirit of this policy and live up to the code in their day-to-day operations.

— Education and Training Programs*

Daicel systematically provides corporate compliance training tailored to each position and role for new graduate recruits, recently promoted employees, managers, directors, presidents of Group companies, employees posted to overseas Group companies, and others. We also organize seminars on specific themes in response to requests from individual departments and Group companies.

*For more information please refer to the education and training programs for [Corporate Ethics Initiatives](#).

— Reporting and Consultation System(Compliance Help Line System)

With the intent of establishing a system to protect whistleblowers who act in the public interest, Daicel is taking steps to ensure that the employees of each workplace are able to issue reports and hold consultations without difficulty. However, for circumstances where corporate ethics-related issues cannot easily be resolved at the workplace through ordinary reporting to supervisors, the Company has put in place the Compliance Help Line System (Whistleblowing System). This help line is not only an in-house system. Daicel has also established an external counterpart through which employees can consult and raise issues with external parties. It has also put in place the Corporate Ethics Management Guidelines: (1) The personal information and privacy of whistleblowers and those who request consultations must be protected; (2) Adverse treatment in response to whistleblowers and those who request consultations must be prohibited; and (3) Results related to investigations must be fed back to whistleblowers and those who requested consultations. Steps are being taken to ensure that these guidelines are strictly upheld.

Reports and consultations received in FY2019/3 did not include any situations that may have significantly affected management. We provide the responses properly and follow up on each situation, including establishing the facts and implementing corrective measures, warnings, and education. The status of our response as well as the results of cases is regularly reported to the Board of Directors and Audit & Supervisory Board.

We keep employees at each workplace informed of the reporting and consultation system while also providing information through rank-based training and e-learning programs offered during the Daicel Group Compliance Enhancement Period.

Group companies in Japan have set up their own reporting and consultation help lines by exercising due care to protect individuals who make reports and seek consultations. Overseas Group companies have introduced similar help lines, which are based on protecting those. In addition, we have established a help line to enable executives and employees at domestic and overseas Group companies to report to or consult with Daicel as the parent company. The content of reports and consultations received through the help line are also forwarded directly to Daicel's Standing Audit & Supervisory Board Members.

Number of Reports and Consultations

In FY2019/3, there were no cases that have significantly affected management.

(Cases)

Category	FY2017/3	FY2018/3	FY2019/3
Harassment	3	12	8
Violation of laws and regulations	1	4	6
Violation of internal rules	10	11	18
Others	0	3	20
Not applicable	2	1	0
Total	16 (6)	31 (13)	52 (35)

- The total number of cases indicates ones reported to the Corporate Compliance Program Division from individuals across the Group.
- Includes reports which were not confirmed as fact.
- Figures in brackets represent the numbers of reports and consultations received from Group companies outside Japan.

In August 2018, a corporate ethics seminar was hosted by Daicel (China) Investment Co., Ltd. (DCIC) in Shanghai with the attendance of CSR Activity Facilitators from seven Group companies in China and members of the Corporate Compliance Program Division from Japan. The division gave a lecture during which it explained the status of corporate ethics at the Daicel Group and the prevention of bribery. A presentation of corporate ethics activities at each company and an exchange of opinions followed, allowing participants to share current activities and issues. This was the first seminar of its kind, and we intend to continue to encourage information-sharing and corporate ethics activities through similar activities.



Participants exchanging opinions

Basic Approach

Daicel recognizes the vital role of risk management and adheres to its Risk Management Regulations so that it responds appropriately to the risks inherent in its corporate activities and minimizes the impact should any such risks materialize.

— Risk Management System

Daicel established the Risk Management Committee in 2006 as an organization to coordinate and promote Companywide risk management activities. Chaired by the corporate compliance officer (representative director), the committee is responsible for periodically reviewing the status of risk awareness in each department and Group company and offers advice and support on countermeasures and initiatives. The committee also monitors the status of activities carried out by departments and Group companies based on their respective activity reports submitted at the end of each fiscal year.

— Risk Management Initiatives

The Daicel Group maintains an inventory of potential risks that could have a major impact on its ability to achieve its business targets. Potential risks are entered into an intranet database together with countermeasures and initiatives designed to prevent the incidence of risk or to reduce any subsequent impact. The countermeasures are revised in consultation with the risk managers of corporate departments. Each department and Group company assigns a priority level to each risk and carries out countermeasures accordingly while also regularly updating the status and progress of the countermeasures in the database. Each department and Group company pursues its respective risk management activities by making use of the database and following a check, act, plan, and do (CAPD) cycle.

In FY2019/3, we focused on identifying the risks of potential fraud based on internal and external misconduct cases as a key factor for reevaluating our risks. We specifically sought to reevaluate each of the following risks and consider possible countermeasures.

Key Points of FY2019/3

- Information (mainly IT security)
 - Asset management (scraps to be disposed, developed products, external custody etc.)
 - Fabrication and falsification of data (quality, date, quantity, amount etc.)
 - Legal violation regarding permission and approval (unauthorized, forgotten necessary report, lack of qualified person etc.)
-

Strengthening BCP Management

Daicel formulates and manages business continuity plans (BCPs) to minimize damage in the event of emergencies such as major disasters and new strains of influenza as well as to maintain business or ensure the early resumption of business in the event of such contingencies. In FY2019/3, we sought to learn from an accident that occurred in the previous fiscal year. As a preventive measure, we re-inspected the risks related to substances with self-degradation or thermal polymerization properties. To prevent greater damage, we installed: (1) remote-controlled surveillance cameras and fire extinguishing equipment and (2) a system for sharing information on disasters.

Information Security Initiatives

The Daicel Group implements information security initiatives encompassing the IT operations of the entire Group under its Information Systems Security Policy. With respect to cyberattacks, we have introduced a system that instantly detects security anomalies. We also consign third parties to regularly conduct vulnerability assessment and systematically address any issues that arise. As of the publishing of this report, every issue had been addressed. As part of our countermeasures against targeted email attacks that remain the focus of ongoing concern, we provide education and training to raise employee awareness of security. Looking ahead, we intend to continue implementing initiatives to keep abreast of advances in information technology and increasingly sophisticated cyberattacks.

Daicel's Solutions for Improving the Quality of Life* Expected in a Society with 100-Year Lifetimes

Under the 3D-III Mid-term Plan, we have been actively developing new businesses, particularly in medical and health care.

In FY2019/3, we took major steps to achieve our goals, including development of a drug delivery system expected to substantially contribute to the development of innovative drugs such as gene therapy, the acquisition of a pharmaceutical contract development and manufacturing company, and the acquisition of a genomics company. This special feature covers the background and prospects of these businesses as shared by key persons in each field.

*Quality of Life (QOL): Material wealth as well as the general level of satisfaction in life, including psychological wellbeing.

Case 1

Cutting-edge Medical Care

Developing new treatments and applying our airbag technology

Case 2

Healthy Living

Drugs that can be swallowed without water could extend a healthy life expectancy across the world

Case 3

The Search for Life

Cultivating opportunities in the genomics market with an average annual growth of 18%

Case 1

Cutting-edge Medical Care

Developing new treatments and applying our airbag technology

Establishing a method for administering next-generation drugs

We are applying technologies cultivated through our pyrotechnic device business, such as automobile airbag inflators, to develop for medical purposes an injectable drug delivery device, a pyro-drive jet injector. This needle-free injector system incorporates a novel mechanism that ejects the drug loaded in the device as a high-speed stream of fluid driven by the instantaneous power generated from pyro combustion to penetrate the skin.

At the experimental level, we have already obtained very promising, unprecedented findings by using the device to effectively deliver genes and other drugs into cells.

While next-generation drugs such as gene therapeutics only function when delivered into cells, the significant size of the molecules has posed a challenge, hindering the expected effects from being obtained. The device is anticipated to serve as a new drug delivery system to overcome the challenge. As the first step, we developed “Actranza™ lab” for developing next-generation drugs such as gene and cancer therapeutic drugs, and we have started offering it to joint research projects at several universities and pharmaceutical companies. The next step is to develop devices for human use. Moreover, we are providing Actranza™ lab to universities and pharmaceutical companies with the expectation of new drug development and expansion of the potential of the drug delivery system.



Development of the initial concept and device took place around 2009. Full-fledged development into a medical device followed the establishment of the Medical Business Strategy Office in 2016.

Features of Actranza™ lab



Control unit

Easy-to-grip design.



Actuator

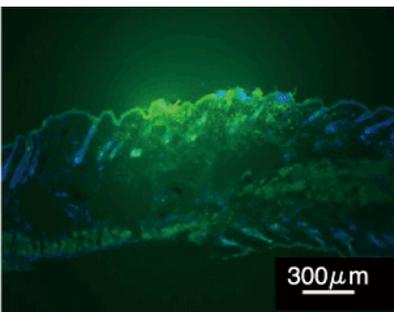
Driving source for ejecting drug fluid; generates pressure from explosive combustion energy.



Container unit

A container for loading drug fluid, ejected through a fine nozzle at the tip of the container.

Gene administered mouse tissue



When a jellyfish-derived fluorescence gene is injected using Actranza™ lab, the gene is delivered into cells and its genetic information produces a fluorescent protein. The green area (pictured) is the fluorescence emission of the protein. When administered using a needle, the same gene is not delivered into cells and no green fluorescence is observed.



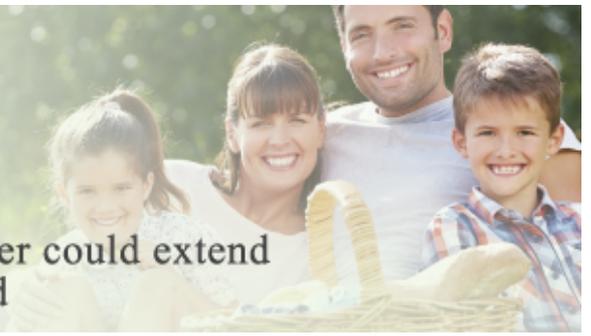
Yuri Yamamoto

Head of Business Planning
Medical Device Division, R&D Headquarters
Daicel Corporation

Case 2

Healthy Living

Drugs that can be swallowed without water could extend a healthy life expectancy across the world



Launching from a super-aging society, Japan

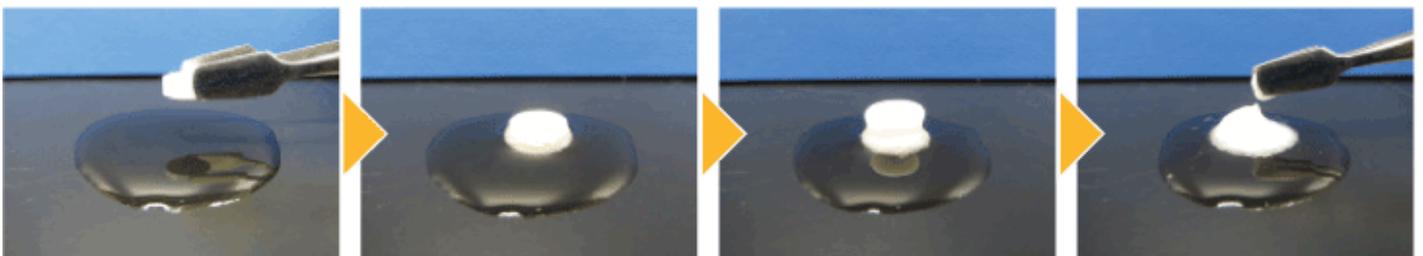
Many people either have trouble swallowing pills, which can get stuck in one's throat, or simply feel the whole experience is unpleasant. Children and the elderly in particular have more difficulty swallowing medications, which may allow drugs to enter the trachea, a risk that must be mitigated insofar as possible. Therefore, developing medicines that are easy to swallow can be a key solution for a super-aging society.

Daicel has been developing excipients that make it easier to swallow tablets. One example is GRANFILLER-D[®], an excipient for orally disintegrating tablets (OD tablets).

GRANFILLER-D[®] can be combined with various active pharmaceutical ingredients and then compressed to make OD tablets, which are easily swallowed and disintegrated even with small amount of water such as saliva. Recently we have also been developing next-generation excipients to expand the range of applicable active pharmaceutical ingredients. By globally expanding our business, we hope to spread these superior pharmaceutical excipients from Japan to the rest of the world.

In October 2018, we acquired Lomapharm GmbH, a German pharmaceutical contract development and manufacturing company, as a subsidiary to develop dosage forms such as tablets and eye drops. This acquisition will significantly benefit both companies. For instance, we will gain great access to the viewpoints of excipient users, enabling us to achieve further advances in excipient development. Meanwhile, Lomapharm GmbH will be able to expand its product line-up, including OD tablets based on our technologies and excipients.

Simulation of breaking down in the mouth



When it comes into contact with saliva or water, it quickly absorbs the moisture and turns into a cream form.

Production line of Lomapharm GmbH



Takahiro Hiramura

Division Manager, Pharma Solutions,
New Business Development
Daicel Corporation



Tomohito Okabayashi

Technical Marketing Manager, Pharma
Solutions, New Business Development
Daicel Corporation

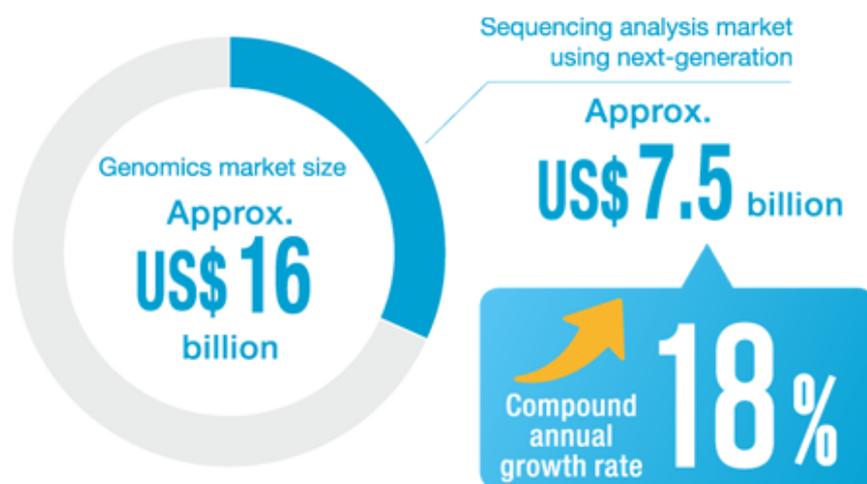
The Search for Life

Cultivating opportunities in the genomics market with an average annual growth of 18%

Partnering with a genomics venture

Genomics is a field of life science that reads and interprets the genetic information incorporated in genes, that is, the genome, and applies it to fields such as medicine and agriculture. The field has recently experienced rapid growth due to progress in both analytics technology and cost reductions. According to our survey, the worldwide market of the entire genomics field was valued at approximately US\$16 billion^{*}, of which genome sequencing and analysis accounts for about US\$7.5 billion^{*} with a compound annual growth of around 18%^{*}.

^{*}Figures based on our 2018 survey.



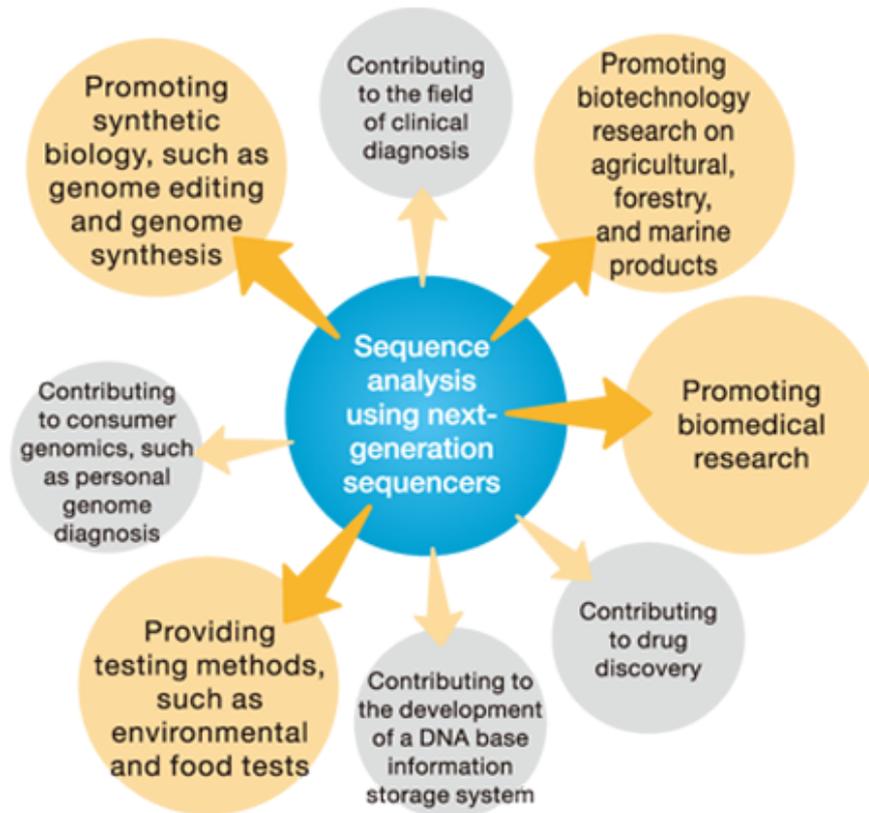
In the pharmaceutical field, the Daicel Group commands the top share of the optical isomer separation market for small molecule drugs and also plans to offer advanced solutions in nucleic acids and gene therapy. One recent initiative was the acquisition of a US genomics venture, Arbor Biosciences (official name: Biodiscovery LLC) in January 2019.

This company is a leader in targeted DNA sequencing analysis technology and maintains a particularly solid position in Agribio, including the genetic analysis of agricultural products and identification of microorganisms. The technology is also useful for traceability since it allows species identification at a finer level of precision and can aid in estimating their production source by examining and comparing the DNA sequences of agricultural products.

The acquisition of Arbor Biosciences has allowed us to continue building relationships with companies conducting research and development in the most advanced fields of life sciences. We will strive to offer solutions for a wide range of fields beyond medicine by bringing together the benefits from the global network of our CPI Company, which operates the optical isomer separation business.

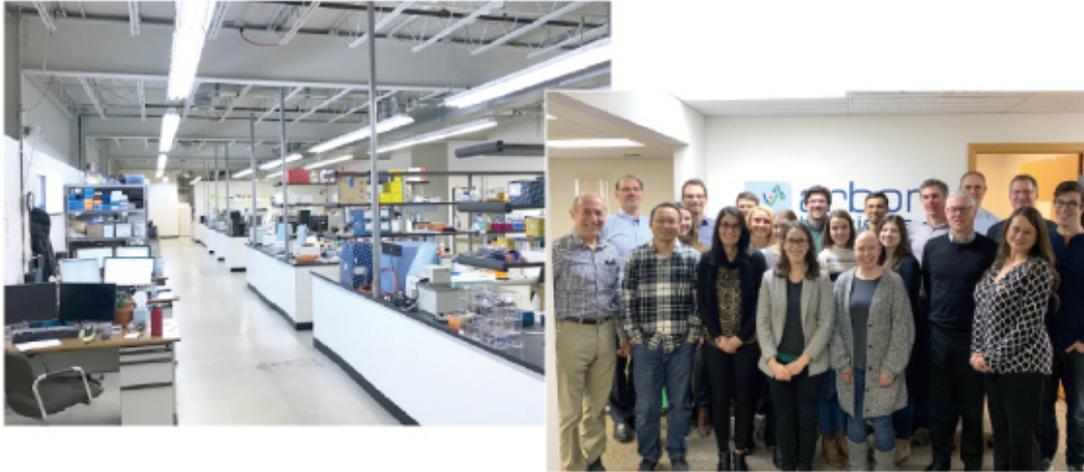
Promising fields for the application of sequence analysis information

Yellow circles indicate areas in which Arbor Biosciences is particularly competitive.



Arbor Biosciences

A genomics venture in Michigan, U.S.A., with about 20 employees,



Joseph M. Barendt, Ph.D.

Chiral Technologies, Inc. and
Arbor Biosciences President

MSD Education Center



MSD Education Center

Purpose and Overview of the Education Center

Aerospace & Defense Systems/Safety Systems Company, has for a long time been involved in pyrotechnic devices. The company applies this expertise in the development, manufacturing, and sales of products such as inflators for automobile airbags and micro gas generators for seatbelt pretensioners (PGG), and it conducts its business operations on a global scale. Its manufacturing style is more what's referred to as "assembly-based;" this is very different from the style applied in chemical plant manufacturing, which is known as "process-based."

The Daicel Safety Systems (DSS) Human Development Center was established as a facility specialized in the development of human resources for assembly-based manufacturing. To keep pace with its globally expanding operations, it became a function of the company's headquarters in 2018, when it was renamed the MSD Education Center. Also, it plays an integral role in developing the human resources who drive the growth of the Safety Systems business.



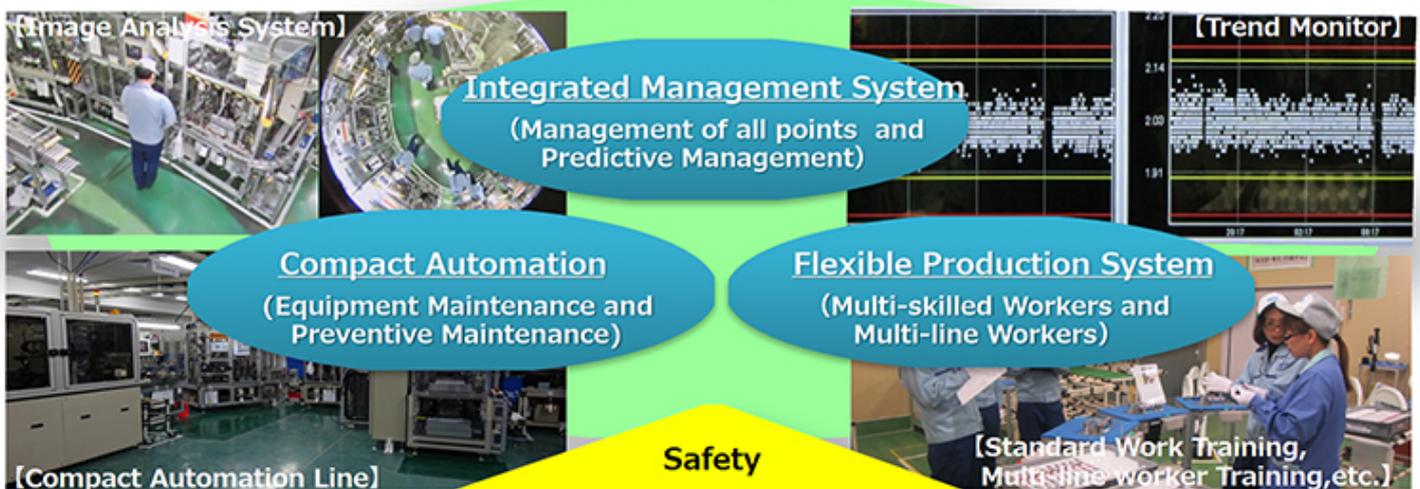
Takao Mimura

Head of MSD Education Center,
Aerospace & Defense Systems/
Safety Systems Company



MSD Education Center (Harima Plant)

High Quality and Highly Efficient Manufacturing System



Human Resource Development

Daicel Group's
Human Resource Policy

People are the Foundation for Our Success

The Three Core Principles of Our Human Resources Policy

Will

We encourage the strong will and courageous decisions of each individual.

Diversity & Inclusion

We continue to evolve through the interaction of our diverse personalities.

Integrity

We do the right thing and proudly follow the right path.



The Kanji characters used in its Japanese name signify the following intentions:

1. Collaborate across organizational and regional boundaries and grow together
2. All employees regardless of rank help each other to reach new heights together
3. Provide learning opportunities for those who provide training and those who receive training

The MSD Education Center focuses on the following four missions based on these aspirations as well as the Group's human resource policy entitled, "People are the Foundation for Our Success," a belief in the infinite power of our human resources and the Group's reliance on realizing the full potential of this power.

1. DSS Human Resource Development Specialized in Manufacturing Skills
2. Manufacturing Training for the Technology Development in the Safety Systems Division
3. Developing Global Talent
4. Safety Training at the Harima Plant

Human Resource Development for DSS-style Manufacturing

DSS manufactures inflators for automobile airbags, and the Harima Plant is its primary manufacturing site in Japan. Under its motto, "Safety and Quality," the company strives to strengthen and grow its manufacturing capability while basing its activities on these goals: 1) build an automated assembly line for highly efficient manufacturing, 2) develop multi-skilled workers for a flexible production line, and 3) leverage the latest IoT technology for an integrated management system. The company is therefore focused on developing human resources who contribute to achieving these goals.

The MSD Education Center has established its own structure for educational programs, including (1) position-specific programs such as training for new employees, operators, supervisors, and leaders; (2) specialized programs encompassing manufacturing knowledge and skills specific to each job type; and (3) development of certification or qualification systems for specialized or key processes. The educational programs cover the knowledge and skills required for manufacturing processes, including standard procedures based on TPS (Toyota Production System), IE (Industrial Engineering), statistical quality control, problem-solving skills, and equipment maintenance. Trainees acquire this knowledge and the related knowledge and skills through classroom lectures and hands-on experience.

In addition to the standard training rooms, we have three specialized rooms for these lectures: Assembly Dojo, Maintenance Dojo, and Safety Dojo. We use the term "Dojo" to encourage participants to view these facilities as places where they can deepen self-awareness and develop the discipline necessary for independently acquiring and practicing the targeted skills.

Assembly Dojo

This dojo provides training for inflator assembly and also develops trainers for this process. New employees and contractors receive training here using simulation devices as part of their onboarding process. This ensures they have the standard level of knowledge and skills before engaging in production line operations, thus ensuring safety, quality, and operability. In addition, the space is equipped with various simulation devices, each tailored for specific product types and procedures. The devices are used to develop multi-skilled workers and contribute toward building a flexible production line. The dojo also provides training and certifications for operator trainers as well as certifications for critical roles such as visual inspectors, among other services. It consists of a lecture area for classroom lectures and a practice area, equipped with simulators and focused on practical application lectures. In short, this is a place where trainees not only can acquire new knowledge and skills but also receive certifications..



Practical application lecture using simulation devices at the Assembly Dojo

Maintenance Dojo

The focus in this dojo is on the knowledge and skills required for facility maintenance. Trainees are offered basic information about electrical and mechanical engineering as well as practical application lectures on machining processes such as drilling and tapping, electrical wiring, soldering, and sequence programs.

Two types of training are conducted. The Line-Keeper Development Program (six months) is intended to train key maintenance persons for the manufacturing division. The Machine-Keeper Development Program (ten days) helps trainees develop their daily maintenance knowledge and gives them troubleshooting skills for common problems.

In the final phases of the Line-Keeper Development Program, trainees create end-to-end processes from scratch, assembling a training device from component parts, creating a sequence program for the device, and confirming its operation. Through the exercise, they learn about the focus areas for adjusting devices and acquire the practical skills for maintaining them.

In addition, trainees also go through other exercises, such as troubleshooting for intentionally

introduced failures in simulation devices and teaching X-Y robots and multiple axis robots. Through these exercises, the dojo passes on the knowledge and skills to the next generation and improves facility maintenance competency.



Maintenance Dojo training using electric components kits



Assembling a training device during Maintenance Dojo training

Safety Dojo

The focus here is on safety, and training at the dojo is part of the site training for the Harima Plant. It is offered to everyone working there, including approximately 1,600 people such as employees, contractors, and Group company employees. A total of 10,000 people have attended the training since its launch in May 2017.

The Safety Dojo works toward these goals: 1) provide a sacred place where trainees learn from past incidents and gain self-discipline, 2) provide opportunities for trainees to become accustomed to factory rules and regulations, and 3) enable trainees to cultivate their awareness and accurate understanding of safety.

The dojo consists of two areas: one where materials and photos of past incidents at Harima plants are exhibited, and a training area with simulators where trainees attend lectures. There are five zones in the training area: 1) the factory rule zone, where trainees get accustomed to factory rules such as those related to customary greetings, dress codes, and pointing-and-calling procedures; 2) the basic behavior zone, where trainees learn safety basics using simulators that replicate the experience of risks; 3) the operation zone, 4) the practice zone, and 5) the safety pledge zone, where trainees chant the safety slogan.



Safety Dojo training areas

Since the business site handles explosives, the dojo is equipped with devices that simulate explosions caused by static electricity. Trainees learn about the risks of these situations and the importance of removing electrostatic charges. The dojo is also equipped with devices that simulate entanglements, residual air pressure, and ascending or descending stairs.

During the sessions, trainees are divided into 105 teams, each consisting of 20 people, and each team is led by an instructor. Rather than trying to explain difficult concepts with words alone, the dojo encourages trainees to experience risks directly by using simulators and other equipment.

The goal in this dojo is to cultivate what we refer to as a “safety-first work culture” at the Harima Plant together with all of its workers. We try to achieve that by having each employee diligently conduct basic manufacturing activities, such as customary greetings and 3S (seiri (tidying), seiton (putting everything in order), and seisou (cleaning)) activities and triggering changes in their behavior. These changes ultimately become the standard and lead to a workplace free from occupational accidents.



Practicing a pointing-and-calling procedure at a pedestrian crossing during a Safety Dojo training session

Developing Global Talent

Aerospace & Defense and Safety Systems operates five manufacturing sites in the U.S., China, South Korea, Thailand, and Poland. While each location develops its own training and development programs, the MSD Training Center trains and certifies trainers specialized in critical processes and develops special skills to ensure that the same level of quality and safety are being incorporated into manufacturing practices worldwide.

Currently, there are 16 certified trainers across the globe, and each one trains and certifies new trainers locally at the various business sites.

Daicel Safety Systems (Jiangsu) Co., Ltd. (DSSC) in China, the largest manufacturing site, completed building their new training center in February 2019 and the four dojos (safety, quality, maintenance, and assembly) have launched their education programs. The dojos of Daicel Safety Systems Europe Sp. z o.o. (DSSE) in Poland are also scheduled to be completed in April 2019. We conduct training and development programs that are tailored to local cultures and the size of each business site based on the principle of safety and quality assurance and with the same Daicel Spirit.



Training and Certification Program for Trainers

Editorial Policies

The Daicel Group publishes the "Daicel Group Annual Report - CSR & Financial Report" to provide its financial and non-financial information to all stakeholders, including shareholders and investors, so they may deepen their understanding of the Group's business and CSR activities.

In addition to this report, there is a CSR section on our corporate website where we disclose comprehensive and detailed information on the Group's CSR initiatives. Moreover, in 2019 we started disclosing ESG data on factors related to the environment, society, and governance through our site.

As these reports are important tools for communicating with our various stakeholders, we keep in mind during the editing process that they must be easy to read, easy to understand, and proactive in terms of reporting on our CSR activities.

Reporting Period

FY2019/3 (April 2017 to March 2019)

Note: Topics outside the specified period have been included.

Entities within the Scope of Reporting

The report covers initiatives of Daicel Group companies and those of other companies as noted. The following terms are used in the report.

- Daicel/We/Our: Daicel Corporation
- Daicel Group/The Group: Daicel Corporation and its affiliates
- Group companies: Affiliates of Daicel Corporation

- Daicel's business sites and on-premise Group companies: Daicel's plants and research institutes as well as the business sites of domestic Group companies operating on the premises of Daicel's plants (not including the headquarters)
- Other Group companies: business sites of the domestic Group companies operating outside the premises of Daicel's business sites
- Overseas Group companies: business sites of Daicel's overseas Group companies

The scope of the Group companies for reporting varies depending on the content of the initiatives. Refer to the following websites for more details.

[Scope of reporting for human resources and governance data](#)

[Scope of reporting for environmental and occupational safety and health data](#)

Third-party Verification

We received third-party verification concerning the Responsible Care Initiative reported on this website and the Daicel Group Annual Report 2019-CSR & Financial Report from the Japan Chemical Industry Association.



Daicel Group Annual Report 2019 CSR & Financial Report Third Party Verification Report

May 31, 2019

To: Mr. Misao Fudaba,
President and CEO, Daicel Corporation

■ Purpose of Verification

This Responsible Care® verification is performed by the Responsible Care Verification Center with the objective of verifying the following and reporting opinions from the perspective of specialists in the Chemical Industry on the "Daicel Group Annual Report 2019" prepared by Daicel Corporation (hereinafter, "Report", including relevant parts of the website "Daicel Group CSR Report 2019"). The scope of verification shall not include financial information.

- 1) The reasonableness of the calculation and aggregation methods of performance indices (numerical data) and the accuracy of the numerical data
- 2) The accuracy of information other than numerical data
- 3) Responsible Care and CSR activities
- 4) Characteristics of the Report

■ Verification Methodology

- At the Head Office, we held an inspection concerning the reasonableness of the aggregation method of numerical data reported from each site (office, plant) and the accuracy of numerical data as well as the accuracy of information other than numerical data. It was conducted by interviewing relevant business managers and Report editors concerning the content as well as receiving necessary documents and explanations.
- At the Ohtake Plant, we held an inspection concerning the reasonableness of the calculation methods of numerical data reported to the Head Office and the accuracy of numerical data as well as the accuracy of information other than numerical data. It was conducted by interviewing relevant business managers and Report editors, receiving necessary documents and explanations, and checking or physically confirming them against evidence.
- The numerical data and other information provided in the Report were inspected by sampling.

■ Opinion concerning:

- 1) The reasonableness of the calculation and aggregation methods of performance indices (numerical data) and the accuracy of the numerical data
In this item, we have confirmed that reasonable methods were adopted for the calculation and aggregation of numerical data at both the Head Office and the Ohtake Plant and within the inspection, the numerical data is calculated and aggregated accurately.
- 2) The accuracy of information other than numerical data
In this item, we have confirmed that information provided in the Report is accurate and there is no significant issue that should be corrected.
- 3) Responsible Care and CSR activities
 - We value activities carried out with the efforts for raising the level of CSR throughout the entire Group, including overseas companies. Since the number of overseas group companies is now increasing, we expect that activities are carried out based on the planning and the prompt response to the situation as needed with a good balance.
 - We value the introduction of a "disaster information sharing system" to improve the accuracy and speed of information transmission in emergency disaster prevention activities, and look forward to applying this system to more plants.
 - We value Ohtake Plant for its proactive efforts to communicate with the local community, including vocational experiences for junior high school students and chemical experiment classes for elementary school students.
 - We commend the efforts made to raise awareness of RC activities by communicating the RC activity policy of the year to the employees of each group company with a message from the President and the Chair of the Responsible Care Council at the Daicel Group Responsible Care Promotion Conference, attended by representatives from group companies and others, held at the beginning of each fiscal year.
 - We commend the company for its proactive efforts to realize Work Styles Reform, including the promotion of telework and the introduction of a satellite office system.
- 4) Characteristics of the Report
 - Since the previous fiscal year, the company has been working to improve the quality and quantity of disclosure through a two-pronged reporting system, the Annual Report (booklet) which includes CSR activities and financial information, and the web-based CSR report. We hope that the roles of the booklet and the website will be clarified and the links between them strengthened, and that information will be disclosed in a way that is easy to understand and rich in content.

Shigeki Nagamatsu
Chief Director, Responsible Care Verification Center
Japan Chemical Industry Association

Scope of Reporting for Human Resources and Governance Data

The Daicel Group consists of a total of 82 companies.(As of March 31, 2019)

In this report, initiatives of the Daicel Group are reported. Reports about Daicel Corporation or other Group company are noted in each text.

The scope of the Daicel Group varies depending on the content of initiatives. Regarding the initiatives of ① to ③ below, the scope of the Daicel Group reporting is as shown in the table below.

①Initiatives reported in Creating Attractive Workplaces (Except ③) & [Risk Management Initiatives](#)

②Corporate Ethics Initiatives ([Corporate Ethics Initiatives](#) · [Compliance](#))

③Initiatives of the Healthcare Committee reported in [Initiatives to Help Employees Maintain Mental and Physical Health](#) Creating Attractive Working Place

Consolidated Companies

Company Name	Country	①	②	③
DAICEL CORPORATION	Japan	○	○	○
Kyodo Sakusan Co.,Ltd.	Japan	○	○	-
Dainichi Chemical Co.,Ltd.	Japan	○	○	-
Daicel Arai Chemical Ltd.	Japan	○	○	○
Chiral Technologies, Inc.	U.S.A.	○	○	-
Arbor Biosciences (official name:Biodiscovery LLC)	U.S.A.	-	-	-
Chiral Technologies Europe S.A.S.	France	○	○	-
Daicel Chiral Technologies (China) Co., Ltd.	China	○	○	-
Daicel Chiral Technologies (India) Pvt. Ltd.	India	○	○	-
Daicel ChemTech, Inc.	U.S.A.	○	○	-
Daicel Nanning Food Ingredients Co., Ltd.	China	○	○	-
Polyplastics Co., Ltd.	Japan	○	○	○
WinTech Polymer Ltd.	Japan	○	○	-

Company Name	Country	①	②	③
PTM Holdings, Inc.	Japan	-	-	-
PolyplaServise Co., Ltd.	Japan	○	○	-
Polyplastics Taiwan Co., Ltd.	Taiwan	○	○	-
Polyplastics Asia Pacific Sdn. Bhd.	Malaysia	○	○	-
Polyplastics China Ltd.	China	○	○	-
Polyplastics Marketing (T) Ltd.	Thailand	○	○	-
Polyplastics Asia Pacific Singapore Pte. Ltd.	Singapore	○	○	-
Polyplastics Trading (Shanghai) Ltd.	China	○	○	-
PTM Engineering Plastics (Nantong) Co., Ltd.	China	○	○	-
Polyplastics (Shanghai) Ltd.	China	○	○	-
Polyplastics Korea Ltd.	South Korea	○	○	-
Polyplastics (Nantong) Ltd.	China	○	○	-
Polyplastics USA, Inc.	USA	○	○	-
LCP Leuna Carboxylation Plant GmbH	Germany	○	○	-
Polyplastics Europe GmbH	Germany	○	○	-
Polyplastics Marketing Mexico, S.A. de C.V.	Mexico	○	○	-
Topas Advanced Polymers GmbH	Germany	○	○	-
Daicel Polymer Ltd.	Japan	○	○	○
Daicel Polymer (Hong Kong) Ltd.	China	○	○	-
Shanghai Daicel Polymers, Ltd.	China	○	○	-
Daicel Polymer (Thailand) Co., Ltd.	Thailand	○	○	-
Daicel Pack Systems Ltd.	Japan	○	○	○
DM Novafoam Ltd.	Japan	○	○	-
Daicel Value Coating Ltd.	Japan	○	○	○

Company Name	Country	①	②	③
Daicel Safety Systems Inc.	Japan	○	○	○
Daicel Safety Systems America Holdings, Inc.	U.S.A.	○	○	-
Daicel Safety Systems America, LLC	U.S.A.	○	○	-
Daicel Safety Systems America Arizona, Inc.	U.S.A.	○	○	-
Daicel Safety Systems (Thailand) Co., Ltd.	Thailand	○	○	-
Daicel Safety Systems Europe Sp. z o. o.	Poland	○	○	-
Daicel Safety Systems (Jiangsu) Co., Ltd.	China	○	○	-
Daicel Safety Systems Korea, Inc.	South Korea	○	○	-
Daicel Safety Systems India Pvt. Ltd.	India	-	-	-
Daicel Safety Technologies America, Inc.	U.S.A.	○	○	-
Daicel Safety Tube Processing, Inc.	U.S.A.	○	○	-
Daicel Safety Technologies (Thailand) Co., Ltd.	Thailand	○	○	-
Daicel Safety Technologies (Jiangsu) Co., Ltd.	China	○	○	-
Special Devices, Inc.	U.S.A.	○	○	-
Special Devices (Thailand) Co., Ltd.	Thailand	○	○	-
Daicel Pyrotechnics Ltd.	Japan	○	○	-
Daicel Logistics Service Co.,Ltd.	Japan	○	○	○
Daicel FineChem Ltd.	Japan	○	○	○
Daicen Membrane-Systems Ltd.	Japan	○	○	○
Kyoei Shokusan Co.,Ltd.	Japan	○	○	-
Lomapharm GmbH	Germany	-	-	-
Daicel Micro Optics Co. Ltd.	Taiwan	-	-	-
Daicel Aboshi Sangyo Co.,Ltd.	Japan	○	○	○
Daicel Ohtake Sangyo Co.,Ltd.	Japan	○	○	○

Company Name	Country	①	②	③
Daicel (Asia) Pte. Ltd.	Singapore	○	○	-
Daicel (Europa) GmbH	Germany	○	○	-
Daicel Trading (Shanghai) Ltd.	China	○	○	-
Daicel America Holdings, Inc.	U.S.A.	○	○	-
Daicel (China) Investment Co., Ltd.	China	○	○	-

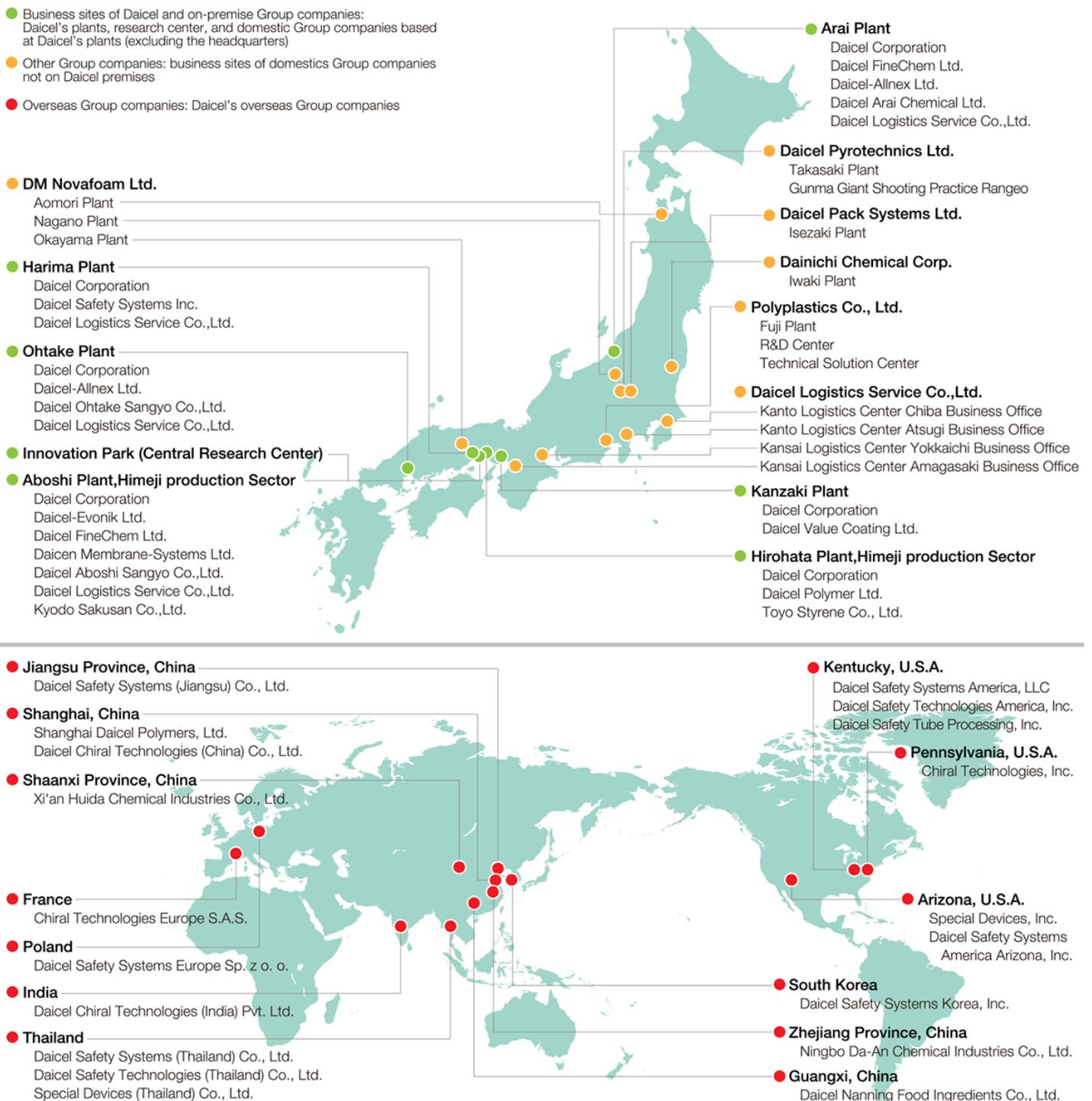
Other Affiliated Companies

Company Name	Country	①	②	③
Nagano Novafoam Sangyo Ltd.	Japan	-	○	-
Polyplastics Marketing (India) Pvt. Ltd.	India	○	○	-
Chrom Tech Ltd.	U.K.	-	-	-
Special Devices Japan Ltd.	Japan	-	-	-
Daicel-Evonik Ltd.	Japan	○	○	-
Daicel-ALLNEX Ltd.	Japan	○	○	-
Kyoudou Polymer Co., Ltd.	Japan	-	-	-
Xi'an Huida Chemical Industries Co., Ltd.	China	-	-	-
Toyo Styrene Co., Ltd.	Japan	-	-	-
Toyama Filter Tow Co., Ltd	Japan	-	-	-
Ningbo Da-An Chemical Industries Co., Ltd.	China	-	-	-
Hirohata Terminal Company Ltd.	Japan	-	-	-
Toyoshina Film Co.,Ltd.	Japan	-	-	-
Hayashi Shipping,Co.Ltd	Japan	-	-	-
Shanghai Da-Shen Cellulose Plastics Co., Ltd.	China	-	-	-
Daicel Prosperity (China) Ltd.	China	-	-	-

Scope of Reporting for Environmental and Occupational Safety and Health Data

— Scope of Data Calculation for Environmental and Occupational Safety Performance

Scope of Data Calculation for Environmental and Occupational Safety Performance encompasses the business sites and Group companies involved in manufacturing and logistics.



List of Declarations and Certifications

[Environmental Management System](#) [Quality Management System](#)

— Status of Environmental Management System Certification

(June 2019)

Name of Business Site/Group Company	Certificate No.	Standard	Initial Certification Date
Daicel Corporation (Ohtake Plant)	JQA-EM0492	ISO14001:2015	August 1999
Daicel Corporation (Innovation Park)	JQA-EM0894	ISO14001:2015	June 2000
Daicel Corporation (Himeji Production Sector/Aboshi Plant)	JQA-EM1229	ISO14001:2015	December 2000
Daicel Polymer Ltd. (Hirohata Plant)	JQA-EM1511	ISO14001:2015	April 2001
Daicel Corporation (Harima Plant)	JQA-EM1683	ISO14001:2015	July 2001
Daicel Corporation (Kanzaki Plant)	JCQA-E-0329	ISO14001:2015	December 2001
Daicel Corporation (Arai Plant)	JCQA-E-0339	ISO14001:2015	December 2001
Polyplastics Co., Ltd. (Fuji Plant)	JQA-EM0414	ISO14001:2015	April 1999
DM Novafoam Ltd. (Head Office/Nagano Plant)	E0309	ISO14001:2015	February 2003
DM Novafoam Ltd. (Okayama Plant)	E0310	ISO14001:2015	June 2004
Daicel Pack Systems Ltd. (Isesaki Plant)	JQA-EM6795	ISO14001:2015	March 2012
Dainichi Chemical Corp.	0005067	EcoAction 21 ¹⁾	June 2010

Name of Business Site/Group Company	Certificate No.	Standard	Initial Certification Date
Daicel Safety Systems America, LLC Daicel Safety Technologies America, Inc. Daicel Safety Tube Processing, Inc.	EMS73483	ISO14001:2015	March 2005
Shanghai Daicel Polymers, Ltd.	170710064/2	ISO14001:2015	November 2005
Daicel Safety Systems (Thailand) Co., Ltd.	10180954	ISO14001:2015	August 2007
Daicel Safety Technologies (Thailand) Co., Ltd.	10180955	ISO14001:2015	August 2007
Daicel Safety Systems Europe Sp. z o. o.	AC090 104/ 0673/2587/2014	ISO14001:2015	March 2008
Daicel Safety Systems (Jiangsu) Co., Ltd.	CN08/20581	ISO14001:2015	March 2008
Ningbo Da-An Chemical Industries Co., Ltd.	104389	ISO14001:2015	September 2010

What is...?

1) Eco Action 21: Environmental management systems promoted by the Ministry of the Environment of Japan. These systems are designed for easy implementation by small and medium-sized corporations. The Institute of Global Environmental Strategies Center for Sustainability (IGES-CfS) serves as the registrar of the certification.

— Status of Quality Management System Certification

(June 2019)

Name of Business Site/Group Company	Certificate No.	Standard	Initial Certification Date
Daicel Corporation (Aboshi Plant, Himeji Production Sector)	JQA-0953	ISO9001:2015 JISQ9001:2015	August 1995
Daicel Corporation (Ohtake Plant)	JQA-1023	ISO9001:2015 JISQ9001:2015	October 1995
Daicel Corporation (Arai Plant)	JCQA-0136	ISO9001:2015 JISQ9001:2015	June 1996
Daicel Corporation (Aerospace & Defense Systems Division, Aerospace & Defense System/Safety Systems Company)	BSK0027	ISO9001:2015 JISQ9001:2015	April 1999
	BSKA0028	JISQ9100:2016 & JISQ9001:2015	June 2003
Daicel Corporation (Harima Plant, MSD Division, Aerospace & Defense Systems/Safety Systems Company)	JQA-2448	ISO9001:2015 JISQ9001:2015	July 1998
Daicel Safety Systems Inc.	IATF:0306358 JQA-AU0033	IATF16949:2016	May 2018
Daicel Polymer Ltd. (Hirohata Plant)	JQA-QM4647	ISO9001:2015 JISQ9001:2015	April 2000
Polyplastics Co., Ltd.	JQA-1283	ISO9001:2015 JISQ9001:2015	May 1996
	IATF:0278946 JQA-AU0071	IATF16949:2016	November 2017
Daicel Corporation (Kanzaki Plant)	JCQA-0530	ISO9001:2015 JISQ9001:2015	August 1999
Daicel-Evonik Ltd. (Aboshi Plant)	JQA-2481	ISO9001:2015 JISQ9001:2015	July 1998

Name of Business Site/Group Company	Certificate No.	Standard	Initial Certification Date
Daicel Pack Systems, Ltd.	JQA-QMA11465	ISO9001:2015 JISQ9001:2015	July 2004
DM Novafoam Ltd. (Nagano Plant)	ASR-Q1169	ISO9001:2015 JISQ9001:2015	February 2003
DM Novafoam Ltd. (Okayama Plant)	ASR-Q1170	ISO9001:2015 JISQ9001:2015	June 2004
Daicel Membrane-Systems Ltd. (Aboshi Plant)	JQA-1577	ISO9001:2015 JISQ9001:2015	February 1997
Daicel Membrane-Systems Ltd. (Tokyo headquarters)	JP11/040306	ISO13485 : 2016 EN ISO13485:2016	December 2011
Dainichi Chemical Corp.	JCQA-0689	ISO9001:2015 JISQ9001:2015	April 2000
Daicel Logistics Service Co., Ltd.	JCQA-0568	ISO9001:2015 JISQ9001:2015	October 1999
Daicel Pyrotechnics LTD.	JQA-QMA13973	ISO9001:2015 JISQ9001:2015	August 2009
Daicel Safety Systems America, LLC	IATF:0326816 86144	IATF16949:2016	August 2018
Daicel Safety Technologies America, Inc.	FM-502734	ISO9001:2015	October 2006
Special Devices, Inc. /Daicel Safety Systems America Arizona, Inc.	IATF: 0290498 2004-0091	IATF16949:2016	February 2018
Daicel Safety Systems (Thailand) Co., Ltd.	10079328	ISO9001:2015	January 2005
	IATF:0299706 10079329	IATF16949:2016	April 2018
Daicel Safety Technologies (Thailand) Co., Ltd.	IATF:0293692 10065029	IATF16949:2016	March 2018
Daicel Safety Systems Europe Sp. z o. o.	IATF:0296456 44 111 070260	IATF16949:2016	March 2018

Name of Business Site/Group Company	Certificate No.	Standard	Initial Certification Date
Daicel Safety Systems (Jiangsu) Co., Ltd.	IATF:0291498 CN 09/20512	IATF16949:2016	February 2018
Daicel Safety Systems Korea, Inc.	IATF:0334829 673109	IATF16949:2016	September 2018
Daicel Nanning Food Ingredients Co., Ltd.	CN10/31437	ISO9001:2015	October 2003
	CN13/31393	ISO22000:2005	January 2007
Ningbo Da-An Chemical Industries Co., Ltd.	093702	ISO9001:2015	December 2009
Xi'an Huida Chemical Industries Co., Ltd.	00117Q36901R5M /6100	ISO9001:2015	July 2002
Shanghai Daicel Polymers, Ltd.	81016587/1	ISO9001:2015	September 1999
	IATF:0320811 161016117/1	IATF16949:2016	October 2016
Daicel Chiral Technologies (India) Private Ltd.	172158-2015- AQ-IND-RvA	ISO9001:2015	March 2012
Daicel Chiral Technologies (China) Co., Ltd.	Q17CC006R1	ISO9001:2015	January 2014
Topas Advanced Polymers GmbH	341516 QM15	ISO9001:2015	March 2009

Policy List

Category		Policies
Basic Philosophy System		Basic Philosophy
		Daicel Group Conduct Policy
		Daicel Code of Conduct
CSR Management	Responsible Care Activities	The Daicel Group's Basic Policies for Responsible Care
Social Report	Responsibility for Customers and Product Safety	Quality Policy for Daicel Group
	Creating Attractive Workplaces	Human Resource Policy
		Human Resource Management Guidelines
	Sustainable Procurement	Basic Purchasing Policy
		Daicel Group CSR Purchasing Guidelines
	Governance	Corporate Governance
Basic Policy on Information Disclosure		

GRI Standards Content Index

— GRI Standards Content Index

Disclosure	Indicator	Indicator	Annual Report 2019	WEB-CSR site
GRI- 102: General Disclosures				
102-1	Name of the organization	a. Name of the organization.	P62	<ul style="list-style-type: none"> • Corporate Data
102-2	Activities, brands, products, and services	a. A description of the organization's activities. b. Primary brands, products, and services, including an explanation of any products or services that are banned in certain markets.	P6-11 P20-30	<ul style="list-style-type: none"> • Corporate Data
102-3	Location of headquarters	a. Location of the organization's headquarters.	P62	<ul style="list-style-type: none"> • Corporate Data
102-4	Location of operations	a. Number of countries where the organization operates, and the names of countries where it has significant operations and/or that are relevant to the topics covered in the report.	P61	<ul style="list-style-type: none"> • Locations (Overseas)
102-5	Ownership and legal form	a. Nature of ownership and legal form.	P62	<ul style="list-style-type: none"> • Corporate Data

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-6	Markets served	a. Markets served, including: <ul style="list-style-type: none"> i. geographic locations where products and services are offered; ii. sectors served; iii. types of customers and beneficiaries. 	P60-61 P62	<ul style="list-style-type: none"> • Principal Affiliates (Japan). • Principal Affiliates (Overseas).
102-7	Scale of the organization	a. Scale of the organization, including: <ul style="list-style-type: none"> i. total number of employees; ii. total number of operations; iii. net sales (for private sector organizations) or net revenues (for public sector organizations); iv. total capitalization (for private sector organizations) broken down in terms of debt and equity; v. quantity of products or services provided. 	P4-7 P20-30 P60-62	<ul style="list-style-type: none"> • Corporate Data • Locations (Japan). • Our businesses and products

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-8	Information on employees and other workers	<p>a. Total number of employees by employment contract (permanent and temporary), by gender.</p> <p>b. Total number of employees by employment contract (permanent and temporary), by region.</p> <p>c. Total number of employees by employment type (full-time and part-time), by gender.</p> <p>d. Whether a significant portion of the organization's activities are performed by workers who are not employees. If applicable, a description of the nature and scale of work performed by workers who are not employees.</p> <p>e. Any significant variations in the numbers reported in Disclosures 102-8-a, 102-8-b, and 102-8-c (such as seasonal variations in the tourism or agricultural industries).</p> <p>f. An explanation of how the data have been compiled, including any assumptions made.</p>	P5 P60,62	<ul style="list-style-type: none"> • Corporate Data • ESG Data

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-9	Supply chain	a. A description of the organization's supply chain, including its main elements as they relate to the organization's activities, primary brands, products, and services.	P44	<ul style="list-style-type: none"> • Supply Chain Management • Daicel Group CSR Purchasing Guidelines
102-10	Significant changes to the organization and its supply chain	<p>a. Significant changes to the organization's size, structure, ownership, or supply chain, including:</p> <p>i. Changes in the location of, or changes in, operations, including facility openings, closings, and expansions;</p> <p>ii. Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations);</p> <p>iii. Changes in the location of suppliers, the structure of the supply chain, or relationships with suppliers, including selection and termination.</p>	-	-
102-11	Precautionary Principle or approach	a. Whether and how the organization applies the Precautionary Principle or approach.	P51	<ul style="list-style-type: none"> • Risk Management
102-12	External initiatives	a. A list of externally-developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes, or which it endorses.	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-13	Membership of associations	a. A list of the main memberships of industry or other associations, and national or international advocacy organizations.	-	-
102-14	Statement from senior decision-maker	a. A statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy for addressing sustainability.	P12-15	<ul style="list-style-type: none"> • Message from the President and CEO
102-15	Key impacts, risks, and opportunities	a. A description of key impacts, risks, and opportunities.	P12-15 P51	<ul style="list-style-type: none"> • Message from the President and CEO • Risk Management
102-16	Values, principles, standards, and norms of behavior	a. A description of the organization's values, principles, standards, and norms of behavior.	P2-3 P31	<ul style="list-style-type: none"> • Basic philosophy • Daicel Group Conduct Policy • Daicel Code of Conduct
102-17	Mechanisms for advice and concerns about ethics	a. A description of internal and external mechanisms for: <ul style="list-style-type: none"> i. seeking advice about ethical and lawful behavior, and organizational integrity; ii. reporting concerns about unethical or unlawful behavior, and organizational integrity. 	P50	<ul style="list-style-type: none"> • Governance structure

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-18	Governance structure	<p>a. Governance structure of the organization, including committees of the highest governance body.</p> <p>b. Committees responsible for decision-making on economic, environmental, and social topics.</p>	P31-34 P48-49	<ul style="list-style-type: none"> • CSR Management • Corporate Governance
102-19	Delegating authority	<p>a. Process for delegating authority for economic, environmental, and social topics from the highest governance body to senior executives and other employees.</p>	P31-34 P48-49	<ul style="list-style-type: none"> • CSR Management • Corporate Governance
102-20	Executive-level responsibility for economic, environmental, and social topics	<p>a. Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental, and social topics.</p> <p>b. Whether post holders report directly to the highest governance body.</p>	P31-34 P48-49	<ul style="list-style-type: none"> • CSR Management • Corporate Governance

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-21	Consulting stakeholders on economic, environmental, and social topics	<p>a. Processes for consultation between stakeholders and the highest governance body on economic, environmental, and social topics.</p> <p>b. If consultation is delegated, describe to whom it is delegated and how the resulting feedback is provided to the highest governance body.</p>	-	-
102-22	Composition of the highest governance body and its committees	<p>a. Composition of the highest governance body and its committees by:</p> <ul style="list-style-type: none"> i. executive or non-executive; ii. independence; iii. tenure on the governance body; iv. number of each individual's other significant positions and commitments, and thenature of the commitments; v. gender; vi. membership of under-represented social groups; vii. competencies relating to economic, environmental, and social topics; viii. stakeholder representation. 	P48-49	<ul style="list-style-type: none"> • Corporate Governance

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-23	Chair of the highest governance body	<p>a. Whether the chair of the highest governance body is also an executive officer in the organization.</p> <p>b. If the chair is also an executive officer, describe his or her function within the organization's management and the reasons for this arrangement.</p>	P48-49	<ul style="list-style-type: none"> • Corporate Governance
102-24	Nominating and selecting the highest governance body	<p>a. Nomination and selection processes for the highest governance body and its committees.</p> <p>b. Criteria used for nominating and selecting highest governance body members, including whether and how:</p> <ul style="list-style-type: none"> i. stakeholders (including shareholders) are involved; ii. diversity is considered; iii. independence is considered; iv. expertise and experience relating to economic, environmental, and social topics are considered. 	P48-49	<ul style="list-style-type: none"> • Corporate Governance

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-25	Conflicts of interest	<p>a. Processes for the highest governance body to ensure conflicts of interest are avoided and managed.</p> <p>b. Whether conflicts of interest are disclosed to stakeholders, including, as a minimum:</p> <p>i. Cross-board membership;</p> <p>ii. Cross-shareholding with suppliers and other stakeholders;</p> <p>iii. Existence of controlling shareholder;</p> <p>iv. Related party disclosures.</p>	P48-49	<ul style="list-style-type: none"> • Corporate Governance
102-26	Role of highest governance body in setting purpose, values, and strategy	<p>a. Highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental, and social topics.</p>	P31-34 P48-49	<ul style="list-style-type: none"> • CSR Management • Corporate Governance
102-27	Collective knowledge of highest governance body	<p>a. Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental, and social topics.</p>	P31-34 P48-49	<ul style="list-style-type: none"> • CSR Management • Corporate Governance

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-28	Evaluating the highest governance body's performance	<p>a. Processes for evaluating the highest governance body's performance with respect to governance of economic, environmental, and social topics.</p> <p>b. Whether such evaluation is independent or not, and its frequency.</p> <p>c. Whether such evaluation is a self-assessment.</p> <p>d. Actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental, and social topics, including, as a minimum, changes in membership and organizational practice.</p>	P31-34 P48-49	<ul style="list-style-type: none"> • CSR Management • Corporate Governance

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-29	Identifying and managing economic, environmental, and social impacts	<p>a. Highest governance body's role in identifying and managing economic, environmental, and social topics and their impacts, risks, and opportunities – including its role in the implementation of due diligence processes.</p> <p>b. Whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental, and social topics and their impacts, risks, and opportunities.</p>	P31-34 P48-49	<ul style="list-style-type: none"> • CSR Management • Corporate Governance
102-30	Effectiveness of risk management processes	<p>a. Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental, and social topics.</p>	P51	<ul style="list-style-type: none"> • Risk Management
102-31	Review of economic, environmental, and social topics	<p>a. Frequency of the highest governance body's review of economic, environmental, and social topics and their impacts, risks, and opportunities.</p>	P31-34	<ul style="list-style-type: none"> • CSR Management

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-32	Highest governance body's role in sustainability reporting	a. The highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material topics are covered.	P31-34	<ul style="list-style-type: none"> • CSR Management
102-33	Communicating critical concerns	a. Process for communicating critical concerns to the highest governance body.	P48-49	<ul style="list-style-type: none"> • Corporate Governance
102-34	Nature and total number of critical concerns	<p>a. Total number and nature of critical concerns that were communicated to the highest governance body.</p> <p>b. Mechanism(s) used to address and resolve critical concerns.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-35	Remuneration policies	<p>a. Remuneration policies for the highest governance body and senior executives for the following types of remuneration:</p> <ul style="list-style-type: none"> i. Fixed pay and variable pay, including performance-based pay, equity-based pay, bonuses, and deferred or vested shares; ii. Sign-on bonuses or recruitment incentive payments; iii. Termination payments; iv. Clawbacks; v. Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees. <p>c. How performance criteria in the remuneration policies relate to the highest governance body's and senior executives' objectives for economic, environmental, and social topics.</p>	P48-49	<ul style="list-style-type: none"> • Corporate Governance

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-36	Process for determining remuneration	<p>a. Process for determining remuneration.</p> <p>b. Whether remuneration consultants are involved in determining remuneration and whether they are independent of management.</p> <p>c. Any other relationships that the remuneration consultants have with the organization.</p>	-	<ul style="list-style-type: none"> • Corporate Governance
102-37	Stakeholders' involvement in remuneration	<p>a. How stakeholders' views are sought and taken into account regarding remuneration.</p> <p>b. If applicable, the results of votes on remuneration policies and proposals.</p>	-	-
102-38	Annual total compensation ratio	<p>a. Ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-39	Percentage increase in annual total compensation ratio	a. Ratio of the percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.	-	-
102-40	List of stakeholder groups	a. A list of stakeholder groups engaged by the organization.	-	-
102-41	Collective bargaining agreements	a. Percentage of total employees covered by collective bargaining agreements.	-	-
102-42	Identifying and selecting stakeholders	a. The basis for identifying and selecting stakeholders with whom to engage.	-	-
102-43	Approach to stakeholder engagement	a. The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	P49	<ul style="list-style-type: none"> • Corporate Governance

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-44	Key topics and concerns raised Key topics and concerns raised	<p>a. Key topics and concerns that have been raised through stakeholder engagement, including:</p> <p>i. how the organization has responded to those key topics and concerns, including through its reporting;</p> <p>ii. the stakeholder groups that raised each of the key topics and concerns.</p>	-	-
102-45	Entities included in the consolidated financial statements	<p>a. A list of all entities included in the organization's consolidated financial statements or equivalent documents.</p> <p>b. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.</p>	P60-61	<ul style="list-style-type: none"> • List of Data Collection Boundaries
102-46	Defining report content and topic Boundaries	<p>a. An explanation of the process for defining the report content and the topic Boundaries.</p> <p>b. An explanation of how the organization has implemented the Reporting Principles for defining report content.</p>	-	-
102-47	List of material topics	<p>a. A list of the material topics identified in the process for defining report content.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-48	Restatements of information	a. The effect of any restatements of information given in previous reports, and the reasons for such restatements.	-	-
102-49	Changes in reporting	a. Significant changes from previous reporting periods in the list of material topics and topic Boundaries.	-	-
102-50	Reporting period	a. Reporting period for the information provided.	P1	<ul style="list-style-type: none"> • Editorial Policies
102-51	Date of most recent report	a. If applicable, the date of the most recent previous report.	P1	<ul style="list-style-type: none"> • Editorial Policies
102-52	Reporting cycle	a. Reporting cycle.	P1	<ul style="list-style-type: none"> • Editorial Policies
102-53	Contact point for questions regarding the report	a. The contact point for questions regarding the report or its contents.	Back cover	-
102-54	Claims of reporting in accordance with the GRI Standards	<p>a. The claim made by the organization, if it has prepared a report in accordance with the GRI Standards, either:</p> <p>i. 'This report has been prepared in accordance with the GRI Standards: Core option';</p> <p>ii. 'This report has been prepared in accordance with the GRI Standards: Comprehensive option'.</p>	P1	<ul style="list-style-type: none"> • GRI Standards Content Index

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-55	GRI content index	<p>a. The GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report.</p> <p>b. For each disclosure, the content index shall include:</p> <ul style="list-style-type: none"> i. the number of the disclosure (for disclosures covered by the GRI Standards); ii. the page number(s) or URL(s) where the information can be found, either within the report or in other published materials; iii. if applicable, and where permitted, the reason(s) for omission when a required disclosure cannot be made. 	-	<ul style="list-style-type: none"> • GRI Standards Content Index

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
102-56	External assurance	<p>a. A description of the organization's policy and current practice with regard to seeking external assurance for the report.</p> <p>b. If the report has been externally assured:</p> <p>i. A reference to the external assurance report, statements, or opinions. If not included in the assurance report accompanying the sustainability report, a description of what has and what has not been assured and on what basis, including the assurance standards used, the level of assurance obtained, and any limitations of the assurance process;</p> <p>ii. The relationship between the organization and the assurance provider;</p> <p>iii. Whether and how the highest governance body or senior executives are involved in seeking external assurance for the organization's sustainability report.</p>	P63	<ul style="list-style-type: none"> • Third-party Verification

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 103: Management Approach				
103-1	Explanation of the material topic and its Boundary	<ul style="list-style-type: none"> a. An explanation of why the topic is material. b. The Boundary for the material topic, which includes a description of: <ul style="list-style-type: none"> i. where the impacts occur; ii. the organization’s involvement with the impacts. For example, whether the organization has caused or contributed to the impacts, or is directly linked to the impacts through its business relationships. d. Any specific limitation regarding the topic Boundary. 	-	-
103-2	The management approach and its components	<ul style="list-style-type: none"> a. An explanation of how the organization manages the topic. b. A statement of the purpose of the management approach. c. A description of the following, if the management approach includes that component: <ul style="list-style-type: none"> i. Policies ii. Commitments iii. Goals and targets iv. Responsibilities v. Resources vi. Grievance mechanisms vii. Specific actions, such as processes, projects, programs and initiatives 	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
103-3	Evaluation of the management approach	a. An explanation of how the organization evaluates the management approach, including: <ul style="list-style-type: none"> i. the mechanisms for evaluating the effectiveness of the management approach; ii. the results of the evaluation of the management approach; iii. any related adjustments to the management approach. c.	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 201: Economic Performance				
201-1	Direct economic value generated and distributed	<p>a. Direct economic value generated and distributed (EVG&D) on an accruals basis, including the basic components for the organization’s global operations as listed below. If data are presented on a cash basis, report the justification for this decision in addition to reporting the following basic components:</p> <ul style="list-style-type: none"> i. Direct economic value generated: revenues; ii. Economic value distributed: operating costs, employee wages and benefits, payments to providers of capital, payments to government by country, and community investments; iii. Economic value retained: ‘direct economic value generated’ less ‘economic value distributed’. <p>c. Where significant, report EVG&D separately at country, regional, or market levels, and the criteria used for defining significance.</p>	P52-58	<ul style="list-style-type: none"> • Financial Summary.

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
201-2	Financial implications and other risks and opportunities due to climate change	<ul style="list-style-type: none"> a. Risks and opportunities posed by climate change that have the potential to generate substantive changes in operations, revenue, or expenditure, including: <ul style="list-style-type: none"> i. a description of the risk or opportunity and its classification as either physical, regulatory, or other; ii. a description of the impact associated with the risk or opportunity; iii. the financial implications of the risk or opportunity before action is taken; iv. the methods used to manage the risk or opportunity; v. the costs of actions taken to manage the risk or opportunity. 	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
201-3	Defined benefit plan obligations and other retirement plans	<ul style="list-style-type: none"> a. If the plan's liabilities are met by the organization's general resources, the estimated value of those liabilities. b. If a separate fund exists to pay the plan's pension liabilities: <ul style="list-style-type: none"> i. the extent to which the scheme's liabilities are estimated to be covered by the assets that have been set aside to meet them; ii. the basis on which that estimate has been arrived at; iii. when that estimate was made. d. If a fund set up to pay the plan's pension liabilities is not fully covered, explain the strategy, if any, adopted by the employer to work towards full coverage, and the timescale, if any, by which the employer hopes to achieve full coverage. e. Percentage of salary contributed by employee or employer. f. Level of participation in retirement plans, such as participation in mandatory or voluntary schemes, regional, or country-based schemes, or those with financial impact. 	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
201-4	Financial assistance received from government	<p>a. Total monetary value of financial assistance received by the organization from any government during the reporting period, including:</p> <ul style="list-style-type: none"> i. tax relief and tax credits; ii. subsidies; iii. investment grants, research and development grants, and other relevant types of grant; iv. awards; v. royalty holidays; vi. financial assistance from Export Credit Agencies (ECAs); vii. financial incentives; viii. other financial benefits received or receivable from any government for any operation. <p>c. The information in 201-4-a by country.</p> <p>d. Whether, and the extent to which, any government is present in the shareholding structure.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 202: Market Presence				
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	<p>a. When a significant proportion of employees are compensated based on wages subject to minimum wage rules, report the relevant ratio of the entry level wage by gender at significant locations of operation to the minimum wage.</p> <p>b. When a significant proportion of other workers (excluding employees) performing the organization’s activities are compensated based on wages subject to minimum wage rules, describe the actions taken to determine whether these workers are paid above the minimum wage.</p> <p>c. Whether a local minimum wage is absent or variable at significant locations of operation, by gender. In circumstances in which different minimums can be used as a reference, report which minimum wage is being used.</p> <p>d. The definition used for ‘significant locations of operation’.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
202-2	Proportion of senior management hired from the local community	<p>a. Percentage of senior management at significant locations of operation that are hired from the local community.</p> <p>b. The definition used for 'senior management'.</p> <p>c. The organization's geographical definition of 'local'.</p> <p>d. The definition used for 'significant locations of operation'.</p>	-	-
GRI- 203: Indirect Economic Impacts				
203-1	Infrastructure investments and services supported	<p>a. Extent of development of significant infrastructure investments and services supported.</p> <p>b. Current or expected impacts on communities and local economies, including positive and negative impacts where relevant.</p> <p>c. Whether these investments and services are commercial, in-kind, or pro bono engagements.</p>	P45	<ul style="list-style-type: none"> • Local Communities and Contribution to Society

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
203-2	Significant indirect economic impacts	<p>a. Examples of significant identified indirect economic impacts of the organization, including positive and negative impacts.</p> <p>b. Significance of the indirect economic impacts in the context of external benchmarks and stakeholder priorities, such as national and international standards, protocols, and policy agendas.</p>	-	-
GRI- 204: Procurement Practices				
204-1	Proportion of spending on local suppliers	<p>a. Percentage of the procurement budget used for significant locations of operation that is spent on suppliers local to that operation (such as percentage of products and services purchased locally).</p> <p>b. The organization's geographical definition of 'local'.</p> <p>c. The definition used for 'significant locations of operation'.</p>	-	-
GRI- 205: Anti-corruption				
205-1	Operations assessed for risks related to corruption	<p>a. Total number and percentage of operations assessed for risks related to corruption.</p> <p>b. Significant risks related to corruption identified through the risk assessment.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
205-2	Communication and training about anti-corruption policies and procedures	<p>a. Total number and percentage of governance body members that the organization's anti-corruption policies and procedures have been communicated to, broken down by region.</p> <p>b. Total number and percentage of employees that the organization's anti-corruption policies and procedures have been communicated to, broken down by employee category and region.</p> <p>c. Total number and percentage of business partners that the organization's anti-corruption policies and procedures have been communicated to, broken down by type of business partner and region. Describe if the organization's anti-corruption policies and procedures have been communicated to any other persons or organizations.</p> <p>d. Total number and percentage of governance body members that have received training on anti-corruption, broken down by region.</p> <p>e. Total number and percentage of employees that have received training on anti-corruption, broken</p>	P50	<ul style="list-style-type: none"> • Compliance

		down by employee category and region.		
205-3	Confirmed incidents of corruption and actions taken	<ul style="list-style-type: none"> a. Total number and nature of confirmed incidents of corruption. b. Total number of confirmed incidents in which employees were dismissed or disciplined for corruption. c. Total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption. d. Public legal cases regarding corruption brought against the organization or its employees during the reporting period and the outcomes of such cases. 	Not applicable	Not applicable
GRI- 206: Anti-competitive Behavior				
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	<ul style="list-style-type: none"> a. Number of legal actions pending or completed during the reporting period regarding anti-competitive behavior and violations of anti-trust and monopoly legislation in which the organization has been identified as a participant. b. Main outcomes of completed legal actions, including any decisions or judgments. 	Not applicable	Not applicable

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 301: Materials				
301-1	Materials used by weight or volume	<p>a. Total weight or volume of materials that are used to produce and package the organization's primary products and services during the reporting period, by:</p> <p>i. non-renewable materials used;</p> <p>ii. renewable materials used.</p>	-	<ul style="list-style-type: none"> • Environmental Management
301-2	Recycled input materials used	<p>a. Percentage of recycled input materials used to manufacture the organization's primary products and services.</p>	P36	<ul style="list-style-type: none"> • Reduction and Recycling of Industrial Waste
301-3	Reclaimed products and their packaging materials	<p>a. Percentage of reclaimed products and their packaging materials for each product category.</p> <p>b. How the data for this disclosure have been collected.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 302: Energy				
302-1	Energy consumption within the organization	<p>a. Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used.</p> <p>b. Total fuel consumption within the organization from renewable sources, in joules or multiples, and including fuel types used.</p> <p>c. In joules, watt-hours or multiples, the total:</p> <p>i. electricity consumption</p> <p>ii. heating consumption</p> <p>iii. cooling consumption</p> <p>iv. steam consumption</p> <p>e. In joules, watt-hours or multiples, the total:</p> <p>i. electricity sold</p> <p>ii. heating sold</p> <p>iii. cooling sold</p> <p>iv. steam sold</p> <p>g. Total energy consumption within the organization, in joules or multiples.</p> <p>h. Standards, methodologies, assumptions, and/or calculation tools used.</p> <p>i. Source of the conversion factors used.</p>	P36	<ul style="list-style-type: none"> • Global Warming Prevention
302-2	Energy consumption outside of the organization	<p>a. Energy consumption outside of the organization, in joules or multiples.</p> <p>b. Standards, methodologies, assumptions, and/or calculation tools used.</p> <p>c. Source of the conversion factors used.</p>	-	<ul style="list-style-type: none"> • ESG Data

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
302-3	Energy intensity	<p>a. Energy intensity ratio for the organization.</p> <p>b. Organization-specific metric (the denominator) chosen to calculate the ratio.</p> <p>c. Types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all.</p> <p>d. Whether the ratio uses energy consumption within the organization, outside of it, or both.</p>	P36	<ul style="list-style-type: none"> • Global Warming Prevention
302-4	Reduction of energy consumption	<p>a. Amount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives, in joules or multiples.</p> <p>b. Types of energy included in the reductions; whether fuel, electricity, heating, cooling, steam, or all.</p> <p>c. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it.</p> <p>d. Standards, methodologies, assumptions, and/or calculation tools used.</p>	P36	<ul style="list-style-type: none"> • Global Warming Prevention

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
302-5	Reductions in energy requirements of products and services	<p>a. Reductions in energy requirements of sold products and services achieved during the reporting period, in joules or multiples.</p> <p>b. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it.</p> <p>c. Standards, methodologies, assumptions, and/or calculation tools used.</p>	P36	<ul style="list-style-type: none"> • Global Warming Prevention
GRI- 303: Water				
303-1	Water withdrawal by source	<p>a. Total volume of water withdrawn, with a breakdown by the following sources:</p> <p>i. Surface water, including water from wetlands, rivers, lakes, and oceans;</p> <p>ii. Ground water;</p> <p>iii. Rainwater collected directly and stored by the organization;</p> <p>iv. Waste water from another organization;</p> <p>v. Municipal water supplies or other public or private water utilities.</p> <p>c. Standards, methodologies, and assumptions used.</p>	-	<ul style="list-style-type: none"> • Water Resource Preservation

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
303-2	Water sources significantly affected by withdrawal of water	<p>a. Total number of water sources significantly affected by withdrawal by type:</p> <p>i. Size of the water source;</p> <p>ii. Whether the source is designated as a nationally or internationally protected area;</p> <p>iii. Biodiversity value (such as species diversity and endemism, and total number of protected species);</p> <p>iv. Value or importance of the water source to local communities and indigenous peoples.</p> <p>c. Standards, methodologies, and assumptions used.</p>	-	<ul style="list-style-type: none"> • Water Resource Preservation
303-3	Water recycled and reused	<p>a. Total volume of water recycled and reused by the organization.</p> <p>b. Total volume of water recycled and reused as a percentage of the total water withdrawal as specified in Disclosure 303-1.</p> <p>c. Standards, methodologies, and assumptions used.</p>	-	<ul style="list-style-type: none"> • Water Resource Preservation

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 304: Biodiversity				
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	<ul style="list-style-type: none"> a. For each operational site owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas, the following information: <ul style="list-style-type: none"> i. Geographic location; ii. Subsurface and underground land that may be owned, leased, or managed by the organization; iii. Position in relation to the protected area (in the area, adjacent to, or containing portions of the protected area) or the high biodiversity value area outside protected areas; iv. Type of operation (office, manufacturing or production, or extractive); v. Size of operational site in km² (or another unit, if appropriate); vi. Biodiversity value characterized by the attribute of the protected area or area of high biodiversity value outside the protected area (terrestrial, freshwater, or maritime ecosystem); vii. Biodiversity value characterized by listing of protected status (such as IUCN Protected Area Management 	-	<ul style="list-style-type: none"> • Preserving Biodiversity

		Categories, Ramsar Convention, national legislation).		
304-2	Significant impacts of activities, products, and services on biodiversity	<p>a. Nature of significant direct and indirect impacts on biodiversity with reference to one or more of the following:</p> <ul style="list-style-type: none"> i. Construction or use of manufacturing plants, mines, and transport infrastructure; ii. Pollution (introduction of substances that do not naturally occur in the habitat from point and non-point sources); iii. Introduction of invasive species, pests, and pathogens; iv. Reduction of species; v. Habitat conversion; vi. Changes in ecological processes outside the natural range of variation (such as salinity or changes in groundwater level). <p>c. Significant direct and indirect positive and negative impacts with reference to the following:</p> <ul style="list-style-type: none"> i. Species affected; ii. Extent of areas impacted; iii. Duration of impacts; iv. Reversibility or irreversibility of the impacts. 	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
304-3	Habitats protected or restored	<ul style="list-style-type: none"> a. Size and location of all habitat areas protected or restored, and whether the success of the restoration measure was or is approved by independent external professionals. b. Whether partnerships exist with third parties to protect or restore habitat areas distinct from where the organization has overseen and implemented restoration or protection measures. c. Status of each area based on its condition at the close of the reporting period. d. Standards, methodologies, and assumptions used. 	-	<ul style="list-style-type: none"> • Preserving Biodiversity
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	<ul style="list-style-type: none"> a. Total number of IUCN Red List species and national conservation list species with habitats in areas affected by the operations of the organization, by level of extinction risk: <ul style="list-style-type: none"> i. Critically endangered ii. Endangered iii. Vulnerable iv. Near threatened v. Least concern 	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 305: Emissions				
305-1	Direct (Scope 1) GHG emissions	<p>a. Gross direct (Scope 1) GHG emissions in metric tons of CO₂ equivalent.</p> <p>b. Gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.</p> <p>c. Biogenic CO₂ emissions in metric tons of CO₂ equivalent.</p> <p>d. Base year for the calculation, if applicable, including:</p> <p>i. the rationale for choosing it;</p> <p>ii. emissions in the base year;</p> <p>iii. the context for any significant changes in emissions that triggered recalculations of base year emissions.</p> <p>f. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.</p> <p>g. Consolidation approach for emissions; whether equity share, financial control, or operational control.</p> <p>h. Standards, methodologies, assumptions, and/or calculation tools used.</p>	P36	<ul style="list-style-type: none"> • Global Warming Prevention

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
305-2	Energy indirect (Scope 2) GHG emissions	<ul style="list-style-type: none"> a. Gross location-based energy indirect (Scope 2) GHG emissions in metric tons of CO₂ equivalent. b. If applicable, gross market-based energy indirect (Scope 2) GHG emissions in metric tons of CO₂ equivalent. c. If available, the gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all. d. Base year for the calculation, if applicable, including: <ul style="list-style-type: none"> i. the rationale for choosing it; ii. emissions in the base year; iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. f. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source. g. Consolidation approach for emissions; whether equity share, financial control, or operational control. h. Standards, methodologies, assumptions, and/or calculation tools used. 	P36	<ul style="list-style-type: none"> • Global Warming Prevention

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
305-3	Other indirect (Scope 3) GHG emissions	<ul style="list-style-type: none"> a. Gross other indirect (Scope 3) GHG emissions in metric tons of CO₂ equivalent. b. If available, the gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all. c. Biogenic CO₂ emissions in metric tons of CO₂ equivalent. d. Other indirect (Scope 3) GHG emissions categories and activities included in the calculation. e. Base year for the calculation, if applicable, including: <ul style="list-style-type: none"> i. the rationale for choosing it; ii. emissions in the base year; iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. g. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source. h. Standards, methodologies, assumptions, and/or calculation tools used. 	-	<ul style="list-style-type: none"> • ESG Data

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
305-4	GHG emissions intensity	<p>a. GHG emissions intensity ratio for the organization.</p> <p>b. Organization-specific metric (the denominator) chosen to calculate the ratio.</p> <p>c. Types of GHG emissions included in the intensity ratio; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).</p> <p>d. Gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.</p>	P36	<ul style="list-style-type: none"> • Global Warming Prevention
305-5	Reduction of GHG emissions	<p>a. GHG emissions reduced as a direct result of reduction initiatives, in metric tons of CO₂ equivalent.</p> <p>b. Gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.</p> <p>c. Base year or baseline, including the rationale for choosing it.</p> <p>d. Scopes in which reductions took place; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).</p> <p>e. Standards, methodologies, assumptions, and/or calculation tools used.</p>	P36	<ul style="list-style-type: none"> • Global Warming Prevention

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
305-6	Emissions of ozone-depleting substances (ODS)	<p>a. Production, imports, and exports of ODS in metric tons of CFC-11 (trichlorofluoromethane) equivalent.</p> <p>b. Substances included in the calculation.</p> <p>c. Source of the emission factors used.</p> <p>d. Standards, methodologies, assumptions, and/or calculation tools used.</p>	-	-
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	<p>a. Significant air emissions, in kilograms or multiples, for each of the following:</p> <ul style="list-style-type: none"> i. NOX ii. SOX iii. Persistent organic pollutants (POP) iv. Volatile organic compounds (VOC) v. Hazardous air pollutants (HAP) vi. Particulate matter (PM) vii. Other standard categories of air emissions identified in relevant regulations <p>c. Source of the emission factors used.</p> <p>d. Standards, methodologies, assumptions, and/or calculation tools used.</p>	-	<ul style="list-style-type: none"> • Initiatives to Reduce Emissions of Chemical Substances

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 306: Effluents and Waste				
306-1	Water discharge by quality and destination	a. Total volume of planned and unplanned water discharges by: <ol style="list-style-type: none"> i. destination; ii. quality of the water, including treatment method; iii. whether the water was reused by another organization. c. Standards, methodologies, and assumptions used.	-	<ul style="list-style-type: none"> • Environmental Management • Water Resource Preservation

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
306-2	Waste by type and disposal method	<p>a. Total weight of hazardous waste, with a breakdown by the following disposal methods where applicable:</p> <ul style="list-style-type: none"> i. Reuse ii. Recycling iii. Composting iv. Recovery, including energy recovery v. Incineration (mass burn) vi. Deep well injection vii. Landfill viii. On-site storage ix. Other (to be specified by the organization) <p>c. Total weight of non-hazardous waste, with a breakdown by the following disposal methods where applicable:</p> <ul style="list-style-type: none"> i. Reuse ii. Recycling iii. Composting iv. Recovery, including energy recovery v. Incineration (mass burn) vi. Deep well injection vii. Landfill viii. On-site storage ix. Other (to be specified by the organization) <p>e. How the waste disposal method has been determined:</p> <ul style="list-style-type: none"> i. Disposed of directly by the organization, or otherwise directly confirmed ii. Information provided by the waste disposal contractor iii. Organizational defaults of the waste disposal 	P36	<ul style="list-style-type: none"> • Reduction and Recycling of Industrial Waste

		contractor		
306-3	Significant spills	<p>a. Total number and total volume of recorded significant spills.</p> <p>b. The following additional information for each spill that was reported in the organization's financial statements:</p> <p>i. Location of spill;</p> <p>ii. Volume of spill;</p> <p>iii. Material of spill, categorized by: oil spills (soil or water surfaces), fuel spills (soil or water surfaces), spills of wastes (soil or water surfaces), spills of chemicals (mostly soil or water surfaces), and other (to be specified by the organization).</p> <p>iv. Impacts of significant spills.</p>	-	-
306-4	Transport of hazardous waste	<p>a. Total weight for each of the following:</p> <p>i. Hazardous waste transported</p> <p>ii. Hazardous waste imported</p> <p>iii. Hazardous waste exported</p> <p>iv. Hazardous waste treated</p> <p>c. Percentage of hazardous waste shipped internationally.</p> <p>d. Standards, methodologies, and assumptions used.</p>	-	<ul style="list-style-type: none"> • Reduction and Recycling of Industrial Waste

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
306-5	Water bodies affected by water discharges and/or runoff	a. Water bodies and related habitats that are significantly affected by water discharges and/or runoff, including information on: <ul style="list-style-type: none"> i. the size of the water body and related habitat; ii. whether the water body and related habitat is designated as a nationally or internationally protected area; iii. the biodiversity value, such as total number of protected species. 	-	-
GRI- 307: Environmental Compliance				
307-1	Non-compliance with environmental laws and regulations	a. Significant fines and non-monetary sanctions for non-compliance with environmental laws and/or regulations in terms of: <ul style="list-style-type: none"> i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms. c. If the organization has not identified any non-compliance with environmental laws and/or regulations, a brief statement of this fact is sufficient.	No violation	No violation

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 308: Supplier Environmental Assessment				
308-1	New suppliers that were screened using environmental criteria	a. Percentage of new suppliers that were screened using environmental criteria.	-	-
308-2	Negative environmental impacts in the supply chain and actions taken	a. Number of suppliers assessed for environmental impacts. b. Number of suppliers identified as having significant actual and potential negative environmental impacts. c. Significant actual and potential negative environmental impacts identified in the supply chain. d. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment. e. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment, and why.	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 401: Employment				
401-1	New employee hires and employee turnover	<p>a. Total number and rate of new employee hires during the reporting period, by age group, gender and region.</p> <p>b. Total number and rate of employee turnover during the reporting period, by age group, gender and region.</p>	-	<ul style="list-style-type: none"> • ESG Data
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	<p>a. Benefits which are standard for full-time employees of the organization but are not provided to temporary or part-time employees, by significant locations of operation. These include, as a minimum:</p> <ol style="list-style-type: none"> life insurance; health care; disability and invalidity coverage; parental leave; retirement provision; stock ownership; others. <p>c. The definition used for 'significant locations of operation'.</p>	P43	<ul style="list-style-type: none"> • Work-Life Balance Promotion

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
401-3	Parental leave	<ul style="list-style-type: none"> a. Total number of employees that were entitled to parental leave, by gender. b. Total number of employees that took parental leave, by gender. c. Total number of employees that returned to work in the reporting period after parental leave ended, by gender. d. Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work, by gender. e. Return to work and retention rates of employees that took parental leave, by gender. 	P43	<ul style="list-style-type: none"> • Work-Life Balance Promotion • ESG Data

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 402: Labor/Management Relations				
402-1	Minimum notice periods regarding operational changes	<p>a. Minimum number of weeks' notice typically provided to employees and their representatives prior to the implementation of significant operational changes that could substantially affect them.</p> <p>b. For organizations with collective bargaining agreements, report whether the notice period and provisions for consultation and negotiation are specified in collective agreements.</p>	-	-
GRI- 403: Occupational Health and Safety				
403-1	Workers representation in formal joint management-worker health and safety committees	<p>a. The level at which each formal joint management-worker health and safety committee typically operates within the organization.</p> <p>b. Percentage of workers whose work, or workplace, is controlled by the organization, that are represented by formal joint management-worker health and safety committees.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	<p>a. Types of injury, injury rate (IR), occupational disease rate (ODR), lost day rate (LDR), absentee rate (AR), and work-related fatalities, for all employees, with a breakdown by:</p> <p>i. region;</p> <p>ii. gender.</p> <p>c. Types of injury, injury rate (IR), and work-related fatalities, for all workers (excluding employees) whose work, or workplace, is controlled by the organization, with a breakdown by:</p> <p>i. region;</p> <p>ii. gender.</p> <p>e. The system of rules applied in recording and reporting accident statistics.</p>	P39	<ul style="list-style-type: none"> • Occupational Health and Safety
403-3	Workers with high incidence or high risk of diseases related to their occupation	<p>a. Whether there are workers whose work, or workplace, is controlled by the organization, involved in occupational activities who have a high incidence or high risk of specific diseases.</p>	-	-
403-4	Health and safety topics covered in formal agreements with trade unions	<p>a. Whether formal agreements (either local or global) with trade unions cover health and safety.</p> <p>b. If so, the extent, as a percentage, to which various health and safety topics are covered by these agreements.</p>	-	<ul style="list-style-type: none"> • Work-Life Balance Promotion

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 404: Training and Education				
404-1	Average hours of training per year per employee	a. Average hours of training that the organization's employees have undertaken during the reporting period, by: i. gender; ii. employee category.	-	<ul style="list-style-type: none"> • Human Resource Development
404-2	Programs for upgrading employee skills and transition assistance programs	a. Type and scope of programs implemented and assistance provided to upgrade employee skills. b. Transition assistance programs provided to facilitate continued employability and the management of career endings resulting from retirement or termination of employment.	P41	<ul style="list-style-type: none"> • Human Resource Development
404-3	Percentage of employees receiving regular performance and career development reviews	a. Percentage of total employees by gender and by employee category who received a regular performance and career development review during the reporting period.	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 405: Diversity and Equal Opportunity				
405-1	Diversity of governance bodies and employees	<p>a. Percentage of individuals within the organization's governance bodies in each of the following diversity categories:</p> <ul style="list-style-type: none"> i. Gender; ii. Age group: under 30 years old, 30-50 years old, over 50 years old; iii. Other indicators of diversity where relevant (such as minority or vulnerable groups). <p>c. Percentage of employees per employee category in each of the following diversity categories:</p> <ul style="list-style-type: none"> i. Gender; ii. Age group: under 30 years old, 30-50 years old, over 50 years old; iii. Other indicators of diversity where relevant (such as minority or vulnerable groups). 	P5 P42	<ul style="list-style-type: none"> • ESG Data
405-2	Ratio of basic salary and remuneration of women to men	<p>a. Ratio of the basic salary and remuneration of women to men for each employee category, by significant locations of operation.</p> <p>b. The definition used for 'significant locations of operation'.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 406: Non-discrimination				
406-1	Incidents of discrimination and corrective actions taken	<ul style="list-style-type: none"> a. Total number of incidents of discrimination during the reporting period. b. Status of the incidents and actions taken with reference to the following: <ul style="list-style-type: none"> i. Incident reviewed by the organization; ii. Remediation plans being implemented; iii. Remediation plans that have been implemented, with results reviewed through routine internal management review processes; iv. Incident no longer subject to action. 	Not applicable	Not applicable

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 407: Freedom of Association and Collective Bargaining				
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	<p>a. Operations and suppliers in which workers' rights to exercise freedom of association or collective bargaining may be violated or at significant risk either in terms of:</p> <ul style="list-style-type: none"> i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. <p>c. Measures taken by the organization in the reporting period intended to support rights to exercise freedom of association and collective bargaining.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 408: Child Labor				
408-1	Operations and suppliers at significant risk for incidents of child labor	<ul style="list-style-type: none"> a. Operations and suppliers considered to have significant risk for incidents of: <ul style="list-style-type: none"> i. child labor; ii. young workers exposed to hazardous work. c. Operations and suppliers considered to have significant risk for incidents of child labor either in terms of: <ul style="list-style-type: none"> i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. e. Measures taken by the organization in the reporting period intended to contribute to the effective abolition of child labor. 	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 409: Forced or Compulsory Labor				
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	<p>a. Operations and suppliers considered to have significant risk for incidents of forced or compulsory labor either in terms of:</p> <ul style="list-style-type: none"> i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. <p>c. Measures taken by the organization in the reporting period intended to contribute to the elimination of all forms of forced or compulsory labor.</p>	-	-
GRI- 410: Security Practices				
410-1	Security personnel trained in human rights policies or procedures	<ul style="list-style-type: none"> a. Percentage of security personnel who have received formal training in the organization's human rights policies or specific procedures and their application to security. b. Whether training requirements also apply to third-party organizations providing security personnel. 	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 411: Rights of Indigenous Peoples				
411-1	Incidents of violations involving rights of indigenous peoples	<p>a. Total number of identified incidents of violations involving the rights of indigenous peoples during the reporting period.</p> <p>b. Status of the incidents and actions taken with reference to the following:</p> <p>i. Incident reviewed by the organization;</p> <p>ii. Remediation plans being implemented;</p> <p>iii. Remediation plans that have been implemented, with results reviewed through routine internal management review processes;</p> <p>iv. Incident no longer subject to action.</p>	-	-
GRI- 412: Human Rights Assessment				
412-1	Operations that have been subject to human rights reviews or impact assessments	a. Total number and percentage of operations that have been subject to human rights reviews or human rights impact assessments, by country.	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
412-2	Employee training on human rights policies or procedures	a. Total number of hours in the reporting period devoted to training on human rights policies or procedures concerning aspects of human rights that are relevant to operations. b. Percentage of employees trained during the reporting period in human rights policies or procedures concerning aspects of human rights that are relevant to operations.	-	-
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	a. Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening. b. The definition used for 'significant investment agreements'.	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 413: Local Communities				
413-1	Operations with local community engagement, impact assessments, and development programs	<p>a. Percentage of operations with implemented local community engagement, impact assessments, and/or development programs, including the use of:</p> <ul style="list-style-type: none"> i. social impact assessments, including gender impact assessments, based on participatory processes; ii. environmental impact assessments and ongoing monitoring; iii. public disclosure of results of environmental and social impact assessments; iv. local community development programs based on local communities' needs; v. stakeholder engagement plans based on stakeholder mapping; vi. broad based local community consultation committees and processes that include vulnerable groups; vii. works councils, occupational health and safety committees and other worker representation bodies to deal with impacts; viii. formal local community grievance processes. 	P45	<ul style="list-style-type: none"> • Local Communities and Contribution to Society

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
413-2	Operations with significant actual and potential negative impacts on local communities	<p>a. Operations with significant actual and potential negative impacts on local communities, including:</p> <p>i. the location of the operations;</p> <p>ii. the significant actual and potential negative impacts of operations.</p>	-	-
GRI- 414: New suppliers that were screened using social criteria				
414-1	New suppliers that were screened using social criteria	a. Percentage of new suppliers that were screened using social criteria.	-	-
414-2	Negative social impacts in the supply chain and actions taken	<p>a. Number of suppliers assessed for social impacts.</p> <p>b. Number of suppliers identified as having significant actual and potential negative social impacts.</p> <p>c. Significant actual and potential negative social impacts identified in the supply chain.</p> <p>d. Percentage of suppliers identified as having significant actual and potential negative social impacts with which improvements were agreed upon as a result of assessment.</p> <p>e. Percentage of suppliers identified as having significant actual and potential negative social impacts with which relationships were terminated as a result of assessment, and why.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 415: Public Policy				
415-1	Political contributions	<p>a. Total monetary value of financial and in-kind political contributions made directly and indirectly by the organization by country and recipient/beneficiary.</p> <p>b. If applicable, how the monetary value of in-kind contributions was estimated.</p>	-	-
GRI- 416: Customer Health and Safety				
416-1	Assessment of the health and safety impacts of product and service categories	a. Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	<p>a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services within the reporting period, by:</p> <ul style="list-style-type: none"> i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. <p>c. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.</p>	No violation	No violation

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 417: Requirements for product and service information and labeling				
417-1	Requirements for product and service information and labeling	<p>a. Whether each of the following types of information is required by the organization's procedures for product and service information and labeling:</p> <ul style="list-style-type: none"> i. The sourcing of components of the product or service; ii. Content, particularly with regard to substances that might produce an environmental or social impact; iii. Safe use of the product or service; iv. Disposal of the product and environmental or social impacts; v. Other (explain). <p>c. Percentage of significant product or service categories covered by and assessed for compliance with such procedures.</p>	-	-

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
417-2	Incidents of non-compliance concerning product and service information and labeling	<p>a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning product and service information and labeling, by:</p> <ul style="list-style-type: none"> i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. <p>c. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.</p>	No violation	No violation

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
417-3	Incidents of non-compliance concerning marketing communications	<p>a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by:</p> <p>i. incidents of non-compliance with regulations resulting in a fine or penalty;</p> <p>ii. incidents of non-compliance with regulations resulting in a warning;</p> <p>iii. incidents of non-compliance with voluntary codes.</p> <p>c. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.</p>	No violation	No violation

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 418: Customer Privacy				
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	a. Total number of substantiated complaints received concerning breaches of customer privacy, categorized by: <ul style="list-style-type: none"> i. complaints received from outside parties and substantiated by the organization; ii. complaints from regulatory bodies. iii. Total number of identified leaks, thefts, or losses of customer data. iv. If the organization has not identified any substantiated complaints, a brief statement of this fact is sufficient. 	Not applicable	Not applicable

Disclosure	Indicator	Indicator	Annualreport 2019	WEB-CSR site
GRI- 419: Socioeconomic Compliance				
419-1	Non-compliance with laws and regulations in the social and economic area	<p>a. Significant fines and non-monetary sanctions for non-compliance with laws and/or regulations in the social and economic area in terms of:</p> <ul style="list-style-type: none"> i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms. <p>c. If the organization has not identified any non-compliance with laws and/or regulations, a brief statement of this fact is sufficient.</p> <p>d. The context against which significant fines and non-monetary sanctions were incurred.</p>	No violation • Not applicable	No violation • Not applicable

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